

NEWS RELEASE
January 13, 2020

Symbols: TSX-V: MMS, ASX: MIO
For Immediate Dissemination

MACARTHUR MINERALS FOURTH QUARTER UPDATE “IRON ORE THE COMMODITY FOR 2020”

Macarthur Minerals Limited (TSX-V: MMS) (the “Company” or “Macarthur”) is pleased to provide an update to Shareholders outlining an active fourth quarter 2019 in the ongoing development of the Company’s flagship, Lake Giles Iron Project. The Company is pleased to also provide an update on the very positive early exploration results across the iron ore, gold, nickel and cobalt projects in Western Australia.

FOURTH QUARTER HIGHLIGHTS

- ❖ The Lake Giles Iron Project, Feasibility Study (FS), is well underway with the infill drilling program completed in December. Results from the first batch of samples from Reverse Circulation (RC) and Diamond (DD) drilling were reported to the market on December 10, 2019. Several drill holes intersected a zone of high-grade magnetite mineralisation identified previously at the Moonshine North deposit.
- ❖ Macarthur was admitted to the Official List of Australian Securities Exchange (ASX) on December 4, 2019 and commenced quotation of its securities on ASX on December 6, 2019.
- ❖ The Company successfully closed the Offer under its Replacement Prospectus on 28 November 2019 with subscriptions accepted for 20,032,952 shares at a price of A\$0.25 per share for a total consideration of A\$5,008,238. Funds from the ASX IPO will be primarily used to advance the Company’s flagship Lake Giles Iron Project.
- ❖ Macarthur entered into a binding agreement with Arrow Minerals Limited (Arrow) to acquire the rights to a substantial package of land covering approximately 4950 ha adjacent to the Moonshine Magnetite deposit. The tenure will be used for constructing supporting infrastructure including the, processing plant, camp, airstrip, waste rocks dumps and a tailings storage facility. The deal with Arrow also paves the way forward to obtain access to tenure to construct a private haul road from the project through to the open access Perth to Kalgoorlie railway owned by Arc Infrastructure.
- ❖ A drilling program was completed at the Hillside project in the Pilbara region of Western Australia to test potential supergene and hypogene mineralisation above and below the water table along the majority of a 14-kilometre Gossan line where previous rock chip sampling identified anomalous copper (Figure 1). This program also tested outcropping quartz vein mineralisation identified through prospecting activities.

Mr Cameron McCall, Executive Chairman of Macarthur Minerals commented:

“The strong iron ore price continues to trade in a spot range (for the last quarter) of US\$80-\$93/tonne for 62% Fe ore and this is creating momentum in the global iron ore industry. Historically, iron ore prices tend to retract in the lead up to the Chinese New Year period when mills generally reduce production, but this does not appear to be the case this year.”

The Company’s focus remains on delivering a high-quality, low-impurity magnetite fines product (+65% Fe) which will target Asian steel mills that are focused on producing quality steel products, enhanced furnace efficiencies, reduced consumption of coking coal and improved environment emissions standards.

In reflecting on the 2019 calendar year, it is pleasing to note the Company achieved all of its targeted goals for the year:

1. *Advancement of the Lake Giles Iron Project, which has been achieved through:*
 - a. *Entry into a Binding Life-Of-Mine Off-take Agreement with Glencore International AG*
 - b. *Entry into a Rail Partnering Agreement with Aurizon*
 - c. *Completion of an institutional Convertible Note financing*
 - d. *Completion of a Preliminary Economic Assessment for the Company's hematite and magnetite projects*
 - e. *Completion of a Reverse Circulation and Diamond in-fill drilling program for the purpose of converting existing inferred resources, to a higher classification*
 - f. *Acquisition of an area of land adjacent to the Moonshine Magnetite deposits to host mining and processing infrastructure.*
2. *A successful partnering with Fe Limited under a joint venture which delivered an active geological program for the Company's Pilbara Gold, Lithium and Copper assets. This included a drilling campaign on the Hillside Prospects conducted at the end of the fourth quarter.*
3. *Completion of a successful listing of Macarthur on the Australian Securities Exchange.*

2019 was a very active year for the Company with 2020 set to be equally active with the proposed completion of the following major milestones:

1. *Key route-to-market contracts*
2. *Negotiations with third parties for the commercialisation of the hematite resource at Lake Giles*
3. *Appointment of an engineering group to undertake the metallurgical test-work and design of the magnetite processing plant*
4. *Appointment of a global corporate services group to commence the financing strategy to support the development of a magnetite mining and processing facility;*
5. *A Feasibility Study for the Lake Giles Iron Project*
6. *Progression towards environmental and other approval processes for the magnetite project;*
7. *Further appointments to Company's technical and commercial management team*
8. *Attracting a strategic partner with an appetite for a generational magnetite iron operation"*

IRON ASSETS

Moonshine Magnetite Infill Drilling Program

The majority of the Moonshine and Moonshine North deposits are defined by drill hole spacing of 200m X 200m and classified as an Inferred Mineral Resource of approximately 710 mt at 30.2% Fe¹.

