

ASX Announcement

21 March 2017

High Grade Lithium Bearing Pegmatites Discovered at Manindi

Highlights:

- **Sampling of historic diamond cores has returned significant widths of high grade lithium bearing pegmatites up to 25m wide assaying up to 2.14% Li₂O**
 - **Results include 15m @ 1.20% Li₂O from 34m including 5m @ 1.53% Li₂O from 38m in MND018**
 - **Detailed geological mapping at the Mulgara/Warabi Zinc resource zone has confirmed several lithium bearing pegmatites outcropping at surface with strike lengths of over 300m and widths of up to 25-30m**
 - **Rock chip sampling of outcropping pegmatites has returned high grade lithium assays up to 2.84% Li₂O and high grade tantalum assays up to 296 ppm Ta₂O₅**
 - **The economics of any future mining of the existing zinc resource at Mulgara/Warabi should be substantially improved by the potential presence of lithium being mined together with zinc**
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Diversified metals exploration company, Metals Australia Ltd (ASX: **MLS**) is excited to announce the discovery of significant high grade Lithium-Caesium-Tantalum (LCT) mineralisation at the Mulgara / Warabi zinc resource area of the Manindi Zinc Project located in Western Australia.

Recent re-examination of historical diamond cores by Metals Australia geologists has unearthed a number of lithium bearing pegmatite intrusions associated with previous diamond drilling conducted at the Mulgara and Warabi zinc resources located approximately 1.3km SE along strike from the Kultarr resource.

Significant Lithium mineralisation present in historic drilling

Lithium bearing pegmatites were discovered during a recent review of the Mulgara and Warabi zinc resources. Core from four historic diamond holes was examined, being MND018, MND019, MND020 and MND022. Of the four holes examined, the core for hole MND018 contained significant widths of high grade lithium mineralisation hosted within pegmatite. The three remaining holes also contained lithium mineralisation of a lower grade.

Mulgara and Warabi were drilled over 10 years ago as part of a zinc exploration and resource definition drilling program. As a result, the diamond cores were not assayed for lithium, as it was not considered a valuable metal. It is clear from examining the core that a number of drill holes were terminated while still in the lithium mineralised pegmatite.

In addition to these four holes a further 24 diamond holes in the vicinity of Mulgara and Warabi mineralised zone require further investigation for potential lithium bearing pegmatites.



Assay results returned from recent diamond core sampling include **15m @ 1.20% Li₂O** from 34m, including **5m @ 1.53% Li₂O** from 38m, in MND018 and **3m @ 1.00% Li₂O** from 41m in MND022. The lithium mineralisation appears to be associated mainly with the mineral lepidolite (Figure 1). Other lithium minerals observed in diamond core include eucryptite and spodumene.



Figure 1 – Diamond core from MND018 showing zone of purple coloured lepidolite. Assaying of this zone returned the highest assay result of 2.14% Li₂O from 43.36m to 44m. Photo shows diamond core from 40.01m to 45.12m.

Lithium bearing pegmatites outcrop at surface

Detailed surface mapping recently carried out at Mulgara and Warabi, situated approximately 1.3km SE of Kultarr (Figure 3), has identified at least three lithium bearing pegmatites outcropping at surface with strike lengths of over 300m and widths up to 25-30m (Figure 2).

Results from twelve rock chip samples collected from these pegmatites have returned high grade assays up to **2.84% Li₂O**. Other strategic metals such as Tantalum (up to 296ppm Ta₂O₅), Caesium (up to 746ppm Cs₂O) and Niobium (up to 169ppm Nb₂O₅) are also present (Table 1).

The pegmatite intrusions appear to cross cut the main geological strike in a northeast-southwest orientation. They appear to be moderately zoned with coarser grained crystals adjacent to the contacts fining inward towards the centre. Lithium mineralisation also appears to be more concentrated adjacent to the contacts exhibiting coarser grained and more abundant lepidolite and spodumene crystals. The pegmatites overall strike length is not limited to surface outcrop as detailed aeromagnetism strongly suggest far more extensive development of pegmatite structures exist sub-surface.

Rock Chip Assay Results

Sample ID	Northing	Easting	Lithium (% Li ₂ O)	Tantalum (ppm Ta ₂ O ₅)	Caesium (ppm Cs ₂ O)	Niobium (ppm Nb ₂ O ₅)
MDD402	6818222	664358	0.77	69	113	97
MDD403	6818222	664322	1.08	60	84	60
MDD404	6818208	664286	1.44	296	158	169
MDD405	6818200	664250	1.46	63	146	66
MDD406	6818187	664210	0.85	118	124	92
MDD407	6818280	664235	2.07	249	324	126
MDD408	6818287	664270	2.37	193	393	107
MDD409	6818292	664295	2.84	198	746	125
MDD410	6818270	664270	1.55	72	145	79
MDD411	6818294	664325	2.75	277	632	122
MDD412	6818173	664170	1.47	100	142	78

Table 1 – Rock chip assay results.

