



Hawsons IRON

WORLD'S BEST IRON ORE PRODUCT

Strategic Review action plan delivers positive outcomes and path forward

Key Points

- The Strategic Review action plan has been substantially completed with positive outcomes
- Stantec's value engineering analysis has identified significant and targeted capital and operating cost reductions using a proposed new Phase 1 comminution processing configuration
- The new comminution processing design has the potential to generate valuable secondary stream revenues from ore-sand products
- Resource analysis drilling suggests the presence of magnetite with a DTR mass recovery grade of greater than 9 per cent at shallower depths in a previously undrilled outcrop of the resource
- Hawsons is supporting a Flinders Ports-led study into the Braemar Province and South Australian regional development to enhance collective government advocacy for infrastructure funding and investment
- A three-month pilot test work program is required to support the restart of a modified Bankable Feasibility Study (BFS) for an 11 Million tonne per annum (Mtpa) project
- Sufficient working capital is in hand to fund the additional work program costing ~\$520,000

Hawsons Iron Ltd's (**Hawsons** or the **Company**) Strategic Review actions have identified significant potential capital cost savings in mineral processing and delivered promising results from drilling for shallower iron ore with a grade greater than 9 per cent DTR mass recovery. These positive outcomes enhance the business case required to support a modified Bankable Feasibility Study (BFS) for an 11 million tonne per annum (Mtpa) Hawsons Iron Project.

Stantec, a global leader in sustainable design and engineering, has developed a new mineral processing circuit with potential to significantly lower the proposed Hawsons Iron Project's capital and operating costs and could generate secondary revenues from the sale of ore-sands, thereby also reducing wastes.

Stage 2 of the drilling and assaying resource program, targeting magnetite of greater than 9 per cent DTR at shallower depths from 30-150 metres, has also been completed and delivered promising initial magnetic susceptibility and down-hole logging data.

Hawsons will update the market after receiving the laboratory assay results and completing geological modelling.

Executive Chair Bryan Granzien said Hawsons had substantially completed the three-pronged Strategic Review action plan adopted in February 2023 to strengthen the business case for developing the project. (*See ASX Announcement dated 1 February 2023: Hawsons endorses modified 11 Mtpa BFS and Strategic Review action plan*)

"We will determine a preferred strategic pathway once we have validated the feasibility of Stantec's refined process design and assessed the laboratory results from the drilling samples. This pathway could include securing a strategic investor to help fund a modified BFS," he said.

"The Stantec process validation work required to de-risk a modified BFS is scheduled to start before the end of June and the results will underpin any decision to proceed with the modified BFS, which could then be completed within a further 12 months."

Process plant value engineering

- **Stantec’s independently reviewed value engineering analysis promises to reduce capital and operating costs significantly by redesigning the mineral processing circuit**
- **Hawsons is validating the design’s feasibility and financial value to support a modified BFS for an 11 Mtpa project**
- **Hawsons has commenced a sampling and pilot test work program to mitigate the risk associated with the new comminution circuit design’s unique configuration of mature and proven technology**
- **The revised comminution circuit design also has the potential to deliver additional by-product revenue from the production of ore-sands**
- **Hawsons is in discussions to undertake R&D work with The University of Queensland’s Sustainable Minerals Institute on commercial opportunities from ore-sand by-products and waste and tailings management**
- **Further capital and operating cost savings are being sought by targeting indirect expenses and services infrastructure including power supply and water/slurry pipelines**

In the second half of 2022 Hawsons requested updated capital cost estimates from engineering firms engaged on the BFS to progress Association for the Advancement of Cost Engineering (AACE) Class 5¹ estimates to Class 4.

These estimates were in some cases more than 300 per cent higher than the Class 5 estimates received in the previous year.

Mr Granzien said the project could not have withstood these higher cost estimates, relating primarily to the processing plant and non-process infrastructure, due to their negative impact on the project’s economic viability.

“Estimates now being received reflect more realistic figures which relate more closely to those provided in 2021 and early 2022,” he said.

Stantec’s new mineral processing circuit has potential to lower the proposed project’s capital and operating costs significantly by reducing the number of processing steps involved; lowering power and water use; eliminating grinding media; trimming downstream equipment sizing; and improving tailings management.

Mr Granzien said this redesigned process could therefore have a potentially material beneficial impact on the project’s business case.

