

18 February 2025

Hawsons Iron Optimisation Works Update

Emerging magnetite development company Hawsons Iron Ltd (ASX:HIO) (“Hawsons” or the “Company”) is pleased to provide investors an update on its dry grinding and ore variability programs. This work is being overseen by independent engineering firm Stantec Australia (“Stantec”) and process specialists from Pitch Black Group.

The Optimisation Works, which commenced in mid-September 2024, successfully identified the opportunity to simplify the Hawsons Project flow sheet, reduce capital and operating costs and significantly improve environmental aspects of the Project as outlined in ASX release dated 19 November 2024 “[Optimisation Works Identifies Cost-Effective Dry Milling Processing](#)”.

In recent months, the Company has focused on enhancing this earlier program by implementing 2 programs in parallel - the dry grinding test work program and the Mineral Resource variability study.

The aim of the dry grinding circuit test work program is to prove the ability to implement a 100% dry processing circuit for the Project. The program is well underway with initial results being highly encouraging. This dry grinding approach is unique to Hawsons because of the distinctive geochemical and physical properties that exist with the Hawsons material, a key differentiator against current Australian magnetite producers.



Figure 1: Comminution test work program recently completed at the University of Queensland’s JKTech Centre

The soon to be completed Mineral Resource variability study is seen by the Company as an integral component for the finalisation of the process flow sheet to Definitive Feasibility Study (“DFS”) DFS level.

To date the findings have demonstrated:

- Low mineralogical variation within the total current Mineral Resource¹.
- Low variability in power requirements identified in the first 10 years of mining the Mineral Resources (up to 150 m in depth).
- The low variability in geochemical and physical (hardness) properties is likely to result in a better defined, lower risk approach to processing Hawsons’ material in the future.
- That in discussions with potential Strategic Investors, there is a growing confidence that the Hawsons project will produce a consistent high-quality product capable of meeting their off-take specifications over the long term.
- A potential material reduction in DFS costs, construction costs and schedule moving forward.

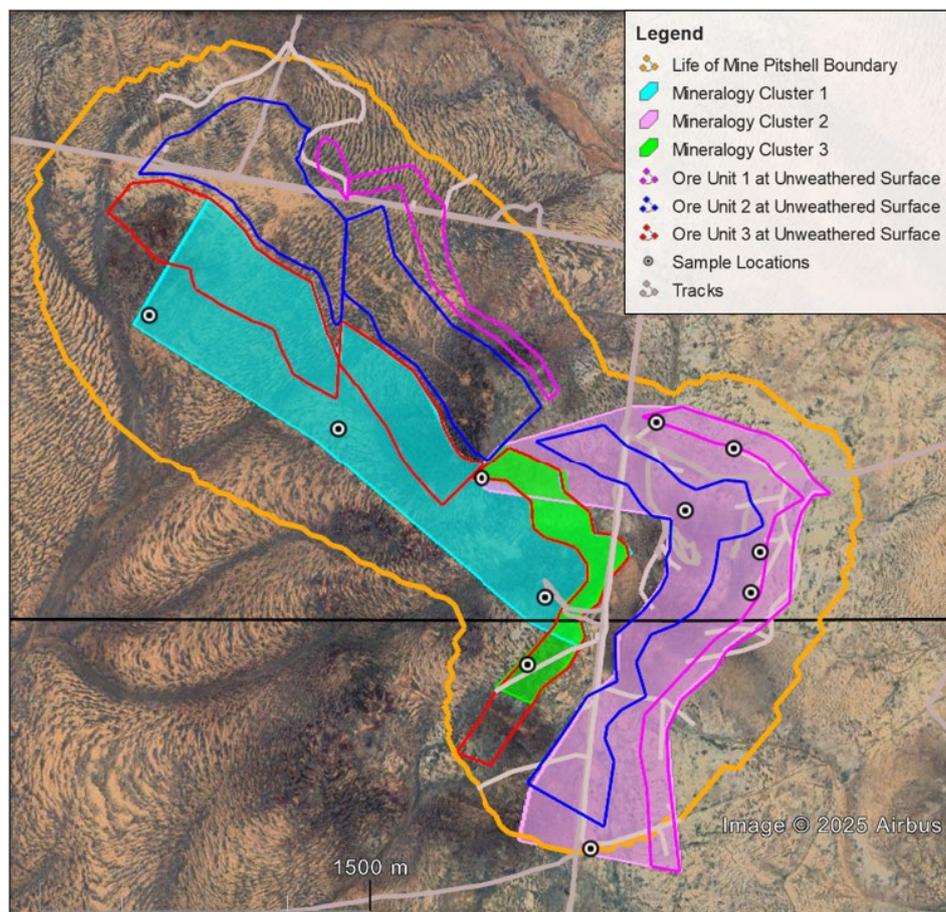


Figure 2: The 3 distinct mineralogical clusters identified as part of the Variability Study

The final component of the variability study will involve metallurgical / recovery tests to confirm variability within the current total Mineral Resource inventory.