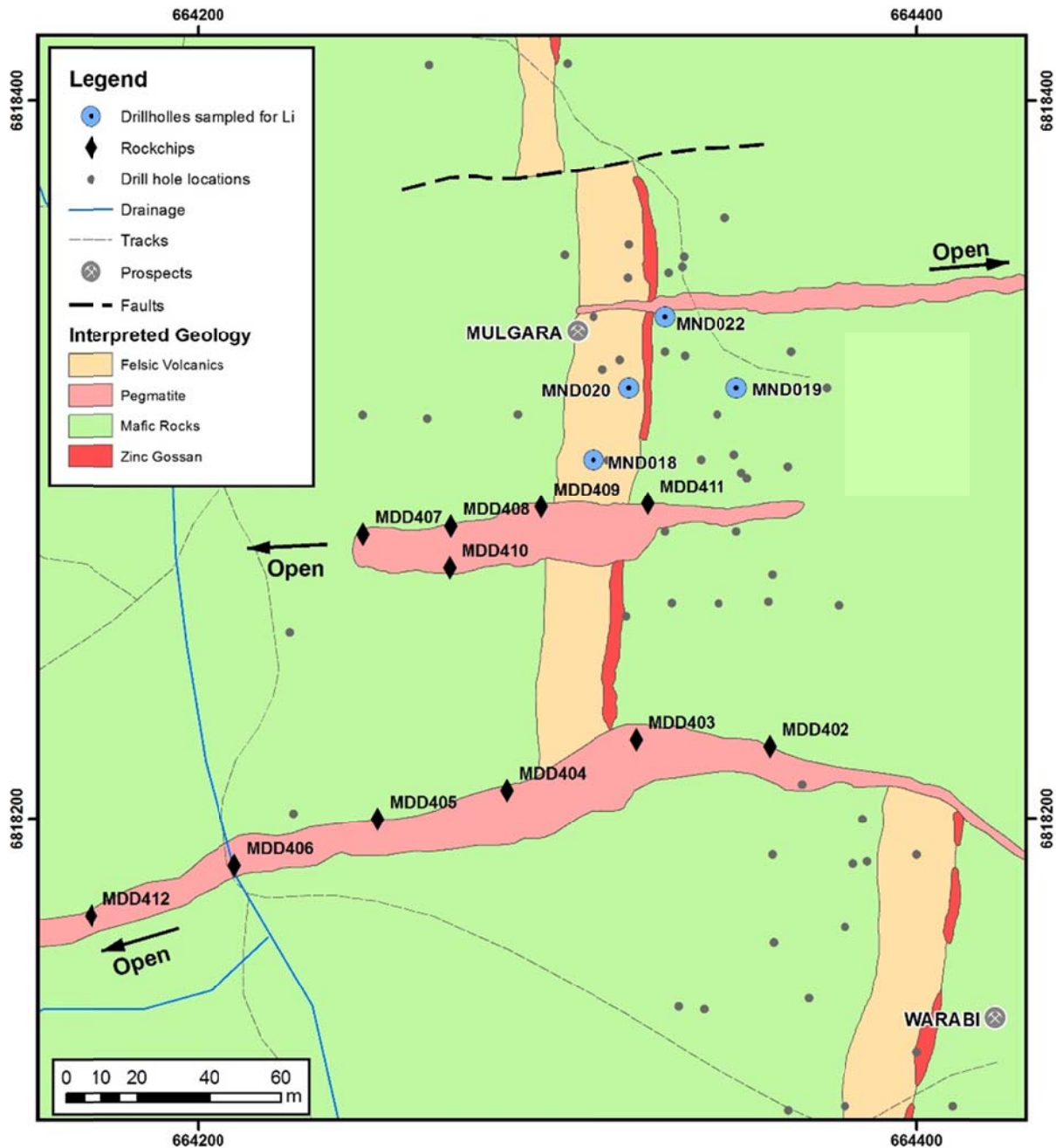


Figure 2 – Interpreted geology of the Mulgara-Warabi area showing pegmatite intrusions, rock chip sample locations, historic drill holes sampled for lithium, historic drill hole collar positions and outcropping zinc mineralisation (shown in red) on the felsic-mafic contact.

