

ASX Announcement

24 July 2018

Results of RC Percussion Drilling Program at Manindi Lithium Project

Highlights:

- Assay results received for the reverse circulation (RC) percussion drilling program completed at the Manindi Lithium Project in June 2018
- Anomalous lithium and tantalum mineralisation in all holes intersecting mineralised pegmatite dykes
- Significant intersections include:
 - $\circ~$ MNRC030 8 m @ 1.06% Li_2O from 18 m including 3 m @ 1.65% Li_2O; peak assay of 1.96% Li_2O
 - MNRC033 8 m @ 1.00% Li₂O from 32 m and 7m @ 1.29% Li₂O from 42 m; including 5 m @ 1.53% Li₂O; peak assay of 1.90% Li₂O
- Drilling defined a continuous, mineralised pegmatite dyke over in excess of 200m strike length
- Untested potential down dip and along strike of known pegmatite dykes

Diversified metals exploration company, Metals Australia Ltd (ASX: **MLS**) is pleased to announce that it has received assay results for a program of reverse circulation (RC) percussion drilling completed at the Manindi Lithium Project (the "**Project**"), located in Western Australia (Figure 1).

The drilling program comprised three traverses of drilling to test three outcropping pegmatite dykes that have all been observed to contain lepidolite mineralisation (Figure 2). A total of 17 RC holes were completed, for a total of 837 metres of drilling (*refer to ASX announcement dated 21 June 2018*).

Assay results have demonstrated that the pegmatite dykes are fertile and mineralised with lithium and tantalum everwhere that they were intersected in drilling (see Table 1). Significant intersections of lithium mineralisation (see Table 2) typically occurred in continuous zones within the pegmatite dykes, which were up to 15 m true thickness. Continuity of the dykes was established over strike lengths of up to 200 m.

These encouraging initial results suggest that a further exploration program of additional field mapping and sampling should be conducted prior to an expanded drilling program and further metallurgical testwork.

Commenting on the results of the drilling program at Manindi, Mr Gino D'Anna, a Director of MLS stated:

"This initial program of drilling to test the lithium targets identified at Manindi has provided the Company with some significant and highly encouraging results about the grade and continuity of the lepidolite mineralisation within the host pegmatites.

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These drilling results, combined with the metallurgical testwork that the Company has already reported, provides Metals Australia with confidence that the Manindi Project may host a significant lithium resource. This is an important step, in line with our corporate strategy and alignment to the battery metals sector.

We are excited by what this initial program has delivered, and will be reviewing the results to determine what further exploration and development is warranted for this project."

Manindi Lithium Project

The Manindi Lithium Project is located in the Murchison District of Western Australia, approximately 20 km southwest of the Youanmi gold mine (Figure 1). The Project is situated in a fertile geological complex and is host to a significant undeveloped zinc deposit. The Manindi Project is comprised of three granted mining leases.

Lithium-bearing pegmatite dykes have previously been identified on the Manindi mining leases in the vicinity of the Mulgara-Warabi Prospect areas *(refer to Metals Australia ASX announcement dated 21 March 2017)*. Surface mapping identified at least three lepidolite mineralised pegmatite dykes outcropping at surface with strike lengths of over 300 m and widths up to 25-30 m.





Drilling Program

An RC percussion drilling program was completed at the Mulgar Prospect to test the three outcropping pegmatite dykes (Figure 2). The pegmatite dykes trend east-northeast and have a moderate dip to the north-northwest. All drill holes were oriented at -60° towards 160° in order to obtain intersections of the pegmatite dykes as close as possible to true width.

A total of 17 RC percussion drill holes were completed along three traverses, for a total of 837 m of drilling. Hole collars were located at approximately 40 metre intervals along the traverses. Hole collar details and pegmatite intersections are shown in Table 1.

