

NEWS RELEASE May 9, 2016 Symbol: TSX-V: MMS For Immediate Dissemination

MACARTHUR MINERALS LOCATES OUTCROPPING PEGMATITES WITH POTENTIAL FOR HARD ROCK LITHIUM

Macarthur Minerals Limited (TSX-V: MMS) (the "Company" or "Macarthur Minerals") is pleased to announce that it has conducted initial helicopter borne reconnaissance over a number of its Pilbara Exploration Lease Applications. This initial reconnaissance has located pegmatites, which contain one or more minerals indicative of rare element Lithium-Caesium-Tantalum ("LCT") class of pegmatites, such as beryl, lepidolite, tin (Sn) and tantalum (Ta) minerals; Sn and Ta to be confirmed by geochemical analysis. Spodumene was also tentatively identified in small crystal clumps in pegmatites, however confirmation is also required from the rock chip geochemical analysis.

The rare element LCT class of pegmatite is the principal "hard rock" source of the commercially important lithium minerals such as petalite and spodumene.

Helicopter Reconnaissance Program

The first reconnaissance of the Company's Pilbara acreage was conducted by helicopter owing to the large size of Company's acreage. The Company has one of the largest acreages for 'hard rock' lithium of any junior exploration company globally, consisting of Exploration Licence Applications covering a total of 341,000 acres (1,379 square kilometres) in Western Australia, of which 16 applications covering an area of 287,877 acres (1,165 square kilometres) are located in the Pilbara region of Western Australia.

The reconnaissance program was conducted by members of Macarthur's senior technical team, including Professor Ken Collerson and Dr Dean Carter, both members of the Company's Lithium Advisory Board and Mr Ralph Porter from CSA Global Pty Ltd, the Company's independent consulting geologists. Mr David Taplin, Managing Director, supervised the Company's technical team.

Reconnaissance, including sampling, was only conducted on seven of the Company's 16 Exploration License Applications in the Pilbara and did not include all areas contained in those applications. In essence, the initial reconnaissance program only assessed the lithium potential of a fraction of the Company's acreage package.

Pegmatite Rock Chip and Biogeochemical (Spinfex) Sampling

As part of the initial reconnaissance program, rock chip and spinifex (*Triodia sp.*) samples were collected at outcropping pegmatite locations across the Company's acreage for analysis.

The spinifex samples were collected to provide an additional geochemical sampling medium. Spinifex plants, which are abundant in the Pilbara have roots that penetrate deep below surface to the water table where they interact with basement rocks. Metals released from the basement by bacterial action and also the effect of humic acid are "pumped" upwards along the root system into the spinifex fronds. The chemistry of the fronds potentially reveals the presence of distinctive trace element chemistries, indicative of mineralisation associated with ultramafic rocks, granitoids or alkaline intrusions. This technique may be useful in identifying anomalies associated with rare element LCT class of pegmatites.

Professor Collerson was recently the lead investigator on a spinifex biogeochemical study in the Simpson



Desert of South West Queensland^{1,2} where, because of cover by transported sands, little was known about the mineral potential of the region.

Sample Locations

Pegmatites were sampled at a number of locations on the Company's Exploration Licence Applications including:

- the Company's Exploration Licence Application E45/4693, which is adjacent to Australian Stock Exchange ("ASX") listed Dakota Minerals Limited's (ASX: DKO)("Dakota") Exploration Licence E45/4633. Dakota has reported pegmatite targets using highly detailed geophysics in its adjacent Exploration Licence E45/4633.³
- the Company's Exploration Licence Application E45/4702 on which the abandoned Cooglegong tin mine is located in the Shaw Batholith.
- the Company's Exploration Licence Applications E45/4711 and E45/4747 at the southern end of the Tambourah Greenstone Belt, between the Yule and Shaw Batholiths, close to an area where lithium bearing pegmatites are known to occur.⁴

The Company's southern tenements align in a trend that extends northwards towards the Dakota's Exploration Licences at its Lynas Find Lithium Project in the Pilgangoora District. Dakota announced on the ASX on May 2, 2016, that it has successfully completed a heavily oversubscribed placement to raise A\$12.3 million to conduct further exploration.⁵ Dakota also announced on the ASX on May 3, 2016 high grade results from its maiden drilling programme at the Lynas Find Lithium Project, including 21 metres @ 2.64% Li₂O, 26 metres @ 1.96% Li₂O and 26 metres @ 2.08% Li₂O, raising the overall weighted average grade intersected at its project to date to 1.78% Li₂O.⁶

Next Steps

Rock chip and spinifex samples taken from the pegmatites will be analysed to determine rare element content (e.g. lithium, tin, tantalum, beryllium) and to provide information on fractionation state and presence of fractionation trends.

The Company will use the data obtained from the reconnaissance sampling to plan and undertake more comprehensive and detailed sampling programs in the areas containing confirmed rare element pegmatites and will also undertake additional reconnaissance programs to locate rare element LCT type pegmatites within its large acreage package.

The Company is planning to conduct further airborne reconnaissance on its other tenements in the Pilbara not included in this initial program, as helicopter borne surveys allow the technical team to cover vast areas efficiently and expediently.