The infill drilling program completed during the fourth quarter was designed at closer drill hole spacing to upgrade the resource classification for some of the Moonshine and Moonshine North deposits. The planned program included 21 RC drill holes and 9 diamond drill holes. The program concluded with a total of 3,674 meters of RC drilling and 2,673 meters of diamond drilling completed.

The drilling program was designed with the goal of upgrading the resource classification to include Indicated and Measured Mineral Resources. The updated mineral resource, when completed, will underpin the Feasibility Study to be completed for the Lake Giles Iron Project.

¹ 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

Moonshine North Magnetite Results

Reverse Circulation and Diamond drilling at the Moonshine North deposit successfully intersected the previously identified high grade magnetite mineralisation. Assay results for intervals of high-grade magnetite obtained to date are provided in the table below. (NOTE these are drill intersections and not true widths).

Hole ID	m From	m To	Interval	Fe%	SiO ₂ %	P%	S%	Al ₂ O ₃ %	LOI
LGRC_2159	201	287	86	33.85	30.72	0.06	2.99	2.75	6.09
INC	227	260	33	41.58	21.71	0.08	1.82	1.86	5.2
LGRC_2160	86	180	94	40.51	20.90	0.07	2.07	2.45	7.36
INC	122	162	40	49.27	8.70	0.08	0.79	0.36	6.22
LGRC_2161	139	194	55	38.39	33.15	0.06	1.55	2.09	2.42
INC	156	194	38	41.73	33.31	0.07	0.70	0.37	0.56
LGRC_2164	25	107	82	38.98	36.48	0.07	0.14	2.63	3.28
INC	77	92	15	53.28	20.46	0.09	0.03	0.05	2.47
LGRC_2165	29	110	81	37.44	36.15	0.05	0.7	1.57	4.22
INC	48	77	29	47.78	27.11	0.06	1.2	0.48	2.35
LGRC_2166	95	152	57	40.23	28.87	0.07	3.81	2.96	4.66
INC	129	147	18	60.64	7.05	0.11	0.67	0.49	-0.26

Analytical results are pending for a further four holes also drilled at Moonshine North, which include visually logged intervals with a high percentage of magnetite content.

Preliminary metallurgical test work on a sample of similar iron grade obtained from hole LGRC_203 drilled at Moonshine North previously showed great potential to obtain a high-grade magnetite concentrate¹. Single and two-staged Low Intensity Magnetic Separation (LIMS) obtained concentrate grades ranging from 67.3% to 68.4% Fe and 4.2% to 5.0% SiO₂ with high mass recoveries of 57.8% to 60.3%. Material of higher head grade is likely to result in higher mass recovery in comparison to the conservative design criteria of 38% used in the Preliminary Economic Assessment, 2019¹.

NON-IRON ASSETS

In 2019 Macarthur's primary focus was on its Western Australian Iron Ore assets. To support this strategy, the Company ventured out the gold and lithium tenements in the Pilbara region to ASX listed Australian explorer, Fe Limited ("FEL"). FEL has the ability to earn up to 75% of these Projects through exploration and staged cash payments to Macarthur. During the quarter FEL conducted exploration on these areas and completed a drilling program of copper and gold targets at the Hillside Project.

Hillside tenements

As previously announced by the Company on August 23, 2019, rock chip samples collected by FEL's geological team from the Hillside Project returned strongly anomalous grades for base metals and gold from several locations. In early September FEL conducted follow-up reconnaissance, concentrating on the Hillside Project (E45/4824 and E45/4685). Exploration involved mapping and sampling of the partially outcropping gossan line and outcropping quartz reefs known to host gold mineralisation (from prospector reports).

The gossan line was traced over a 14km strike length with remnant outcrop identified at regular intervals along strike (Figure 1). A total of 36 rock chip samples were collected including 15 from outcropping gossan with several samples containing visible copper minerals such as malachite. Remaining samples were collected from quartz outcrops, many of which returned strongly anomalous gold grades.