Hole ID	Collar Coordinates		Dip	Azimuth	Hole	Pegmatite Intersection			
	Northing (m)	Easting (m)	RL (masl)	(°)	(°)	Depth (m)	From (m)	To (m)	Interval (m)
MNRC020	664140	6818180	500	-60	160	60	17	28	11
MNRC021	664183	6818195	499	-60	160	47	19	31	12
MNRC022	664224	6818212	499	-60	160	41	6 20	9 30	3 10
MNRC023	664263	6818223	501	-60	160	41	20	32	12
MNRC024	664303	6818236	503	-60	160	47	21	31	10
MNRC025	664340	6818251	506	-60	160	47	18	33	15
MNRC026	664380	6818237	508	-60	160	41	-	-	-
MNRC027	664380	6818308	509	-60	160	60	-	-	-
MNRC028	664330	6818308	507	-60	160	59	-	-	-
MNRC029	664290	6818314	504	-60	160	65	30	33	3
							52	53	1
							57	58	1
MNRC030	664260	6818301	501	-60	160	41	17	29	12
MNRC031	664220	6818289	498	-60	160	47	-	-	-
MNRC032	664300	6818354	503	-60	160	29	9	17	8
MNRC033	664340	6818372	505	-60	160	59	30	39	9
							42	49	7
MNRC034	664380	6818386	505	-60	160	65	27	32	5
							38	41	3
MNRC035	664420	6818398	503	-60	160	47	27	31	4
MNRC036	664460	6818405	501	-60	160	41	19	20	1
							24	25	1
Total						837			

Table 1: Summary of RC percussion drilling completed at the Manindi Lithium Project



Image 1: RC percussion drilling operations at the Manindi Lithium Project



Figure 2: Drill hole locations at the Manindi Lithium Project

Assay Results

The RC percussion holes were geologically logged and sampled on one metre intervals from surface to the end of the hole. Zones of pegmatite intersected in each hole were identified and flagged for assay. Lithium mineralisation within the pegmatite occurs as the mineral lepidolite, which was easily identified by its characteristic purple colour (Image 2).



Image 2: Lepidolite mineralised pegmatite in RC percussion drill chips (hole MNRC022, 28-29m)

Samples were freighted to the Bureau Veritas laboratory in Perth, Western Australia, where they underwent preparation and assay for a multi-element suite utilising a peroxide fusion method followed by ICP-AES and ICP-MS analysis.

Anomalous lithium and tantalum mineralisation occurred in all of the drill holes where pegmatite was intersected. Significant intersections (0.3% Li₂O cut-off grade) are tabulated below. Intersections are based on the length-weighted average of 1m assay results.

Hole ID	From	То	Interval	Assay Grade		
	(m)	(m)	(m)	Li₂O*	Ta ₂ O ₅ **	
				(%)	(ppm)	
MNRC020	21	25	4	0.63	167	
MNRC021	21	25	4	0.65	171	
MNRC022	23	28	5	0.62	109	
MNRC023	23	29	6	0.49	116	
MNRC024	21	30	9	0.60	64	
MNRC025	28	30	2	0.47	132	
MNRC030	18	26	8	1.06	159	
including	20	23	3	1.65	196	
MNRC033	32	40	8	1.00	158	
including	32	34	2	1.55	167	
including	37	39	2	1.34	186	
	42	49	7	1.29	242	
including	42	47	5	1.53	230	
MNRC034	27	31	4	0.33	331	
	39	41	2	0.66	457	
MNRC035	29	32	3	0.59	336	
MNRC036	19	20	1	0.42	431	

Table 2: Significant intersections from RC percussion drilling

* Calculated from Li assay grade based on the following conversion: Li₂O = Li x 2.153

** Calculated from Ta assay grade based on the following conversion: $Ta_2O_5 = Ta \times 1.221$

Highest grade lithium mineralisation was intersected in hole MNRC030 and MNRC033, where maximum 1 m results of 1.96% Li_2O (20-21 m) and 1.90% Li_2O (33-34 m) were returned, respectively.

No significant intersections were returned for holes MNRC026-028 (no pegmatite intersected); MNRC029 (low grade) and MNRC031 (no pegmatite intersected). Hole MNRC032 contained only anomalous lithium but significant tantalum (10-17 m, 7 m @ 599 ppm Ta₂O₅) suggesting that there is some zonation of the lithium and tantalum mineralisation.

Quality control and quality assurance (QAQC) samples including certified standards, blanks and duplicates were inserted into the assay samples. The results of these QAQC samples, along with routine laboratory checks has been assessed by the company and no analytical issues that could potentially affect the assay results were identified.

Discussion of Results

Drill holes typically intersected the pegmatite dykes at a shallower depth than anticipated, indicating that the dykes have a moderate dip to the north-northwest (Figure 3). The southern most pegmatite dyke showed excellent grade and thickness continuity along strike, which is interpreted to be in excess of 200 m. This dyke remains open to the southwest and is observed to reoccur to the east of hole MNRC026.



