

NEWS RELEASE
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For Immediate Dissemination

MACARTHUR MINERALS UPDATE ON ITS HIGH GRADE MOONSHINE MAGNETITE AND ULARRING HEMATITE PROJECTS

Macarthur Minerals Limited (TSX-V: MMS) (the “Company” or “Macarthur”), is pleased to announce an update to the Moonshine Magnetite and Ularring Hematite Projects (“Projects”) based upon revised production strategy and cost estimates, resulting in reduced Opex and Capex estimates.

Highlights

- Capacity at Port of Esperance now available
- Capacity on rail network available
- Hematite DSO Opex estimate reduced to A\$42/tonne (“t”) shipped free on board (“FOB”)
- Magnetite Opex estimate reduced to \$55/tonne FOB
- Capex estimate for a combined project reduced to US\$335 million
- High margin for premium magnetite product >65% Fe

Mr. Cameron McCall, Executive Chairman of Macarthur Minerals commented: *“The objective of this revised estimate is to provide shareholders with an update to the staged development of the Company’s Project in light of changes to the ‘route to market’ (rail and port infrastructure) and new product end user requirements. The Company is planning to consolidate the magnetite and hematite projects to leverage off existing infrastructure that is a result of decreased iron ore production from the adjacent Koolyanobbing operation. The Yilgarn region of Western Australia and Macarthur’s Projects now offer a major infrastructure, and commercial advantage not necessarily available to any new iron ore mining project globally.”*

Background

Like most junior resources stocks, Macarthur has faced challenging market conditions. Despite such conditions, Macarthur has continued to advance the Project throughout the past year and has de-risked major project delivery areas such as port and rail access. This continued focus has positioned the Company to quickly advance the Projects and Company, as the global resource equities market recovers. Macarthur has re-evaluated both the hematite and magnetite projects in response to current market trends of heavy discounting of low grade iron ore and premium pricing for high grade iron ore. Additionally, Macarthur has been preparing to take advantage of the cessation of operations by Cleveland Cliffs Inc., which has paved the way for access to both rail and port infrastructure. This has been the greatest impediment to advancing the Projects into a production phase.

Revised Project Strategy

In February 2011, Macarthur released its Preliminary Economic Assessment (“2011 PEA”) for the Moonshine Magnetite Project for the production of 10 Mtpa of high grade magnetite concentrate (press release dated February 7, 2011¹). The 2011 PEA outlined several logistical and port scenarios including slurry transport 110 km to a dewatering plant and rail siding south of the town of Menzies.

¹ NI43-101 Technical Report filed March 25, 2011, titled “Macarthur Minerals Limited: Moonshine and Moonshine North Prospects, Lake Giles Iron Project, Western Australia, NI43-101 Technical Report – Preliminary Assessment

Similarly, in September 2012, Macarthur released its Prefeasibility Study (“2012 PFS”) (press release dated August 16, 2012²;) for the Ularring Hematite Project, which focused on mining 2 million tonnes per annum (“Mtpa”) of hematite/goethite iron ore in the Yilgarn region of Western Australia. The 2012 PFS outlined a wet beneficiation process that would produce a +60% Fe sinter fines product featuring low levels of the deleterious elements of Silica, Alumina, Phosphorus and Sulphur. The final product would then be road hauled 110 kilometers on a public road to a rail siding south of the town of Menzies. From here the iron fines would be transported along existing rail infrastructure to the Port of Esperance for export.

Since the release of those studies, the iron ore market has undergone a dramatic shift where low grade iron ore <60% Fe is currently heavily discounted while the high grade market, including magnetite concentrate is attracting premium pricing.

In response, Macarthur has revised its strategy to align the Projects with current and forecast market conditions, capital markets and available capacity of regional infrastructure. The greatest impediment to development of the Moonshine Magnetite Project envisaged by the 2011 PEA is the substantial capital cost. Moreover, the planned production exceeds current capacity at the Port of Esperance. Macarthur has therefore reduced the output of the Projects to a modest 3 Mtpa and streamlined project infrastructure to reduce capital cost.

The revised Projects will see a combined hematite and magnetite operation where the majority of product will be high grade magnetite concentrate supplemented by lump direct shipping ore (“DSO”). The DSO fines which are of lower value will be processed through the grinding circuit of the magnetite plant and blended into the magnetite concentrate to achieve a significant grade improvement.

Project Logistics and Infrastructure

The Moonshine 2011 PEA utilised slurry transport of concentrate and subsequent rail haulage along the Menzies rail line, whereas the Ularring 2012 PFS employed road haulage to the same location along a public road. Product transport is now envisioned to be via road haulage 90 km south to the existing rail line followed by rail haulage to the Port of Esperance.

Whilst slurry transport offers a lower operating cost, it is capital intensive and requires additional water and power demand. The original slurry pipeline from the 2011 PEA was estimated at A\$281m. This has since been removed from the Projects in favour of road transport to a rail siding 90 km south of the Projects. Macarthur is currently exploring opportunities to utilise an existing private haul road. If the Company can gain access to this infrastructure it will require only 45 km of the 90 km of haul road to be constructed which will fast track the development timeline.