The assay results are highly encouraging with eight samples returning copper values over 1% with a peak of 18.8% Cu and often accompanied with elevated gold, silver and zinc values (+/- cobalt). Significant results include:

- HS0014: 1.2ppm Au, 18.8% Cu, 77ppm Ag, 0.17% Zn, 0.057% Co
- HS0021: 0.77ppm Au, 3.7% Cu, 187ppm Ag, 0.5% Zn, 0.06% Co
- HS0023: 1.06ppm Au, 13.9% Cu, 79ppm Ag, 0.44% Zn,
- HS0024: 0.31ppm Au, 4.5% Cu, 76ppm Ag, 0.35% Zn, 0.05% Co
- HS0027: 0.28ppm Au, 1.3%Cu, 14ppm Ag, 0.17% Zn, 0.04% Co
- HS0028: 0.45ppm Au, 3.1% Cu, 50ppm Ag, 0.49% Zn
- HS0029: 0.34ppm Au, 3.0% Cu, 22ppm Ag
- HS0031: 0.83ppm Au, 7.2% Cu, 78ppm Ag, 0.93% Zn, 0.095% Co

Drilling was completed in December 2019 that tested potential supergene and hypogene mineralisation above and below the water table along the majority of the 14-kilometre Gossan line (Figure 1). This program will also test outcropping quartz vein mineralisation identified through prospecting activities. Assays are expected early 2020.

Exploration at the Hillside Project also discovered high grade manganese mineralisation in sub parallel outcrops to the gossan line sampled above. Rock chips samples returned a maximum of 59.4% MnO (>46% Mn).

