

5 May 2020

## Assays completed for infill drilling of the Lake Giles Iron Project

Macarthur Minerals Limited (TSX-V: MMS) (ASX: MIO) (the “Company” or “Macarthur”) has recently received the final XRF and Davis Tube Recovery (DTR) assays for the infill drilling program completed at its Lake Giles Iron Project near Kalgoorlie in Western Australia. The DTR assays confirm significant intersections of magnetite mineralisation with DTR concentrate grades up to 68.9% Fe.

Drilling at the Moonshine North deposit comprised 21 reverse circulation (RC) holes for 3379 metres and 9 diamond drill (DD) holes for 1676.2 metres, totalling 5055.2m. A total of 25 holes were submitted for XRF and DTR analysis.

Macarthur has now engaged CSA Global to complete an updated resource model and classification.

### Highlights

- Weighted average DTR concentrate grade of 66.6% Fe and weighted average mass recovery of 31.2%.
- High grade DTR concentrate including the following intervals:

Hole	mFrom	mTo	DTR Mass Recovery %	Fe Concentrate %
LGRC_2165	52	110	39.9	68.88
LGRC_2160	96	179	41.3	68.78
LGRC_2147	139	199	42.4	67.17
Including	139	167	45.2	66.63
LGRC_2166	114	149	51.6	68.61

- High grade magnetite intervals:

Hole	mFrom	mTo	Fe%	SiO <sub>2</sub> %
LGRC_2160	131	168	50.28	12.64
Including	139	155	55.44	8.03
and	141	145	61.00	6.28
LGRC_2166	115	149	50.07	15.67
Including	127	150	55.45	9.49
and	129	148	60.03	7.02

## Premium Australian iron ore



Macarthur Minerals Executive Chairman Mr Cameron McCall said that “The assay results for the infill drilling confirmed good intersections of magnetite. This has been a successful program, and these intersections will form the basis of a revised mineral resource estimate that will underpin the Feasibility Study.”

Mr McCall also said that “Macarthur has been working hard on progressing key components of the Lake Giles Iron Project, and is well underway in advancing discussions to achieve a contracted position with port and rail service providers.

We look forward to informing investors about the outcomes of the updated resource classification that is anticipated to include Indicated and Measured Mineral Resources, and to further advising on progress on the Company’s march toward securing its route to market” Mr McCall said.

### Drilling Results

The Moonshine magnetite deposit is currently defined by drill hole spacings of 200m x 200m and classified as an Inferred Mineral Resource of approximately 710 mt at 30.2% Fe<sup>1</sup>. The Company’s infill drilling program targeted two discrete areas of the Moonshine and Moonshine North magnetite deposits as shown in Figure 1. Drilling was conducted at closer spacing to provide greater confidence in resource estimates with a plan to upgrade the resource classification to include Indicated and Measured Resources.

Ore grade XRF assays were previously released to the market on December 10, 2019 and January 17, 2020. Samples were subsequently submitted for DTR analysis to determine the magnetite fraction and concentrate grade.

DTR analysis has been completed for 25 holes intersecting magnetite mineralisation at the Moonshine and Moonshine North deposits. DTR assays were completed for sample composites ranging from 3m to 5m intervals based on head grade XRF assays and geological logging.

Average concentrate grades across holes ranged from 63.7% Fe to 68.9% Fe with mass recoveries ranging from 15.5% to 51.6% (Table 1). Weighted average ore grades across mineralised intervals approximated 30.4% Fe with weighted average DTR concentrate of 66.6% Fe with a mass recovery of 31.2%. These data are in accordance with the mineral resource estimate at 30.2% Fe and 31.4% mass recovery<sup>1</sup>.

Several holes showed elevated mass recoveries including:

- LGRC\_2166: 52 to 110m; DTR 39.9% and 68.9% Fe
- LGRC\_2160: 96 to 179m; DTR 41.3% and 68.8% Fe
- LGRC\_2147: 139 to 199m; DTR 42.4% and 67.2% Fe
- LGRC\_2166: 114 to 149m; DTR 51.6% and 68.6% Fe

The following table details significant intervals of magnetite mineralisation confirmed by XRF and DTR analysis (Table 1). Note these intersections are not true widths. For completeness, the drill hole locations for all holes drilled in the infill program are presented in Table 2. Significant magnetite intervals and drill hole locations throughout the Moonshine deposit are shown in Figure 1.