Figure 3: Schematic NNW-SSE trending cross section through MNRC030 and MNRC024 showing intersection of two pegmatite dykes

Continuity of the pegmatite dykes and mineralisation was less consistent along the other two traverses, suggesting that the dykes may pinch and swell both along strike and down dip. The pegmatite dykes were also observed to locally bifurcate into multiple zones.

Further Work

MLS is currently evaluating the RC percussion drilling results to determine if further work is warranted to extend and infill the drilling of the lithium mineralised pegmatites, which are still open down-dip and along strike. Furthermore, there are other pegmatite occurrences within the project area that have not been evaluated for lithium mineralisation.

Advancing the understanding of the metallurgical characteristics of the lepidolite mineralisation will also be important in the next phase of exploration. The Company will therefore consider completing diamond drilling for metallurgical samples, whilst also continuing to define the mineralised footprint through additional RC percussion drilling.

The tantalum mineralisation is an important feature of the mineralised pegmatites at Manindi and warrants further modelling and understanding. Future exploration will be designed to better define the tantalum mineralisation and the zonation of the pegmatites.

Consumption of tantalum has increased significantly since the second half of the 1990s with the demand for capacitors required for products in the rapidly growing consumer electronics market. Today, the market for tantalum is supported by the growth in consumer electronics and aerospace industries that has resulted in a reduction of available stockpiles.

The Company is pleased with the results to date and is excited by the prospect of completing a follow-up exploration campaign targeting this lithium-tantalum rich pegmatite field.

MLS remains in discussions with several lithium-mica (lepidolite) end-users in China and looks forward to providing a further update to shareholders in the future regarding these discussions.

For more information, please contact:

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Competent Person Statement

The information in this announcement that relates to Exploration Results is based on information compiled by Mr. Lachlan Reynolds. Mr Reynolds is a consultant to Metals Australia Limited and is a member of the Australasian Institute of Mining and Metallurgy. Mr. Reynolds has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Reynolds consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Caution Regarding Forward-Looking Information

This document contains forward-looking statements concerning Metals Australia. Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.

Forward looking statements in this document are based on the company's beliefs, opinions and estimates of Metals Australia as of the dates the forward-looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future development



JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	Reverse circulation (RC) percussion drilling was used to obtain 1 m samples, from which approximately 2-3 kg was sub-sampled and pulverised to produce a sample for assay.
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Drilling type is reverse circulation (RC) percussion drilling, using a 4.5" face-sampling drill bit.
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	Sample recovery was visually assessed on basis of the volume of RC percussion chip recovery and overall is considered to be good based on the drilling records.
		Standard RC percussion drilling techniques were utilised to maximise sample recovery. The cyclone unit was routinely cleaned to limit contamination and ensure representivity of the sample.
		There is no apparent relationship between sample recovery and grade.
Logging	 Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical 	Chips from 1m RC percussion drilling intervals were logged according to industry standard practice and representative samples stored in chip trays.
	 studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	Logging was qualitative in nature and recorded using standard logging templates. The resulting data was uploaded to a Datashed database and validated.
		100% of the drilling was logged.
Sub-sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	RC percussion samples were collected for every metre drilled using a cone splitter installed beneath the rig cyclone. Each sample had a weight of approximately 2-3 kg. Duplicate samples of the same size were collected using a second collection point from the cone splitter at a frequency of approximately one duplicate per 20 samples.
		For all samples, the nature, quality and appropriateness of the sample preparation technique is considered suitable as per industry best practice.
		All samples were sent to the Bureau Veritas laboratory in Perth for sample preparation (codes PR001 and PR302) using standard codes of practices. All samples were dry and presented to the laboratory "as is".
		The sample preparation is considered appropriate for the sample size and grain size of the material being sampled and appropriate for the sample type.