⁵ Dakota Minerals Limited's ASX announcement dated May 2, 2016, http://www.asx.com.au/asx/statistics/displayAnnouncement.do?display=pdf&idsId=01736822

¹ Collerson K.D. (2014) Application of spinifex biogeochemistry to identify mineralisation targets in obscured basement terranes beneath the Simpson Desert in South Western Queensland – Final Report, 93 pp. <u>https://www.dnrm.qld.gov.au/our-department/policies-initiatives/mining-resources/future-resources-program/spinifex-minerals-</u>

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² Collerson, K.D., Hutton, L., & Wason R (2015) Grassroots exploration under cover: Spinifex geochemistry leads to discovery of a new Australian metallogenic province. https://www.ausimmbulletin.com/feature/grassroots-exploration-under-cover/ ³ Dakota Minerals Limited's ASX announcement dated March 24, 2016,

http://www.asx.com.au/asx/statistics/displayAnnouncement.do?display=pdf&idsId=01721928

⁴ Sweetapple M.T. & Collins, P.L.F (2002) Genetic framework for the classification and distribution of Archean rare metal pegmatites in the North Pilbara Craton, Western Australia. Economic Geology.

⁶ Dakota Minerals Limited's ASX announcement dated May 3, 2016,

http://www.asx.com.au/asx/statistics/displayAnnouncement.do?display=pdf&idsId=01737354



ABOUT CSA GLOBAL

As previously announced on February 15, 2016, the Company appointed CSA Global Pty Ltd ("CSA Global") as independent global lithium and mining exploration experts to assist it in project development.

CSA Global is a leading geological, mining and management consulting company whose staff includes geologists, mining engineers, project managers, data management professionals, and technical personnel. CSA Global has been operating from Perth, Western Australia since 1986. It is an independent company, with origins dating back to 1984 as part of the CSA Group founded in Ireland. CSA Global now has offices in the UK, Indonesia, Johannesburg, Vancouver, Darwin, and Brisbane. CSA has a high level of expertise in most mineral commodities gained from over twenty years' experience within the exploration and mining industry at an international level. It has experience in all stages of the mining cycle from project generation to production. For further information regarding CSA Global, please refer to the company website at www.csaglobal.com.

Dr Andrew Scogings MSc, PhD, MAIG, MAusIMM, has more than 30 years of experience in industrial minerals exploration, geology, mining, product development, and marketing. During his time with CSA, he has undertaken project management and technical advice for a diverse range of industrial minerals exploration and mining projects including lithium, graphite, chromite, potash, mineral sands, silica, and REE in Australia, Africa, Greenland, Indonesia and Norway. Andrew is a regular contributor to Industrial Minerals Magazine (UK), SME Mining Engineering (USA) and Geobulletin (RSA) having published several papers on the requirements of JORC 2012 Clause 49, highlighting the need to report industrial minerals resources according to market specifications. Andrew was lead author for Industrial Minerals Research's recently published *'Natural Graphite Report- Strategic outlook to 2020'*. He is a member of the AIG and AusIMM and is a Registered Professional Geoscientist (RP Geo.) specializing in industrial minerals.

Mr Ralph Porter MSc, BSc (Geology), MAIG, MSEG is a geologist with over 35 years' of mineral exploration experience. He is highly experienced in target generation, project evaluation and exploration program implementation for gold, base metals, tantalum, nickel and PGM's. He has a strong understanding of many deposit styles with particular strength in orogenic gold, epithermal gold and porphyry copper-gold systems. He is credited with the discovery of the Pajingo epithermal gold deposits, North Queensland, Australia and was involved in the early exploration and discovery phases of Thunder Bay North PGM-Ni-Cu deposit, Ontario, Canada. Ralph was Special Projects Manager for Sons of Gwalia in Western Australia for nearly 10 years, which included responsibility for tantalum exploration (hosted within pegmatites and other deposit styles) for 5 years.

ABOUT PROFESSOR KEN COLLERSON

Professor Collerson a member of the Company's Lithium Advisory Board, who has more than 40 years' experience as a geoscientist. He will provide a significant depth of knowledge and breadth of lithium experience to the Company that is unsurpassed.

Professor Collerson is a world leading authority on the geology and geochemistry of strategic metal mineralization including lithium. He has significant experience with LCT (lithium-caesium-tantalum) spodumene-bearing pegmatites and has worked extensively in the Pilbara region where the Company's acreage is located in Western Australia. Most recently Ken worked on a hard rock lithium project in the Jarkvissle area of Sweden. Professor Collerson believes that the Company's acreage in the Pilbara region of Western Australia is highly prospective for lithium.

Professor Collerson has a PhD from the University of Adelaide and is an internationally recognized thought leader in the geosciences. He has published extensively and his work is highly cited.

QUALIFIED PERSONS

Mr Porter, a member of the Australian Institute of Geoscientists, is a full-time employee of CSA Global and is a Qualified Person as defined in National Instrument 43-101. Mr Porter has reviewed and approved the technical information contained in this news release.

Dr Scogings, a member of the Australian Institute of Geoscientists and Registered Professional Geoscientist (Industrial Minerals), is a full-time employee of CSA Global and is a Qualified Person as



defined in National Instrument 43-101. Dr Scogings has reviewed and approved the technical information contained in this news release.

Professor Kenneth D. Collerson is a Fellow of the AusIMM, is a member of the Lithium Advisory Board of Macarthur and is a Qualified Person as defined in National Instrument 43-101. Professor Collerson 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 and development company that is focused on identifying and developing high grade lithium and counter cyclical investments that complement Macarthur's capabilities.

On behalf of the Board of Directors,

MACARTHUR MINERALS LIMITED

<u>"Cameron McCall"</u> Cameron McCall, Chairman Company Contact: David Taplin, Managing Director dtaplin@macarthurminerals.com Tel: +61 407470044 www.macarthurminerals.com

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