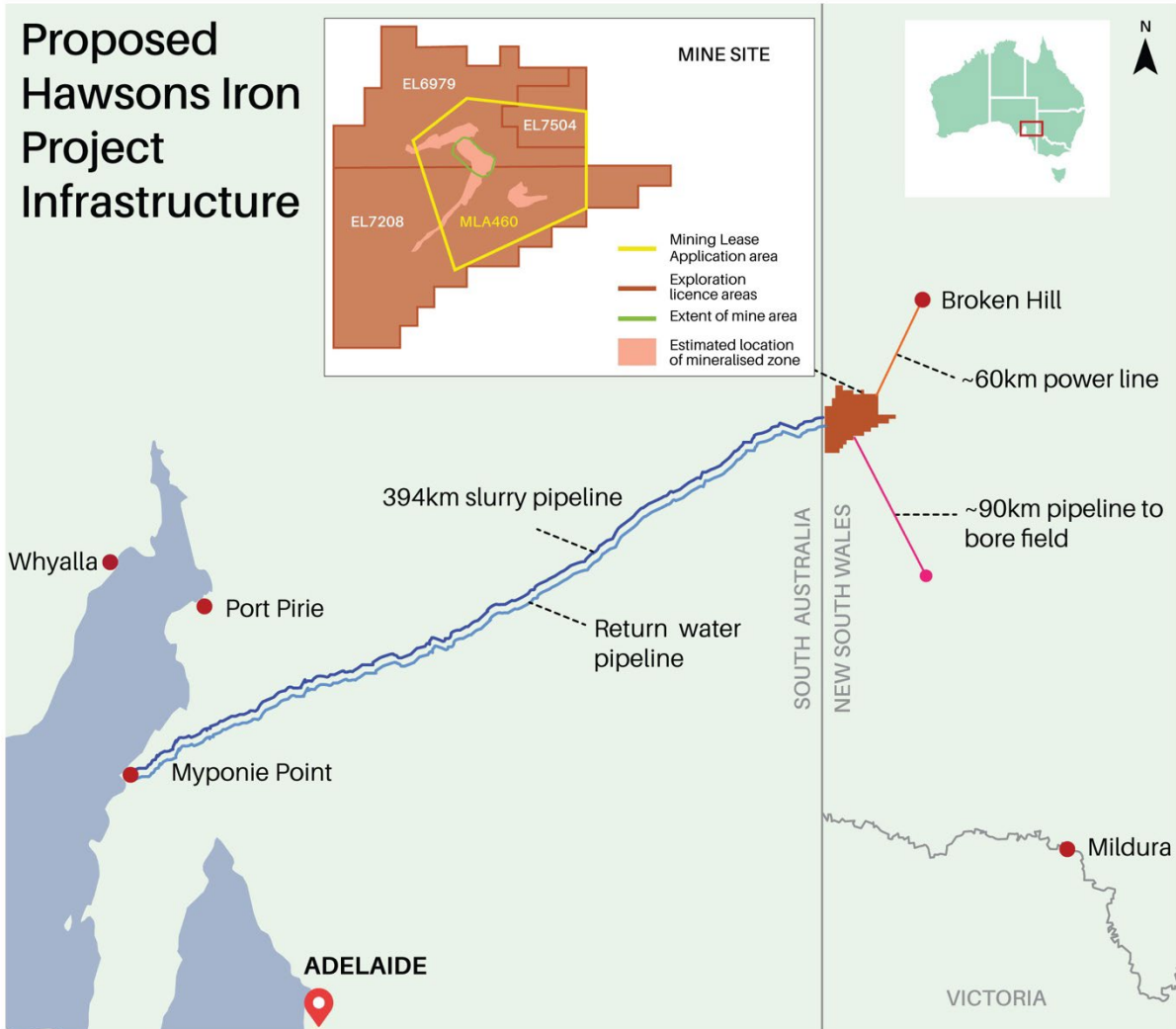
“However, further bulk sampling and a pilot test work program have been recommended to confirm the performance and economic benefits of the redesigned processing circuit, which involves a unique configuration of mature and proven technology,” he said.

The Board has approved this work program, which will be undertaken in the September quarter at an estimated cost of approximately \$520,000 and funded from working capital.

¹ [AACE cost estimate classification system](#)



Figure 1



Stantec’s concept is based on two 5.5 Mtpa processing trains, each using a high-pressure grinding roll (HPGR) fed by a primary crusher, with a sizing screen prior to the HPGRs. (See Figure 2 on the following page)

Oversized screened material would be stockpiled and fed into a pebble mill downstream of the HPGRs, set up in series and choke-fed by surge bins.