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<sup>1</sup> NI43-101 Technical Report filed June 17, 2019, titled “Macarthur Minerals Limited, Preliminary Economic Assessment Lake Giles Iron Project, Western Australia”, NI43-101 Technical Report – Preliminary Assessment



Table 1. XRF and DTR assay results for DD and RC drill samples from the Moonshine and Moonshine North deposits.

Hole ID	m From	m To	Interval	Fe%	SiO <sub>2</sub> %	P%	S%	Al <sub>2</sub> O <sub>3</sub> %	LOI	Average DTR mass recovery %	DTR Conc. Fe %
LGDD_066	60	175	115	25.95	54.85	0.04	1.05	1.04	2.05	26.46	64.75
LGDD_067	69	137	68	31.61	48.99	0.05	0.42	0.84	0.06	38.41	67.97
LGDD_068	83	194	111	26.82	55.15	0.04	0.42	0.23	1.12	29.67	66.46
LGDD_069	64	115	51	31.96	47.89	0.05	1.16	0.58	2.00	29.31	66.35
GDD_070	88	174	86	27.64	56.00	0.05	0.54	0.17	1.99	30.91	66.71
LGDD_071	82	162	80	30.74	47.11	0.05	1.64	1.82	1.80	33.56	66.43
LGDD_072	56	130	74	28.19	53.12	0.04	0.41	0.18	0.59	32.65	67.42
LGDD_073	105	142	37	28.74	52.86	0.06	0.32	0.66	0.55	21.40	64.12
LGDD_073	199	269	70	30.12	46.02	0.05	2.00	1.74	0.63	35.35	64.90
LGDD_074	46	100	54	32.36	50.46	0.05	0.27	0.21	0.82	31.94	67.62
LGRC_2146	58	106	48	25.43	58.15	0.04	0.20	0.12	1.60	19.77	67.07
LGRC_2147	100	245	145	27.29	50.49	0.07	1.13	2.81	0.77	30.22	65.85
LGRC_2148	75	101	26	26.08	53.08	0.07	0.13	2.96	1.66	24.50	67.51
LGRC_2149	102	106	4	17.30	67.25	0.03	0.11	0.05	4.35	15.50	64.40
LGRC_2150	53	84	31	26.05	58.02	0.04	0.14	0.10	1.95	22.33	64.29
LGRC_2151	105	186	81	31.25	50.92	0.04	1.16	0.94	0.71	37.75	67.00
LGRC_2154	113	161	48	21.52	58.90	0.04	1.78	1.11	2.46	19.46	63.70
LGRC_2155	55	80	25	31.20	51.99	0.05	0.15	0.31	2.18	17.58	67.46
LGRC_2156	85	97	12	18.69	64.32	0.03	0.25	0.09	2.57	18.47	65.52
LGRC_2159	200	285	85	33.96	30.93	0.06	3.27	2.85	5.70	27.66	66.94
LGRC_2160	96	179	83	42.01	18.46	0.08	1.85	2.60	7.15	41.30	68.78
LGRC_2161	117	223	106	31.70	41.33	0.05	1.66	2.44	2.68	32.68	66.76
LGRC_2163	86	103	17	31.32	32.00	0.07	0.17	3.97	6.54	25.61	68.21
LGRC_2165	52	110	58	37.68	37.58	0.06	1.00	0.39	3.56	39.85	68.88
LGRC_2166	114	149	35	49.02	16.12	0.09	3.34	2.89	3.51	51.55	68.61



Table 2. Drill hole locations for the Moonshine Magnetite infill drilling program.  
Highlighted holes relate to assay data presented herein.