Previously flown aeromagnetic surveys show that the strike length of the pegmatites outlined to date are not limited to surface outcrop but suggests there is extensive sub surface continuation of the pegmatites.



Mulgara												
Cut off	Category	Volume m ³	Tonnes t	Zn %	Ag g/t	Au g/t	Cu %	Zn t	Ag Oz	Au Oz	Cu t	
2	Measured	Indicated	8453	31463	5.65	5.52	0.01	0.28	1730	3	28	
	Indicated	Inferred	41984	156801	6.14	5.69	0.03	0.42	5249	14	83	
	Inferred		40146	150140	6.34	5.72	0.03	0.43	9516	151	651	
	Total:		50316	188177	6.34	5.72	0.03	0.40	11932	34605	168	762
Warrabi												
Cut off	Category	Volume m ³	Tonnes t	Zn %	Ag g/t	Au g/t	Cu %	Zn t	Ag Oz	Au Oz	Cu t	
2	Measured		6176	23860	11.29	7.34	0.01	0.46	2693	5627	9	110
	Indicated		11770	45066	9.92	7.65	0.02	0.47	4471	11082	33	211
	Inferred		21539	80752	6.73	6.61	0.05	0.47	5438	17159	130	380
	Total:		39485	149678	8.42	7.04	0.04	0.47	12601	33868	172	701

Table 2: JORC Resource

The resource at Warabi is 149,678 tonnes @ 8.42% Zn together with 7.04 g/t Ag and 0.47% Cu whilst the resource at Mulgara is at 188,177 tonnes @ 6.34% Zn together with 5.72 g/t Ag and 0.4% Cu (both at a 2% cut off grade).

The combined resource at Mulgara and Warabi represents approximately 24,639 tonnes of contained zinc metal (without accounting for the copper and silver credits) and represents approximately 35% of the current total Manindi JORC resource of 1.06Mt at 6.52% Zn for 70,102 tonnes of contained metal (at a 2% cut off grade.).

