

21st June, 2023

ASX: MTM

METALLURGICAL TEST WORK INITIATED ON REE-ENRICHED CLAYS AT EAST LAVERTON

Highlights:

- Metallurgical test work commenced on recently drilled rare earth element (REE) enriched clays from the Pt Kidman prospect, East Laverton project.
- The program aims to characterise the REE species present within the significant clay intervals (up to 29 metres true width) identified from near surface and determine:
 - What fraction of the REE's are "ionic" (recoverable by ionic desorption leach);
 - What fraction of the REE's are in the more refractory colloidal & mineral phases; and
 - How temperature, acid concentration & pH influence REE recovery
- Conducting test work at this early stage enables MTM to ascertain the preliminary viability of clay-hosted REE recovery.

MTM Critical Metals Limited (ASX:MTM) (MTM or the **Company**) has initiated preliminary metallurgical test work to characterise the REE's identified within clays at its Pt Kidman prospect, part of the East Laverton project, located in the northern Eastern Goldfields of Western Australia (Figure 1).

The Company has identified several zones of shallow, laterally continuous clay-hosted REE mineralisation at Pt Kidman through recent aircore drilling programs (see *MTM ASX announcements dated 19 August 2022, 17 November 2022 and 15 May 2023*). The proposed metallurgical work will enable the Company to make informed decisions on the potential economic viability of this mineralisation.

The work involves undertaking industry-standard leach tests under different reagent schemes (Table 1) to:

- a) Characterise the REEs by host phase (ion exchange, colloidal, or mineral);
- b) Determine the REE recoveries; and
- c) Outline a preliminary process flowsheet if favourable results are obtained.

Testing will be carried out by Independent Metallurgical Operations (IMO) who have extensive experience with REE metallurgy including clay characterisation test work for ASX-listed clients.

Commenting on the metallurgical test work program, Managing Director Lachlan Reynolds said:

“Conducting metallurgical testing on the rare earth element mineralisation at Pt Kidman is imperative for understanding the future of the project’s development and for the exploration strategy over the whole East Laverton project.

MTM has discovered district-scale development of REE-enriched clays at East Laverton and metallurgical testing of the clay is now appropriate to assess the leaching characteristics of the mineralisation, which may vary from place to place within the overall project area.

The key test will be to determine the ionic desorption potential of the REE mineralisation. MTM wants to ensure that the leaching conditions that are required to extract the REE’s are potentially economically viable.”