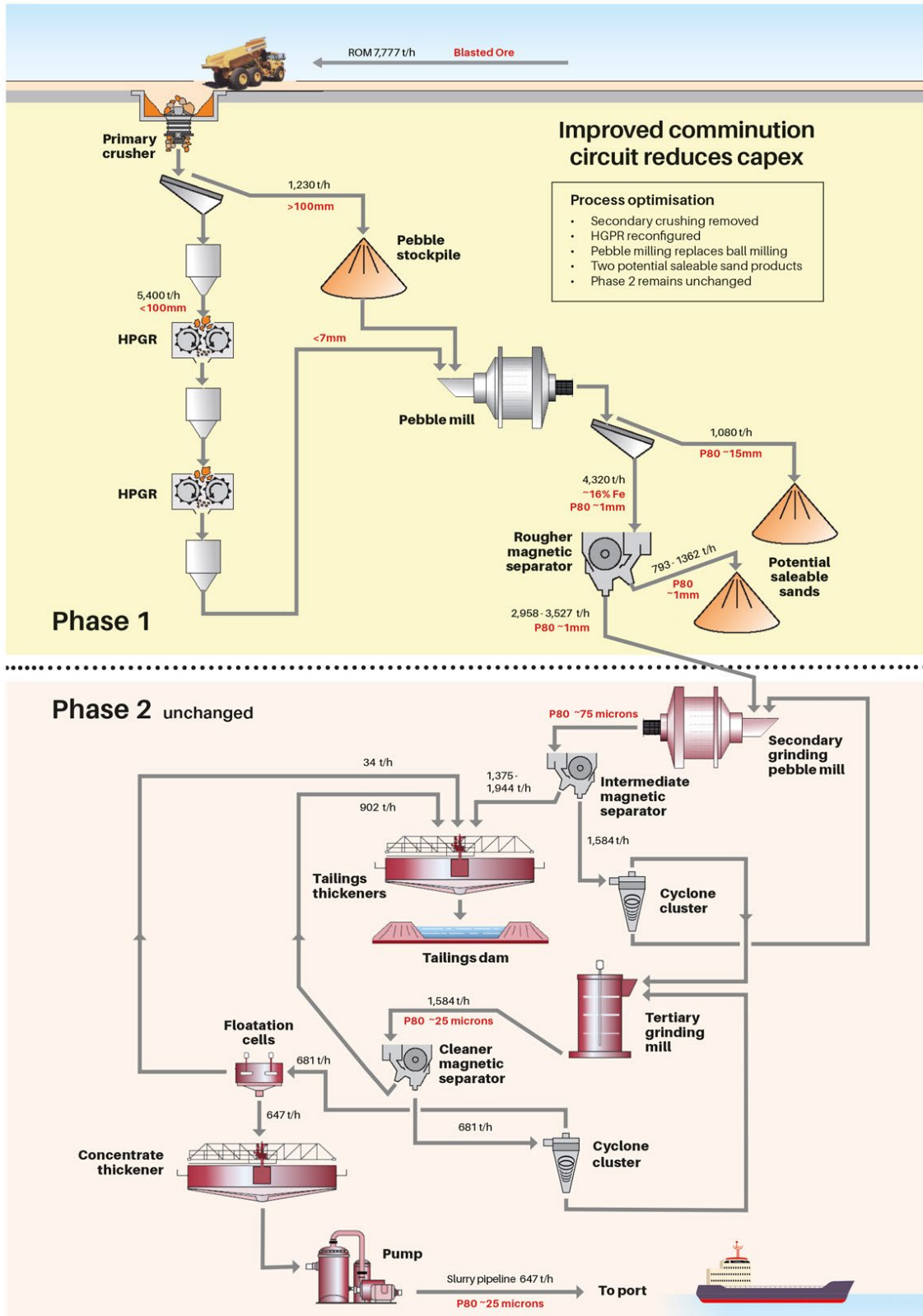
The pebble mill would grind this product to 1mm for a subsequent traditional Phase 2 magnetite processing circuit with oversized material performing the grinding function, thereby negating the purchase of costly grinding media.

Mr Granzien said the configuration of Stantec’s redesigned Phase 1 flowsheet was unique, although all the individual unit processes and technologies were mature and proven.

“The associated design risks can be mitigated by the pilot test work program and detailed engagement with equipment manufacturers, particularly HPGR vendors,” he said.



Figure 2



The numbers in this processing diagram are illustrative and do not represent process performance or output.



Mr Granzien said the potential to improve tailings management substantially and generate revenue from the production of silica ore-sands was a further attractive Environment Social and Governance (ESG) feature of the process.