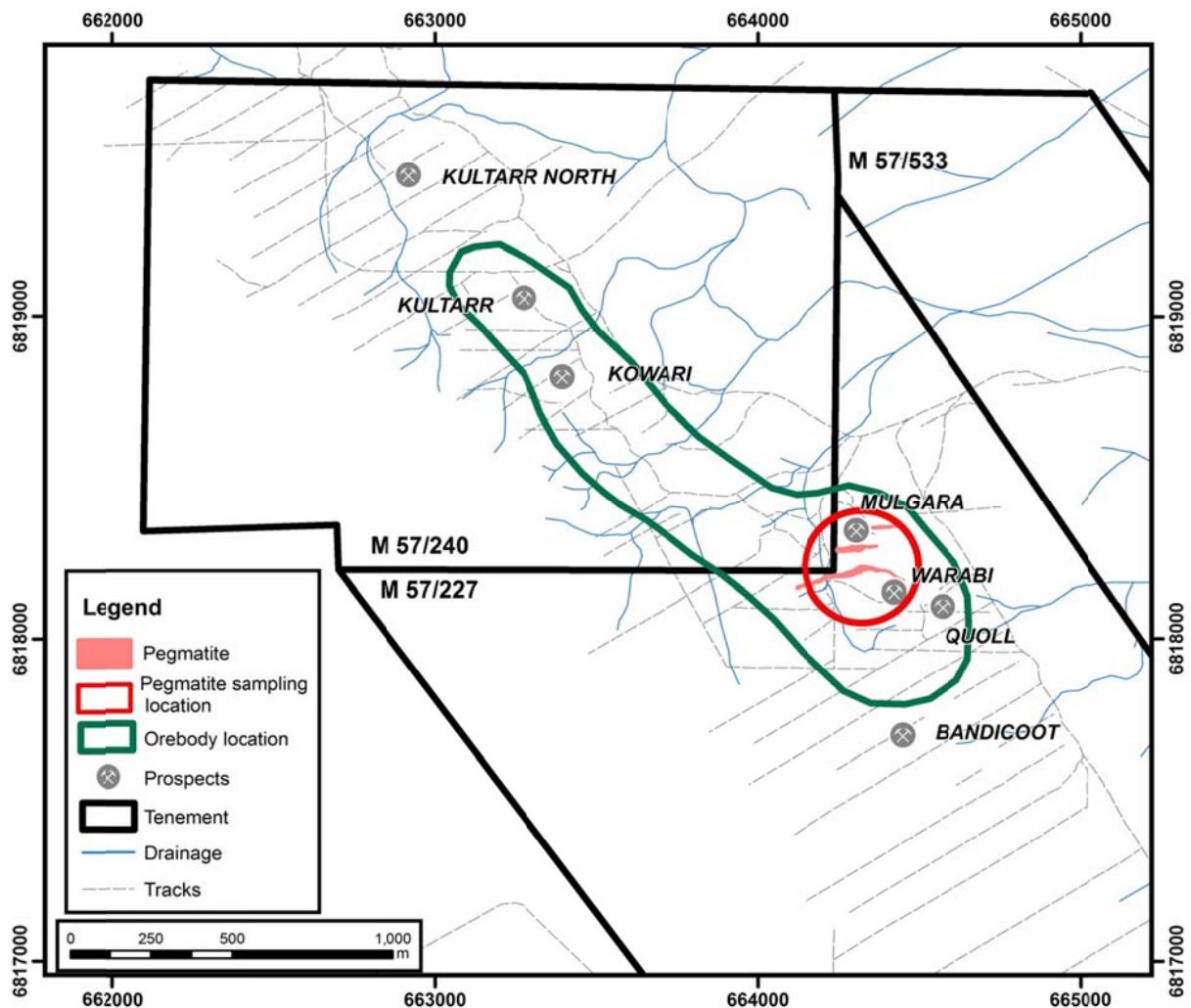


Figure 3: Location pegmatites within the zinc orebody

As can be seen from Figure 3, the lithium bearing pegmatites at Mulgara and Warabi sit within the outline of the existing JORC (2012) Measured, Indicated and Inferred resource at Manindi.

MLS is excited by the potential of the lithium mineralisation particularly as it is within the current zinc resource area. Any mining of the zinc resource will by necessity also involve mining the lithium mineralisation, which is expected to significantly improve the overall project economics at Manindi.

The concurrent mining of any lithium together with the zinc should have a substantial benefit on overall mining economics of the zinc resource.

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Competent Person Statement

The information in this announcement relating to geology, exploration results, geological interpretation is based on information compiled by Mr Dean Goodwin, who is a consultant to Metals Australia Ltd. Mr Goodwin is a member of The Australian Institute of Geoscientists, a Recognised Professional Organisation by the Australian Joint Ore Reserves Committee, and has sufficient experience relevant to the style of mineralisation and types of deposits under consideration and to the activity which is being 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. Mr Goodwin consents to the inclusion in this report of the contained technical information in the form and context in which it appears.

Appendix 1

Table 3: Historic Drill Hole Details

Drill hole	Northing	Easting	AHD RL (m)	Inclination (0)	Azimuth (0)	Total Depth (m)	Location
MND018	6818300	664310	483	60	270	49.2	Mulgara
MND019	6818320	664350	483	60	270	120.62	Mulgara
MND020	6818320	664320	483	60	270	81.7	Mulgara
MND022	6818340	664330	483	60	270	90.7	Mulgara

JORC Code, 2012 Edition TABLE 1

Section 1 – Sample Techniques and Data

Criteria	Explanation
<i>Sampling techniques</i>	<p>Sampling includes diamond core and rockchip.</p> <p>Exploration results are based on industry best practices, including sampling, assay methods, and appropriate quality assurance quality control (QAQC) measures.</p> <p>Random rock chips have been collected as a first pass assessment and orientation of the outcropping pegmatites in the project area. The samples have an irregular spacing reflecting the reconnaissance nature of the assessment and the availability of suitable outcropping material for sampling.</p> <p>A total of 12 rock chip samples ranging from 2-3kg of material were collected in the field to properly represent and characterise the material targeted. Sample weights have been recorded and reported by the lab. The assay method was 4 acid digest with ICP-MS.</p> <p>A total of 4 diamond holes had 95 sample intervals selected from them by Metals Australia Ltd in this program. Diamond core sampling was cut to ½ core with sampling breaks adjusted to geological boundaries. The assay method was 4 acid digest with ICP-MS.</p>
<i>Drilling techniques</i>	Not applicable, no drilling has been carried out.
<i>Drill sample recovery</i>	<p>Diamond drill holes had been geologically logged and recorded within a digital database.</p> <p>Selected intervals from the targeted drill holes have been re-logged and recompiled into a database by MLS</p> <p>Samples were selected on a basis of pegmatite intersection and high lepidolite occurrence, hence are not an unbiased sample.</p>