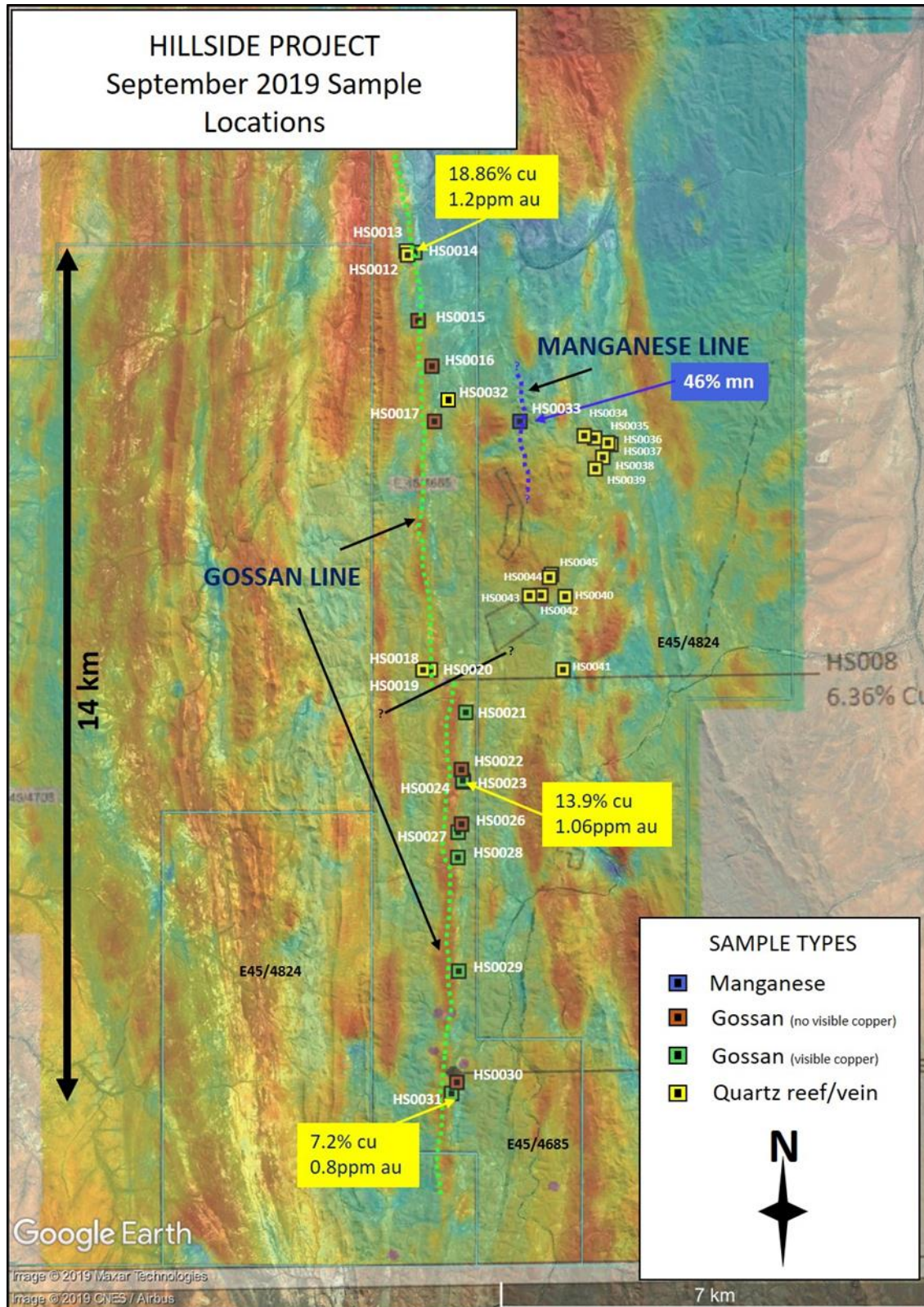


Figure 1 – Sample Location Map

Fe Limited (ASX: FEL) is a listed mineral exploration Company that holds or has rights or interests in various projects and tenements prospective for battery metals, copper, iron ore, gold and base metals located in Australia. The Company is focused on the exploration of battery metal projects. In March 2019, FEL entered into an agreement to acquire the Pippingarra Lithium Project and the Marble Bar Lithium Project (Project) from Mercury Resources Group Pty Ltd. These areas complement the tenement portfolio of Macarthur Minerals, establishing a 1800 square kilometre exploration footprint in the important Lithium and Gold region of Western Australia.

PILBARA HARD ROCK LITHIUM

Macarthur's Pilbara lithium portfolio covers an area of ~1,281 square kilometers, have regulatory exploration licence approval and cover similar geological settings to that of "world class" Pilbara lithium deposits and producing spodumene mines. These areas are included in the earn-in Joint Venture program that is targeting battery metal deposits. These areas have been added to during 2019 with the lithium potential tenements held by Fe Limited.

NEVADA, USA REYNOLDS SPRINGS PROJECT

Macarthur holds 210 unpatented mining claims at its Reynolds Springs Lithium Brine Project in the Railroad Valley, Nevada, USA. Analysis of geochemical soil sampling found up to 405ppm Li.

Macarthur conducted further review of several historic well logs drilled on the claims and identified numerous conductive, faulted zones that indicate the presence of a brine aquifer.

NEXT STEPS

Macarthur will actively advance, with our key partners, its iron ore assets in Western Australia. Infill drilling of the Moonshine Magnetite deposit has been completed with samples submitted to the laboratory. On receipt of assay results, the Company will update the geological model of the Moonshine Magnetite deposits in conjunction with completing a Feasibility Study of the Lake Giles Iron Project. Further, the Company will work closely with Fe Limited to advance exploration of its high-quality lithium, gold and base metal tenements in the Pilbara region.

ABOUT MACARTHUR MINERALS LIMITED (TSX-V: MMS, OTCQB: MMSDF)

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 resources² include the Ularring hematite resource (approved for development) with a resource consisting of 54.5 million tonnes at 47.2% Fe (Indicated Category) and 26 million tonnes at 45.4% Fe (Inferred Category) and the Moonshine magnetite resource of 710 million tonnes at 30.6% Fe (Inferred Category). Macarthur has prominent (~1,281 square kilometer tenement area) gold, lithium and nickel exploration interests in Pilbara region of Western Australia. In addition, Macarthur has lithium brine Claims in the emerging Railroad Valley region in Nevada, USA.

On behalf of the Board of Directors,
MACARTHUR MINERALS LIMITED

"Cameron McCall"
Cameron McCall, Executive Chairman

Company Contact
Joe Phillips, CEO and Director
Email: jphillips@macarthurminerals.com
Telephone: +61 448899247
Website: www.macarthurminerals.com

² INDEPENDENT TECHNICAL ASSESSMENT REPORT, Macarthur Minerals Projects in Western Australia and Nevada, CSA Global Report N° R358.2019'9 October 2019, www.csaglobal.com

THIS NEWS RELEASE IS NOT FOR DISTRIBUTION TO UNITED STATES SERVICES OR FOR DISSEMINATION IN THE UNITED STATES

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. 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 timely receipt of required approvals, the reliability of information, including historical mineral resource or mineral reserve estimates, 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 fluctuations in exchange rates and certain commodity prices, uncertainties related to mineral title in the project, unforeseen technology changes that results in a reduction in iron ore demand or substitution by other metals or materials, the discovery of new large low cost deposits of iron ore, uncertainty in successfully returning the project into full operation, and the general level of global economic activity. 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.