



athena
RESOURCES

ASX Announcement
July 2023

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ASX ANNOUNCEMENT

LIMS OPTIMISATION TESTWORK RESULTS

Further results from wet LIMS Optimisation confirm the suitability of coarse “Cobber” LIMS, with results exceeding the rejection rate in the Process Mass Balance.

As announced on 16th June, 2023 wet Low Intensity Magnetic Separation (LIMS) produced high grade magnetite concentrates from 67.7% to 70.4% Fe from composites of weathered and fresh ores from drill holes AHRC0107D (70m intercept) and AHRC0110D (63.4m intercept) when ground to -150 micron (P80 of approx. 106 micron).

The process flowsheet developed by GR Engineering Services included a coarse wet LIMS (referred to as a “Cobber” LIMS) stage after Primary Grinding and prior to Secondary Grinding, Classification and Rougher/Cleaner wet LIMS stages.

The objective of the “Cobber” LIMS was to reject a large percentage of Non-Magnetic material direct to Tailings and reduce the load on Secondary Grinding, Classification and Rougher/Cleaner LIMS stages.

The mass balance calculations allowed for 60% of the feed to “Cobber” LIMS to be recovered as magnetic product proceeding to further treatment with 40% of the feed reporting direct to Tailings.

The recent LIMS testwork investigated the capabilities of the “Cobber” LIMS with a coarse feed of -1mm.

About Athena Resources: AHN is an Australian ASX listed explorer and developer of highgrade iron ore assets in Western Australia. The Company is focused on its Byro Project, strategically located in the Mid-West region 410km from the Port of Geraldton. The Byro Iron Ore Project has potential to mine and supply premium grade, low impurity magnetite (>70% Iron Content) for the production of green steel, a fast-growing global market opportunity. The Byro Project also contains exciting base metal potential.

Directors: Ed Edwards, Hau Wan Wai, Peter Newcomb • **Company Secretary:** Peter Newcomb • **Athena Resources Limited** ACN 113 758 900

Highlights

- The mass rejection rates for all four composites were excellent with all four exceeding the allowance of 40% in the Process Mass Balance.
- Rejection rates were 43.7%, 51.3%, 55.3% and 61.8%.
- The overall mass calculated rejection rate for the Non-Mag product is 51.1%, while
- 48.9% of mass reports into the Mag product with a grade of 48.2% Fe and an iron recovery of 84.4%.

This higher rejection rate reduces the load within the Secondary Grinding, Classification and Rougher/Cleaner LIMS stages by approximately 10% and will reduce the Capex, Opex and Power Demand within these stages.

Wet LIMS Results at 1,100G on -1mm Feed to “Cobber” LIMS

Hole ID	Intercept	Ore Type	Grade Fe%	Fe % Recovery	Mass % Recovered	Mass % Rejected
AHRC0107D	21.8m from 77m	Weathered	42.2	82.1	48.7	51.3
AHRC0107D	48.2m from 115m	Fresh	51.2	92.7	56.3	43.7
AHRC0110D	13.5m from 23m	Weathered	65.7	80.7	38.2	61.8
AHRC0100D	49.9m from 40.5m	Fresh	44.4	81.0	44.7	55.3
	Total of 133.4m		48.2	84.4	48.9	51.1

Following the success of treating -1mm Feed, it is intended to test “Cobber” LIMS with slightly coarser Feed.

If successful it's very likely to further reduces the load within the Secondary Grinding, Classification and Rougher/Cleaner LIMS stages.

This announcement is Authorised by the Board

Ed Edwards
Managing Director
24 July 2023

CAUTIONARY NOTES AND DISCLOSURES

Disclosures

All data and Information of material nature referred to within this Report with reference to the Byro FE1 ore body have previously been reported on the ASX platform in compliance with the relevant JORC compliance reporting format at the time of data acquisition.

Cautionary Notes and Forward Looking Statements

This announcement contains certain statements that may constitute “forward looking statements”. Such statements are only predictions and are subject to inherent risks and uncertainties, which could cause actual values, results, performance achievements to differ materially from those expressed, implied, or projected in any forward-looking statements.

JORC Code Compliance Statement

Some of the information contained in this announcement is historic data that have not been updated to comply with the 2012 JORC Code. Some information referred to in the announcement was prepared and first disclosed under the JORC Code 2004 edition. It has not been updated since to comply with the JORC Code 2012 edition on the basis that the information has not materially changed since it was last reported.

Competent Persons Disclosure

Mr Weston is a Director of Athena Resources and currently holds securities in the company.

Competent Person Statement

The information included in the report was compiled by Mr Terence Weston, a consultant to Athena Resources Limited. Mr Weston has sufficient experience as a metallurgist in mining and processing and is a Member of the Australasian Institute of Mining and Metallurgy (#106114).

Mr Weston consents to the inclusion of the information in the report in the context and format in which it appears.

INTERESTS IN MINING TENEMENTS

Athena Resources Limited 100%	Tenement Type
Byro Exploration	E – Exploration License
E09/1507	
E09/1552	
E09/1637	
E09/1781	
E09/1938	
Byro Project Mining	M - Mining Lease
M09/166	
M09/168	
Byro Project Mining	
L09/112 - application	L – Miscellaneous Licence