“We are working with The University of Queensland’s Sustainable Minerals Institute to explore by-product recovery and waste reduction opportunities, including ore-sands production,” Mr Granzien said.

Hawsons commissioned international mineral industry advisory firm Behre Dolbear Australia (**BDA**) to review Stantec’s processing plant design, assumptions and costing estimates. The advisory firm’s involvement in providing expert independent opinion is intended to continue throughout the BFS.

Mr Granzien said BDA found “no fatal flaws” but noted the design’s modified HPGR sizing and configuration increased technical risk.

“Importantly, BDA agreed with Stantec’s recommendations on how to address this risk, including the proposed bulk sampling and pilot programs,” Mr Granzien said.

Resource analysis program

- **Stage 2 of the resource analysis program has been substantially completed, with drilling completed and drill-pad rehabilitation works underway**
- **Assay samples from 22 holes, for 3,568m of RC drilling in two prospective zones, are undergoing laboratory analysis with results expected by the end of June 2023**
- **DTR estimates using hand-held magnetic susceptibility meters have been encouraging, particularly in the previously undrilled southern outcrop zone**
- **Stage 3 reserve drilling requirements will be determined following receipt of Stage 2 laboratory results and the completion of geological modelling.**

The Strategic Review recommended a three-stage resource analysis program involving additional drilling of targeted prospective areas in the defined resource to identify grades greater than 9 per cent DTR at depths of 30-150 metres which could help accelerate project start-up cashflow.

The second stage of the resource analysis program has been completed successfully, and samples from 22 reverse circulation (RC) drill holes are being analysed at a Bureau Veritas laboratory in Adelaide.

The drilling campaign comprised 3,568 metres of RC drilling in two prospective zones – one zone to the north involving 10 holes and the other in the vicinity of outcropping to the south of 12 holes. *(See Figure 3 on the following page)*

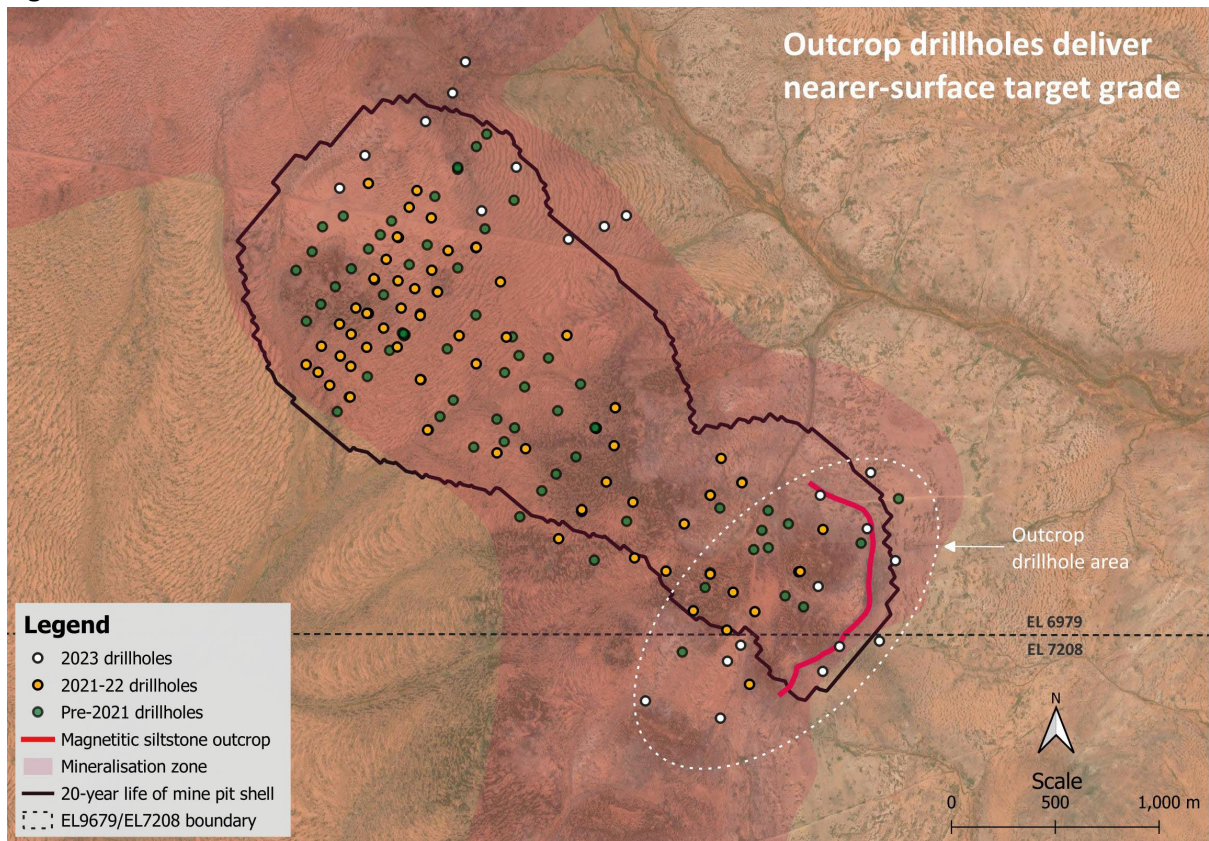
Mr Granzien said drill-site rehabilitation work was underway and laboratory results, expected before the end of the June quarter, would then be included in the project’s geological model.