¹ For Mineral Resource details refer to ASX release dated 24 June 2024 “[Hawson Drilling Program and Resource Update Completed](#)”.

Completion of these works is expected to be over the next 6 weeks. Thereafter, the Company plans to release a report containing the final results of these two programs – est. Q2 2025.

Hawsons CEO, Tom Revy, commented: *“The Board is extremely delighted with the results of the dry grinding work Mineral Resource variability study undertaken to date. The current work programs continue to point towards significant project enhancement for the Hawsons Iron Project – technically and financially whilst also incorporating safety, environmental, and operational / maintenance aspects”.*

Dry Grinding Program

Three pallets, weighing more than 1 ton of Hawsons core were submitted by the company late last year for the completion of comminution test work. The core selected has the full suite of rock types from ground surface to ~150m depth, which is close to target depth for mining in the first 10+ years of operation.

In January 2025, both conventional SMC Test[®] and Bond ball ore comminution characterisation tests were completed by the University of Queensland’s JKTech. In addition, Geopyöra ore characterisation tests were completed by Core Resources. Products from the ore comminution characterisation test work are currently being processed via JKTech’s laboratory High-Pressure-Grinding-Roll (HPGR) unit under low operating pressures.

HPGR is a dry comminution processing technology with a similar ore breakage mechanism to the dry Vertical Roller Mill (VRM) technology currently being considered for Hawsons’ full-scale production. Results from this work will correlate ore comminution data for energy use determinations and mineral liberation characteristics and recovery of magnetite and potentially haematite with dry grinding.

These results will be used in preparation for further advanced pilot scale dry comminution test work with the VRM vendors in the near future to confirm the viability of this technology. The outcome of this work will be critical in propelling Hawsons in the direction of dry milling technology, which has previously been reported to offer major capital (~30 %) and operating cost (25-30%) savings², offering significant value and direction to shareholders.

The likely multiple VRM units that will be required could be implemented in a phased approach that includes targeting the shallow easy to mine Fold area of the resource in the initial years to better expose the extensive resources in the west regions for mass mining. The potential phased approach of the dry processing technology will ultimately reduce project risk and costs.

² ASX release dated 19 November 2024 [“Optimisation Works Identifies Cost-Effective Dry Milling Processing”](#).



Figure 3: Screening of crushed material



Figure 4: Magnetically separated HIO product

Mineral Resource Variability Study Summary

XRF Analysis

At the commencement of Q3 2024, Hawsons embarked on a mineral variability study of major mineralized zones primarily within the Fold area. Given the potential for outcrop/subcrop material and the broader zone of near-surface mineral occurrence within this area, the Fold is being targeted as the area where initial mining is planned to be undertaken. The Core West area remains a key mining target as phase 2 of the mine development. Geochemical data from the current June 2024 geology model was utilised to undertake a variographic review of XRF (X-ray fluorescence) data in the Fold and Core West areas.

In November/December 2024, samples from Fold, Core West and Core East areas were composited and sent to an independent laboratory for XRD (X-ray diffraction) analysis – a means of understanding mineralogical variation within Hawsons' large Mineral Resource inventory.

XRD Analysis

For the key mineralised zones (including the Fold and Core West areas), 28 samples from 11 drillholes were composited for X-ray diffraction (XRD) analysis to determine the variability in mineral types. The results were then used to find if there was any obvious clustering of minerals that could be used to confirm the appropriateness of the novel approaches being proposed to aid beneficiation in the processing circuit. The previous drilling plan had determined that up to 6 large diameter (200mm diameter) core holes would be required to determine plant performance from metallurgical sample test results.

Review of the results from the XRD testing indicated that there were only 3 distinct clusters of interest for further metallurgical and geochemical test work. It follows that the required number of large diameter holes has been reduced to a maximum of 3, a significant reduction in the drilling costs and schedule on the previous estimates.

The final locations of the large diameter (200mm dia) core holes will be determined from the metallurgical cluster zone analysis due to commence shortly. The outcomes of this work will determine the final drill hole locations, sample depths etc. Samples obtained from this drill program will be used to update process inputs into the final DFS.



Figure 5: Sample preparation for XRD work undertaken at HIO office/yard in Broken Hill

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This announcement is authorised by the Board.

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