Logging	<p>All logging was completed according to industry standard practice. Logging was completed using standard logging templates.. The resulting data is uploaded to a Datashed database and validated. Once validated, the data is exported to modelling software for visual validation and interpretation.</p> <p>All field descriptions are qualitative in nature</p>
Sub- sampling techniques and sample preparation	<p>For all sample types, the nature, quality and appropriateness of the sample preparation technique is considered suitable as per industry best practice.</p> <p>A total of 12 rock chip samples were collected.</p> <p>A total of 95 samples of ½ cut diamond core were taken during this program.</p> <p>All samples were dry and presented to the laboratory “as is”.</p> <p>All samples were sent to Bureau Veritas laboratories in Perth for sample preparation and analysis using standard codes of practices.</p>
Quality of assay data and laboratory tests	<p>The samples have been sorted, dried, crushed and pulverised. Primary preparation has been by crushing the whole sample.</p> <p>A 0.25gm aliquot was then digested in a four acid solution for a “near” total digestion and analysed by ICP-MS.</p> <p>This procedure is considered appropriate for LCT pegmatite analysis.</p> <p>Laboratories inserted their own standards and blanks at random intervals and to confirm high grade results.</p>
Verification of sampling and assaying	<p>All significant intercepts are reviewed and confirmed by senior personnel before release to the market.</p> <p>All data is validated using the QAQCr reporter validation tool with Datashed. Visual validations are then carried out by senior staff members.</p>
Location of data points	<p>Rock chip positions were recorded with a handheld GPS system with expected accuracy of +/- 5m horizontal and +/- 10m vertical.</p> <p>The Grid system used is GDA94 datum, MGA zone 50 projection</p>
Data spacing and distribution	<p>Diamond drill hole samples were composited to a nominal 1.0 m down-hole intervals for resource modelling.</p> <p>The data spacing and distribution is not sufficient to establish the degree of geological and grade continuity to appropriate for Mineral Resource estimation purposes.</p> <p>Samples have not been composited.</p>
Orientation of data in relation to geological structure	<p>Sampling was carried out over a small area of the project and interpreted pegmatite and are not considered representative of the pegmatite body</p>
Sample security	<p>All samples remain in the custody of company geologists, and are fully supervised from point of field collection to laboratory drop-off.</p>
Audits and reviews	<p>No audits or reviews have been undertaken</p>

Section 2 – Reporting of Exploration Results

Criteria	Explanation
Mineral, tenement and land tenure status	<p>The Company controls an 80% Interest in three granted Mining Licences in Western Australia covering the known mineralisation and surrounding 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</p>



	with respect to operate in the area.
Exploration done by other parties	<p>The 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 technique being applied to the project.</p> <p>The project has been drilled in 8 separate drill programs since 1971, with 389 holes having been completed. These include 109 diamond drillholes, 105 RC drillholes, 169 RAB drillholes and 8 percussion holes (. The deposits have never been mined.</p>
Geology	<p>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) zinc deposit, comprising a series of lenses of zinc-dominated mineralisation that have been folded, sheared, faulted, and possibly intruded by later dolerite and gabbro.</p> <p>Pegmatites that are prospective for lithium, caesium and tantalum (LCT).</p>
Drillhole information	All relevant drillhole information is supplied in Appendix 1 of the announcement.
Data aggregation methods	<p>All exploration results are reported by a length weighted average. This ensures that short lengths of high grade material receive less weighting than longer lengths of low grade material.</p> <p>No metal equivalent values reported</p>
Relationship between mineralisation widths and intercept lengths	<p>The mineralisation at Manindi is complex in nature but confined to a series of approximately N-S striking zones located east of a gabbroic intrusion. The overall zone of lower grade mineralisation appears to be strata-bound following the complex N-S stratigraphy. Higher grade zones of zinc mineralisation are located within the lower grade envelope and these have more varying orientations. Overall the zone is steeply dipping to the west, A majority of the holes drilled to date dip steeply to the west and as such intersect the mineralisation at low angles. A smaller portion of the holes are drilled towards the east and intersect the mineralisation at high angles, resulting in close to true thickness intersections</p> <p>The pegmatites have been mapped with an overall east-west strike with the majority of historic drilling conducted in a similar orientation. Further drilling work is required to determine the true width of pegmatite intercepts returned in historic drilling.</p>
Diagrams	A series of relevant diagrams are included in the body of the announcement.
Balanced reporting	All relevant assay results are reported.
Other substantive exploration data	All meaningful and material exploration data has been reported.
Further work	Metals Australia Ltd plans to conduct further sampling of historic drill cores for additional lithium mineralisation in pegmatites.