“DTR estimates using hand-held magnetic susceptibility meters have been very encouraging, particularly in the southern outcrop zone where some thick mineralised seams were encountered from near-surface in some holes,” he said.



“The requirement for, and scope of, Stage 3 reserve drilling will be determined once results from Stage 2 have been analysed. A focus will be on the value of redesigning the pit shell and mine plan to prioritise mining the near-surface ore towards the south.”

Figure 3



Drillholes completed in Stages 1 and 2 of the resource analysis program targeting higher-grade ore at shallower depths



Outcropping zone to the south (left) and near-surface magnetite mineralisation uncovered while digging a drillhole sump near the outcrop (right).



Braemar Province advocacy

Hawsons, in conjunction with South Australia's leading port operator Flinders Ports, has intensified advocacy efforts to collaborate with governments, private and listed companies and communities who are keenly motivated to develop the Braemar iron ore province.

This effort has focused on the need to accelerate development of transport corridors and shared infrastructure predominantly in South Australia, including a deep-water port at Myponie Point capable of loading vessels of up to 120,000 Dry Metric Tonnes.

Flinders Ports is leading a study into the Braemar Province and South Australian regional development to enhance collective government advocacy efforts for funding, including investment in shared infrastructure and transport corridors.

Overview and outlook

Mr Granzien said undertaking the Strategic Review and resulting action plan had been necessary and successful in pursuing a modified BFS for the Hawsons Iron Project.

"We have made material progress, but there is more to do as we continue to optimise the value of opportunities to further strengthen the business case for developing the Company's world-class iron ore assets," he said.

Further planned activities include:

- Engaging Stantec to design and manage a BFS-level pilot program to validate the feasibility of the redesigned comminution processing circuit;
- Engaging with HPGR manufacturers on technology advances that may be beneficial;
- Targeting further capital and operating cost savings;
- Undertaking initial market soundings on the potential of saleable ore-sand products; and
- Continuing engagement with state governments and other stakeholders on power, water, transport and port options.

Mr Granzien said Hawsons would determine a preferred strategic pathway following completion of the pilot test work program which is expected to take 8-10 weeks, and analysis of laboratory test results from the drilling samples.

Subject to securing the required funding, a modified BFS could be completed within 12 months of completion of the additional test work and piloting programs, extending the project timeline by a further three months. *(See Table 1 on the following page)*



Table 1: Timeline to complete Strategic Review Action Plan and modified BFS¹

Activity	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024
Three-stage resource analysis program targeting higher-grade ore at shallower depths	1						
		2 ²					
					3 ³		
Value engineering							
Process pilot test work							
Project economic analysis							
Funds for modified BFS in place							
Modified BFS							

¹ Completed activity in green/yet to be completed activity in grey

² Completion subject to third-party delivery of assay analysis and geological modelling

³ Requirement and timing for Stage 3 Drilling subject to results from Stages 1 & 2

Released by authority of the Board

Hawsons Iron Limited

13 June 2023

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About Hawsons Iron Ltd

Hawsons Iron Ltd (ASX: HIO) is an iron ore developer and producer listed on the Australian Securities Exchange. The company is focused on developing its flagship Hawsons Iron Project near Broken Hill into a premium provider of high-quality iron ore products for the global steel industry.

The Hawsons Iron Project is situated 60km southwest of Broken Hill, New South Wales, Australia in the emerging Braemar Iron Province. It is potentially capable of producing the world's highest-grade iron product (70% Fe), making it among the world's leading undeveloped high-quality iron ore concentrate and pellet feed projects. Leading research firm Wood Mackenzie in Q2 FY 2019 rated the project one of the world's best high-grade iron ore development projects, excluding replacement or expansion projects owned by the established miners.

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