Hole_ID	Hole Type	Prospect	Max Depth	NAT_RL	NAT_Grid	NAT_East	NAT_North	DIP	AZIMUTH
LGDD_066	DD	MOONSHINE	228.4	502.842	MGA94_50	790222.9	6672154.3	-60.37	244.97
LGDD_067	DD	MOONSHINE	138	499.512	MGA94_50	790050.1	6672396.3	-60.78	242.59
LGDD_068	DD	MOONSHINE	222	501.624	MGA94_50	790289.5	6672079.6	-59.64	236.29
LGDD_069	DD	MOONSHINE	145	501.338	MGA94_50	790492.9	6671732.0	-60.49	241.84
LGDD_070	DD	MOONSHINE	215.1	507.458	MGA94_50	790351.7	6671884.0	-60.5	240.94
LGDD_071	DD	MOONSHINE NORTH	223.4	480.941	MGA94_50	787935.2	6674890.6	-61.72	248.38
LGDD_072	DD	MOONSHINE	133.2	490.221	MGA94_50	789865.0	6672633.7	-60.03	246.21
LGDD_073	DD	MOONSHINE	270.8	498.521	MGA94_50	789956.5	6672801.8	-60.66	241.84
LGDD_074	DD	MOONSHINE NORTH	100.3	488.778	MGA94_50	787735.6	6675226.8	-60.66	255.25
LGRC_2146	RC	MOONSHINE	150	497.672	MGA94_50	790002.0	6672371.0	-59.64	241.61
LGRC_2147	RC	MOONSHINE	282	498.468	MGA94_50	790155.1	6672346.7	-59.64	241.18
LGRC_2148	RC	MOONSHINE	108	498.484	MGA94_50	790087.2	6672300.1	-60.13	240.53
LGRC_2149	RC	MOONSHINE	126	506.135	MGA94_50	790221.0	6672028.6	-60.14	230.83
LGRC_2150	RC	MOONSHINE	132	500.564	MGA94_50	790164.6	6672132.9	-60.33	227.21
LGRC_2151	RC	MOONSHINE	186	508.888	MGA94_50	790398.5	6671905.3	-60.61	245.79
LGRC_2152	RC	MOONSHINE	39	508.93	MGA94_50	790347.6	6671769.4	-59.96	247.61
LGRC_2153	RC	MOONSHINE	132	509.043	MGA94_50	790342.4	6671767.2	-59.96	247.61
LGRC_2154	RC	MOONSHINE	234	508.398	MGA94_50	790549.0	6671763.6	-59.82	238.13
LGRC_2155	RC	MOONSHINE	114	498.103	MGA94_50	790428.4	6671707.7	-60.5	221.8
LGRC_2156	RC	MOONSHINE	151	500.828	MGA94_50	789918.7	6672458.8	-60.2	213.48
LGRC_2157	RC	MOONSHINE	138	498.558	MGA94_50	789788.2	6672579.1	-60.24	237.28
LGRC_2158	RC	MOONSHINE	120	493.389	MGA94_50	789719.1	6672674.8	-60.16	259.02
LGRC_2159	RC	MOONSHINE NORTH	294	502.948	MGA94_50	787889.7	6675197.1	-60.36	234.16
LGRC_2160	RC	MOONSHINE NORTH	294	486.933	MGA94_50	787908.1	6674997.0	-60.28	222
LGRC_2161	RC	MOONSHINE NORTH	261	486.27	MGA94_50	787904.6	6674993.7	-77.35	229.3
LGRC_2162	RC	MOONSHINE NORTH	100	483.151	MGA94_50	787760.8	6675122.9	-60.51	240.45
LGRC_2163	RC	MOONSHINE NORTH	114	488.285	MGA94_50	787807.9	6675038.1	-60.59	244.4
LGRC_2164	RC	MOONSHINE NORTH	114	486.831	MGA94_50	787852.4	6674946.7	-59.52	239.31
LGRC_2165	RC	MOONSHINE NORTH	130	486.6	MGA94_50	787888.9	6674854.7	-60.23	244.79
LGRC_2166	RC	MOONSHINE NORTH	160	475.268	MGA94_50	788022.4	6674690.6	-60.61	245.02