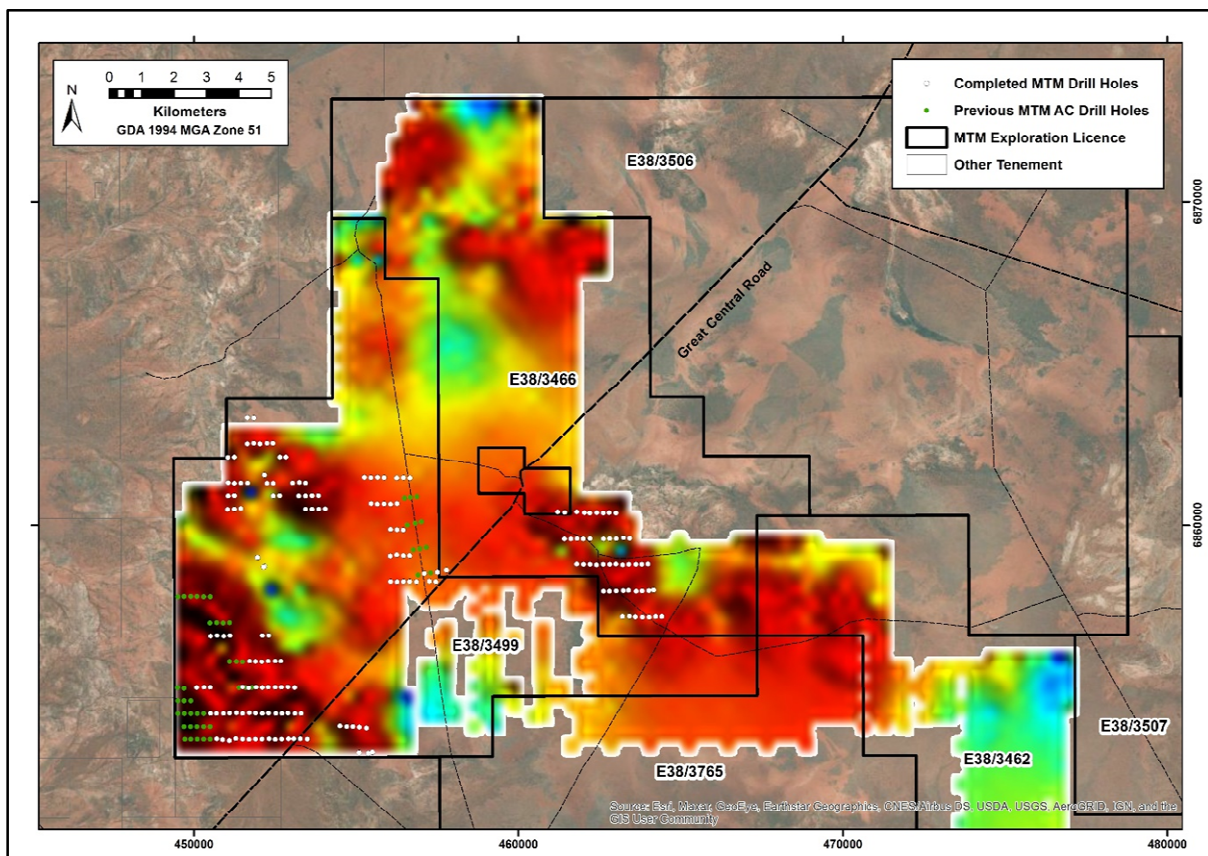


Figure 1: Overview of the Pt Kidman prospect showing district-scale REE geochemical anomalies and the location of MTM drill holes.

The leaching test work will be conducted on 4 composite samples selected from the aircore drill holes (16 tests in total) and is anticipated to be completed during June 2023. Final leach test assay results are expected in July 2023.

This announcement has been authorised for release by the Board of Directors.

For further information, please contact:

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Table 1: Metallurgical Test Work Outline

Test	Purpose	Reagents (Lixiviant)	Reagents (Acid)	pH	Temp. (oC)	Time (h)
1	Leach any REE Ionicly Exchangeable phase present	1.0M (NH ₄) ₂ SO ₄ + 1.0M NaCl	H ₂ SO ₄ to maintain pH at ~4	4	25 (ambient)	6
2	Test if increased temp. and pH improve recoveries of the REE Ion Exchange phase	1.0M (NH ₄) ₂ SO ₄ + 1.0M NaCl	H ₂ SO ₄ to maintain pH at ~1	1	50	6
3	Test if REEs within the Colloid phase (insoluble oxides or hydroxides) are leachable	1.0M NaCl	25g/t HCL	<1	50	6
4	Test if REE's within the Mineral phase (insoluble oxides or hydroxides) are leachable.	1.0M NaCl	100g/t HCL	~0	50	6