Criteria	JORC Code explanation	Commentary		
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and	Assaying was completed by the Bureau Veritas (BV) laboratory based in Perth, Western Australia.		
	 whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external 	BV undertook a standard multi-element assay procedures (codes PF100, PF101 and PF102) utilising a peroxide fusion digestion technique followed by ICP-AES and ICP-MS analysis.		
		The quality of the assay and laboratory procedures is considered to be high and appropriate for the type of mineralisation. The technique used is considered to be a total digestion.		
	been established.	A comprehensive QAQC program including blank, standard and duplicate samples were submitted by the Company for analysis with the drilling samples. The results of the QAQC program have been reviewed by the Company's consultant, who has not identified any material concerns.		
		Routine internal QAQC checks were also completed by Bureau Veritas and the results are considered to be satisfactory with no material concerns.		
Verification of sampling and assaying	verification of significant intersections by either independent or alternative company sonnel.	Significant intersections have been reviewed and verified by company technical and management personnel.		
	 The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	Primary drilling data was documented in detailed electronic drill hole logs. Primary assay data was received electronically from the analytical laboratory. Data is uploaded to a Datashed geological database and verified.		
		No adjustments have been made to the reported assays other than the calculation of Li_2O and Ta_2O_5 grades from assay data, as specified in the announcement.		
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys),	Drill hole collar locations have been verified with handheld GPS with a ± 5 m degree of accuracy.		
	 trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. 	The grid system used is GDA94 datum, MGA zone 50 projection.		
	Quality and adequacy of topographic control.	Topographic control is based on a digital terrain model (DTM) with an accuracy of ± 5 m.		
Data spacing and distribution	 Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and 	Data spacing is 1 m intervals downhole drill holes spaced at approximately 40 m intervals along 3 traverses, as discussed in the announcement.		
	 grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	Insufficient data is available to establish the degree of geological and grade continuity required for estimation of a resource.		
		No sample compositing has been applied.		
Orientation of data in relation to geological structure	 Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	The drilling and sampling orientation is considered to have resulted in a true width intersection of the mineralised pegmatite dykes.		
		Given the nature of the deposit type, the drilling and the sampling is therefore considered to achieve unbiased sampling.		
Sample security	The measures taken to ensure sample security.	Industry standard chain of custody followed, with samples collected, transported and delivered to a secure freight depot by Company geologist. Samples were shipped directly to the analytical laboratory.		
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	The Company's consultant has reviewed the sampling and assay data for completeness and quality control and has not identified any material concerns.		



Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary		
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests,	The Company controls an 80% Interest in three granted Mining Licences in Western Australia covering the known mineralisation and surrounding area.		
	 historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	The licences are M57/227, M57/240 and M57/533. The licence reports and expenditure are all in good standing at the time of reporting.		
		There are no known impediments with respect to operating in the area.		
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Manindi zinc deposits were identified by WMC in the early 1970s and have been extensively explored using surface and geophysical techniques prior to drilling. Mapping and soil geochemistry preceded airborne and surface geophysical techniques being applied to the project.		
		The Project has been drilled in 8 separate drill programs since 1971, with a total of 393 holes having been completed. These include 109 diamond drillholes, 109 RC drillholes, 169 RAB drillholes and 8 percussion holes.		
		The zinc deposits have never been mined.		
		The Project has not previously been explored for lithium.		
Geology	• Deposit type, geological setting and style of mineralisation.	The mineralisation at Manindi is hosted within an Archaean felsic and mafic volcanic sequence. The sequence has been extensively deformed by regional metamorphism and structural event related to the Youanmi Fault and emplacement of the Youanmi gabbro intrusion and other later granitic phases.		
		The Manindi zinc-copper mineralisation is considered to be a volcanogenic massive sulphide (VMS) deposit, comprising a series of lenses of zinc-dominated mineralisation that have been folded, sheared, faulted, and possibly intruded by later dolerite and gabbro.		
		Pegmatite dykes cross-cut the felsic and mafic rock sequences at a high angle and are interpreted to have intruded along structures that transect the area. The dykes that occur in the area are considered to be of the lithium-caesium-tantalum type (LCT) and some contain visible lepidolite mineralisation.		
Drill hole Information	 A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	A summary of all information material to the understanding of the exploration results is included in the announcement.		



Criteria	JORC Code explanation	Commentary		
Data aggregation methods	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated 	Exploration results are reported as a length weighted average grade. This ensures that short lengths of high grade material receive less weighting than longer lengths of low grade material.		
	 Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical 	Where aggregate intercepts incorporate short lengths of high grade results within longer lengths of lower grade results, these zones have been reported separately.		
	examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated	No maximum or minimum grade truncations have been applied.		
		No metal equivalents are reported.		
Relationship between mineralisation widths and intercept lengths	 These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known'). 	The orientation and dip of the reported drill holes were designed to intersect the pegmatite dykes that host lithium mineralisation as close as possible to perpendicular to their strike and dip. Reported mineralised intersections are therefore considered to be close to true width.		
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Appropriate maps and sections and tabulated data are included in body of the announcement.		
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Full and representative reporting of relevant results in announcement.		
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	There are no other substantive exploration data.		
Further work	 The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	Further drilling will be considered to test the grade, thickness and continuity of lithium mineralisation at the Manindi Project, as discussed in the announcement.		