With the exit of Cleveland Cliffs Inc. and subsequent reduction in production at the Koolyanobbing operation by current owner, Mineral Resources Limited, there is now capacity on the Perth to Kalgoorlie rail line. This rail line is far superior to the originally proposed Menzies line and translates into a significant reduction in rail haulage tariffs. Additionally, the cessation of Cleveland Cliffs Inc. has made available approximately 800 rail wagons which can be acquired at a significantly discounted price by Macarthur or its preferred rail operator.

The original 2011 PEA also made a capital allowance of A\$171m for product handling and port upgrades. Macarthur has been working closely with the Western Australian Government and has obtained confirmation that the Port of Esperance has capacity for at least 6 Mtpa through existing infrastructure. Furthermore, the rail car dumper (“RCD”) previously owned and monopolised by Cleveland Cliffs Inc., has become open access for the available capacity that is expected to be at least 6 Mtpa.

² Previously announced on August 16, 2012 NI 43-101 Technical Report filed October 1, 2012, titled “NI 43-101 Technical Report, Macarthur Minerals Limited, Pre-Feasibility Study, Ularring Hematite Project, Western Australia

These logistical changes and access to regional infrastructure greatly improve the Project's economics and attractiveness to offtake and funding partners. For the first time, Macarthur has a direct route through a port with little competition for capacity.

Revised Cost Estimates

Based on the logistical changes described above, Macarthur has re-evaluated the economics of a combined magnetite and hematite DSO operation.

The key elements that have been revised that contribute to substantial cost savings include:

- road haulage along a private haul road 90 km to rail south of the Project
- access to the export infrastructure at the Port of Esperance
- utilisation of the open access rail line running between Perth and Kalgoorlie
- removal of slurry transport in favour of road haulage to a rail terminal
- product stream consisting of +58% Fe DSO lump and high grade >65% Fe magnetite fines concentrate
- reducing the size of the magnetite project from 10 to 3 Mtpa
- reducing the estimated operating cost of hematite to A\$42/t shipped FOB
- confirming the estimated operating cost of magnetite to A\$55/t FOB

The revised cost estimates are as follows:

	Hematite 2012 PFS	Magnetite 2011 PEA	Hematite 2018 Revised Estimate	Magnetite 2018 Revised Estimate
Opex (/t FOB)	A\$78.14	A\$52.3 to 59.3	A\$41.91	A\$55.36
Capex (million)	A\$262.7	A\$2,459 to 2,913	US\$335	

This update is not to replace the 2012 PFS or the 2011 PEA but is solely to update the market on changes in strategy and core mining, road and rail inputs.

No new economic assessment has been undertaken beyond the 2012 PFS and 2011 PEA economic analysis. New reserve estimations and a full economic reassessment will be undertaken as a part of the Definitive Feasibility Study ("DFS"), which Macarthur plans to complete in 2019. Consequently, the results and implications of the updates described herein will not be fully understood until the DFS has been completed.

QUALIFIED PERSON

Mr Andrew Hawker, a member of the Australian Institute of Geoscientists, is a full-time employee of Hawker Geological Services Pty Ltd and is a Qualified Person as defined in National Instrument 43-101. Mr Hawker has reviewed and approved the technical information contained in this news release.

ABOUT MACARTHUR MINERALS LIMITED (TSX-V: MMS)

Macarthur Minerals Limited is an exploration company that is focused on identifying high grade gold, nickel, cobalt and lithium. Macarthur Minerals has significant gold, lithium, nickel, cobalt and iron ore exploration interests in Australia. Macarthur Minerals has three iron ore projects in Western Australia; the Ularring hematite project, the Moonshine magnetite project and the Treppo Grande iron ore project. In addition, Macarthur Minerals has significant lithium brine interests in the Railroad Valley, Nevada, USA.

On behalf of the Board of Directors,
MACARTHUR MINERALS LIMITED

"Cameron McCall"
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Certain of the statements made and information contained in this press release may constitute forward-looking information and forward-looking statements (collectively, "forward-looking statements") within the meaning of applicable securities laws. All statements herein, other than statements of historical fact, that address activities, events or developments that the Company believes, expects or anticipates will or may occur in the future, including but limited to statements regarding: the proposed strategy regarding core mining, road and rail inputs at the Project; anticipated increases in annual production at the Project; anticipated decreases in Project costs; the possible reclassification of current inferred mineral resources on the Project as indicated mineral resources in the future; expected completion of the FS on the Project containing a new reserve calculation and a new economic assessment; the granting of a license for the Menzies rail siding; the status of the MRRT; and plans to secure mining approvals under the *Mining Act*, are forward-looking statements. The forward-looking statements in this press release reflect the current expectations, assumptions or beliefs of the Company based upon information currently available to the Company. With respect to forward-looking statements contained in this press release, assumptions have been made regarding, among other things, the reliability of information prepared and/or published by third parties that are referenced in this press release or was otherwise relied upon by the Company in preparing this press release. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and no assurance can be given that these expectations will prove to be correct as actual results or developments may differ materially from those projected in the forward-looking statements. Factors that could cause actual results to differ materially from those in forward-looking statements include but are not limited to: unforeseen technology changes that results in a reduction in iron or magnetite demand or substitution by other metals or materials; the discovery of new large low cost deposits of iron magnetite; the general level of global economic activity; future changes in strategy regarding core mining, road and rail inputs with respect to the Project; final Project costs varying from those determined from the EOI program; failure to successfully negotiate a BOO arrangement for the Project; failure to complete the FS; failure of the FS to reflect currently anticipated increases annual production and decreases in expected costs at the Project; the results of infill drilling being insufficient to reclassify current inferred mineral resources on the Project as indicated mineral resources; failure to receive a license for the Menzies rail siding; failure to repeal the MRRT; and failure to obtain mining approvals under the *Mining Act*. Readers are cautioned not to place undue reliance on forward-looking statements due to the inherent uncertainty thereof. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. The forward-looking statements contained in this press release are made as of the date of this press release and except as may otherwise be required pursuant to applicable laws, the Company does not assume any obligation to update or revise these forward-looking statements, whether as a result of new information, future events or otherwise.