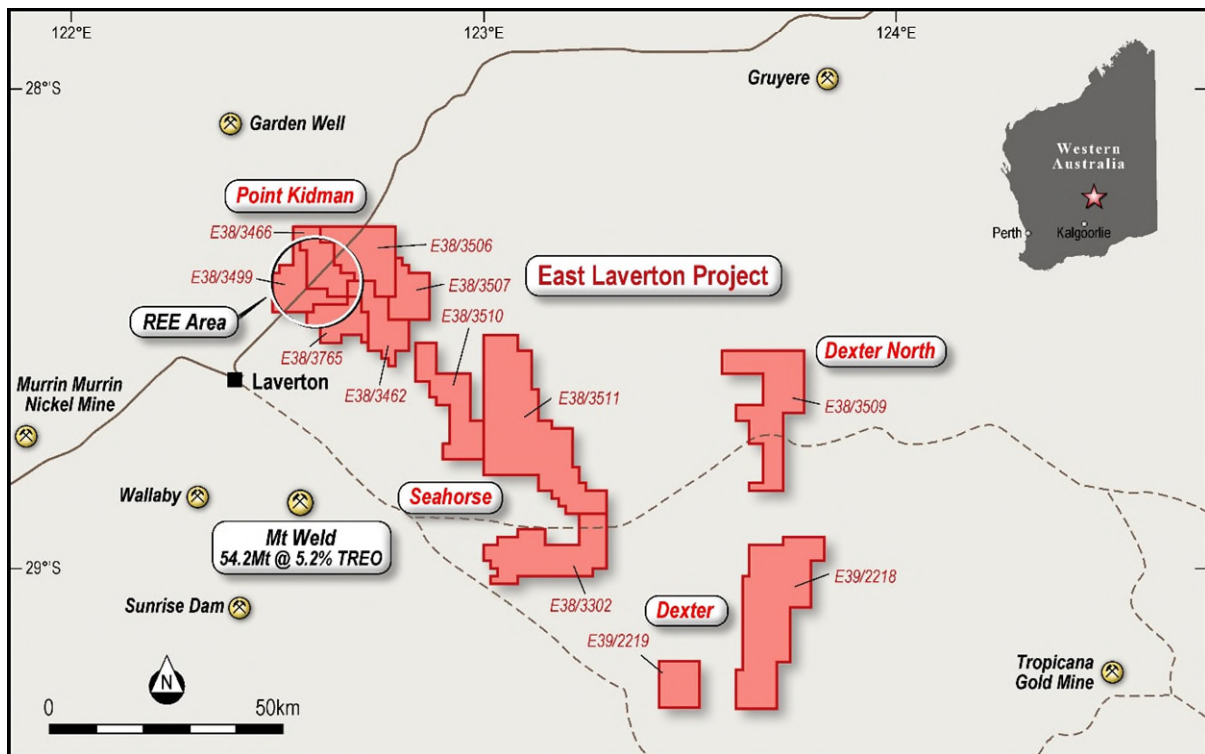


Figure 1: Location map of the East Laverton Project showing the known REE mineralised area at the Pt Kidman prospect.

About MTM Critical Metals Limited

MTM Critical Metals Limited is an exploration company which is focused on searching for rare earth elements (REE), gold, lithium, nickel, and base metals in the Goldfields and Ravensthorpe districts of Western Australia and in the Abitibi region of the Province of Québec. The Company holds over 4,500km² of tenements in three prolific and highly prospective mineral regions in Western Australia and has an option to acquire, through an earn-in arrangement, a 100% interest in 2,400 ha of exploration rights in Québec, Canada. The East Laverton Projects is made up of a regionally extensive package of underexplored tenements prospective for REE, gold and base metals. The Mt Monger Gold Project comprises an area containing known gold deposits and occurrences in the Mt Monger area, located ~70km SE of Kalgoorlie and immediately adjacent to the Randalls gold mill operated by Silver Lake Resources Limited. The Ravensthorpe Project contains a package of tenements in the southern part of Western Australia between Esperance and Bremer Bay which are prospective for a range of minerals including REE, lithium, nickel and graphite. The Pomme project in Québec is a known carbonatite intrusion that is enriched in REE and niobium and is considered to be an extremely prospective exploration target adjacent to a world class REE resource (Montviel deposit). Priority drilling targets have been identified in all project areas and the Company is well funded to undertake effective exploration programs. The Company has an experienced Board and management team which is focused on discovery to increase value for Shareholders.

Competent Person's Statement

The information in this announcement that relates to Exploration Results is based on and fairly represents information compiled by Mr Lachlan Reynolds. Mr Reynolds is the Managing Director of Mt Monger Resources Limited and is a member of both the Australasian Institute of Mining and Metallurgy and the Australasian Institute of Geoscientists. Mr Reynolds has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Reynolds consents to the inclusion in this announcement of the matters based on information in the form and context in which they appear.

Previous Disclosure

The information in this announcement is based on the MTM Critical Metals Limited (formerly Mt Monger Resources Limited) prospectus and the following ASX announcements, which are all available from the MTM Critical Metals Limited website www.mtmcriticalmetals.com.au and the ASX website www.asx.com.au.

- 19 August 2022, "Aircore Drilling Confirms Widespread REE Mineralisation at East Laverton"
- 17 November 2022, "Assays Confirm Rare Earth Element Mineralisation and District-Scale Potential at East Laverton"
- 15 May 2023, "Drilling Confirms Further Rare Earth Element Mineralisation and Increased Potential at East Laverton"

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original ASX announcements and that all material assumptions and technical parameters underpinning the relevant ASX announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original ASX announcements.

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