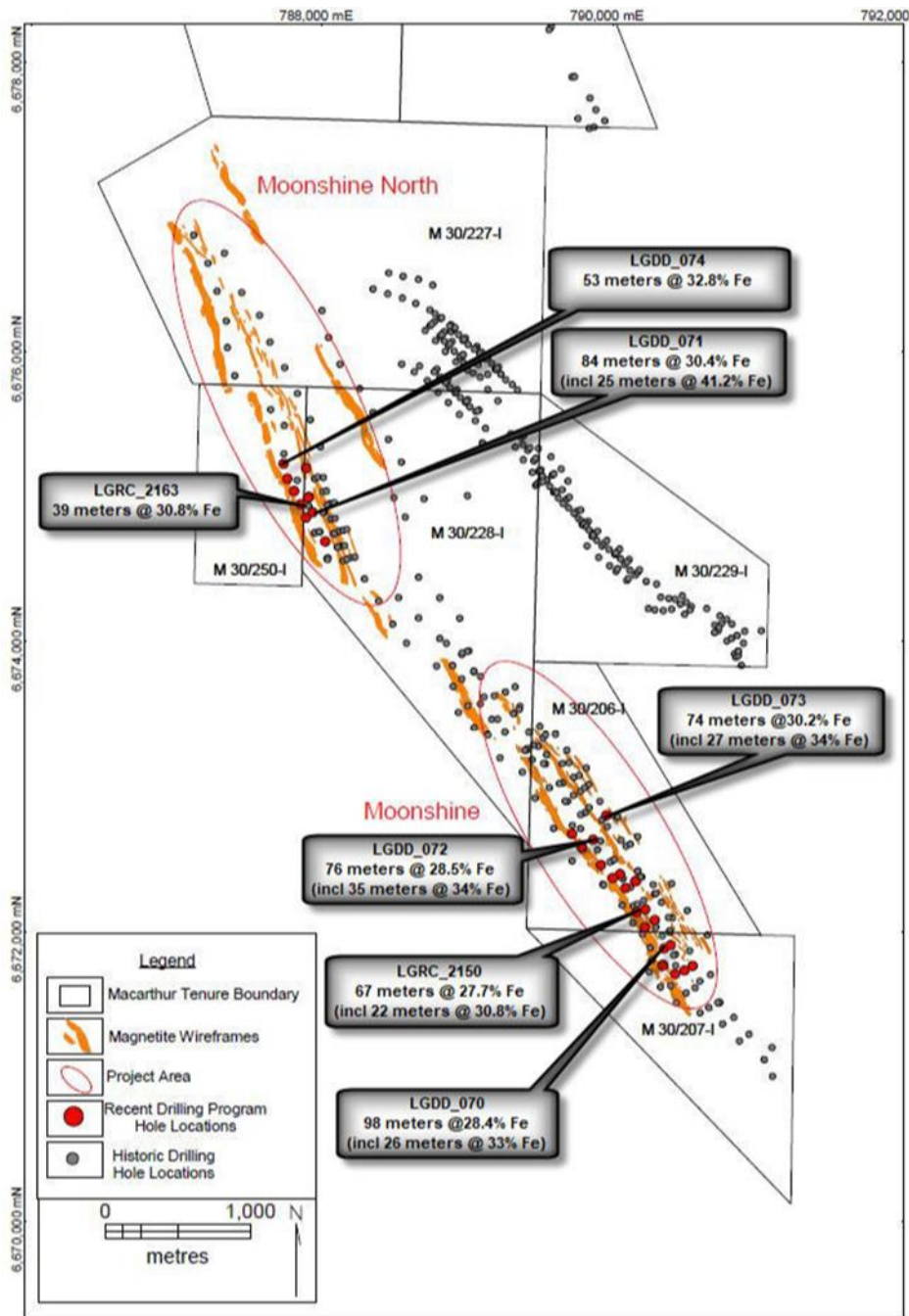


Figure 1. Drill hole locations for the Moonshine Magnetite infill drilling program showing significant magnetite intervals for the last seven holes drilled.

On behalf of the Board of Directors, Mr Cameron McCall, Executive Chairman

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## Qualified Person

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

## Company profile

Macarthur is an iron ore development, gold and lithium exploration company that is focused on bringing to production its Western Australia iron ore projects. The Lake Giles Iron Project mineral resources include the Ularring hematite resource (approved for development) comprising Indicated resources of 54.5 million tonnes at 47.2% Fe and Inferred resources of 26 million tonnes at 45.4% Fe; and the Moonshine magnetite resource of 710 million tonnes (Inferred). Macarthur has prominent (~1,281 square kilometer tenement area) gold, lithium and copper exploration interests in Pilbara region of Western Australia. In addition, Macarthur has lithium brine Claims in the emerging Railroad Valley region in Nevada, USA.

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## Caution Regarding Forward Looking Statements

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.