ULARRING HEMATITE AND MOONSHINE MAGNETITE RESOURCE ESTIMATES

1. ULARRING HEMATITE

The 2012 PFS was based on the combined indicated mineral resources of Snark, Drabble Downs, Central and Banjo being 54.46 Mt at 47.2% Fe, as detailed in Table 2 and Table 3 (press release dated August 16, 2012; 2012 PFS) above a 40% Fe cut-off (50% at Moonshine).

The inferred mineral resource, also shown in Table 1, was excluded from the economic analysis contained in the 2012 PFS for the purpose of mine planning, life of project and financial evaluation.

Table 1. Mineral Resources, Ularring Hematite Project. Fe>40%

Category	Tonnes Mt	Fe %	P %	SiO ₂ %	Al ₂ O ₃ %	LOI %	S %
Indicated	54.46	47.2	0.06	16.9	6.5	7.9	0.16
Inferred	25.99	45.4	0.06	20.6	6.0	7.2	0.09

Note: The mineral resource was estimated within constraining wireframe solids encapsulating banded iron formation ("BIF") strata. The resource is quoted from blocks above 40 % Fe cut-off grade, except Moonshine where resource is quoted from blocks above 50 % Fe. Differences may occur due to rounding. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. See the 2012 PFS for more information.

Table 2. Mineral Resources, by Deposit, Ularring Hematite Project. Fe>40%

Deposit	Reporting cut-off grade (Fe %)	Category	Tonnes Mt	Fe %	P %	SiO ₂ %	Al ₂ O ₃ %	LOI %	S %
Snark	40	Indicated	21.83	47.2	0.07	17.5	6.1	7.7	0.15
	40	Inferred	10.96	45.2	0.07	21.8	5.1	6.8	0.09
Drabble Downs	40	Indicated	11.07	47.2	0.06	16.6	6.4	8.3	0.26
	40	Inferred	0.36	43.6	0.05	24.0	4.8	7.8	0.09
Central	40	Indicated	15.09	47.0	0.05	16.2	7.2	8.1	0.12
	40	Inferred	10.19	45.3	0.05	20.3	6.3	7.5	0.08
Banjo	40	Indicated	6.47	47.8	0.06	16.7	6.6	7.4	0.14
	40	Inferred	3.88	45.4	0.06	18.7	7.6	7.9	0.09
Moonshine	50	Inferred	0.60	53.0	0.06	13.4	6.7	6.1	0.15

Note: The mineral resource was estimated within constraining wireframe solids encapsulating BIF strata. The resource is quoted from blocks above 40% Fe cut-off grade, except Moonshine where resource is quoted from blocks above 50 Fe %. Differences may occur due to rounding. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. See the 2012 PFS for more information.

No resource update has been completed but during 2013, geological field work has identified additional hematite/goethite style mineralisation.

2. MOONSHINE MAGNETITE

The 2011 PEA was based on the Inferred Mineral Resources of Moonshine and Moonshine North being approximately 710 Mt at 30.1% Fe, as detailed in Table 3 (press release dated February 7, 2011) above a 30% Fe cut-off. In addition, a global magnetite resource inclusive of Moonshine and Moonshine North in excess of 1.3 billion tonnes Inferred Resources has been defined across the Company's tenements at Lake Giles (Table 3).

Table 3. Mineral Resources of the Moonshine Magnetite Project.

Deposit	Inferred	
	Million Tonnes	Fe %
Snark	75	27.7
Clark Hill North	130	25.8
Sandalwood	335	31.1
Clark Hill South	66	30.3
Moonshine & Moonshine Nth	710	30.6
Total	1,316	30.1

Notes:

- Figures contained within Table 3 have been rounded. % Fe grades are rounded to one decimal figure.
- Davis Tube Recovery (DTR) results are the proportion of sample considered extractable by magnetic separation.
- A block model was constructed using three dimensional geological wireframes.
- Variograms were generated and grades were estimated using ordinary kriging.
- Outlines and wireframes honour the actual locations of contacts on drill holes that are off section.
- Density was estimated with a regression from Fe grade based on core and rock samples.