ASX ANNOUNCEMENT

QUARTERLY ACTIVITIES REPORT FOR PERIOD ENDING 31 MARCH 2023

MetalsGrove
MINING LIMITED

Date
27.04.2023

ASX Code
MGA

Shares on Issue
52,710,000

Company Directors

Mr Sean Sivasamy
Managing Director and CEO

Mr Richard Beazley
Non-Executive Chairperson

Mr Haidong Chi
Non-Executive Director

Chief Financial Officer
Ms Rebecca Broughton

Company Secretary
Ms Rebecca Broughton

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HIGHLIGHTS:

ARUNTA PROJECT – RARE EARTH, COPPER-GOLD, BASE METALS

- ***Recently completed aeromagnetic and surface geochemistry work has identified a 1,000m X 600m intrusive system considered highly prospective for rare earth element (REE) mineralisation.***
- ***Sampling has shown a significantly high proportion of yttrium (258ppm, 45% of total REO).***
- ***High proportion of NdPr (21% of total REO), similar to the other NdPr projects including Mount Weld (Lynas ASX: LYC), Ngualla (Peak ASX: PEK) and Nolan's Bore (Arafura ASX: AUR).***
- ***Sampling comparisons of the rare earth distributions with other key projects in the Arunta region - namely Brown's Range and Nolan's Bore***
- ***Maiden RC drilling programme will commence this quarter to test the broad conductor and large intrusive system within the Bruce Prospect.***
- ***Drilling also scheduled to test the Box Hole and Edwards Creek Prospects within Arunta.***

UPPER COONDINA – LITHIUM, TIN AND TANTALUM

- ***Surface field mapping of the northern part of E45/5952 has been completed.***
- ***Mapping identified a shear zone which is considered to be the most significant zone of pegmatite.***
- **RC drilling intersected multiple stacked Spodumene Pegmatites with an intersection including:**
  - ***Up to 40m-wide mineralised zone, 0.20% Li_2O, 0.6% Rb_2O and 118ppm Ta_2O_5.***
- **DGPR surveying has also defined 23 additional potential pegmatite structures conjugate with existing known mineralised pegmatites.**
- **Planning is underway to commence follow-up drilling to test additional pegmatite structures within high-priority target areas.**

Commenting on the recent exploration developments, Managing Director Sean Sivasamy said: *"The March quarter was another busy period for MetalsGrove, highlighted by the confirmation of lithium mineralisaton at our Upper Coondina Project in WA. Our team also made considerable progress at our Arunta Project in the Northern Territory with recently completed aeromagnetic and surface geochemistry work has identified a 1,000m X 600m intrusive system considered highly prospective for REE mineralisation. The initial results from our maiden drilling programme at Upper Coondina provides significant technical insight and we are now working towards finalising our follow-up drill targets for the area.*

Our near-term focus will be on commencing drilling at the Bruce REE Prospect in the Northern Territory and we look forward to providing regular updates on our exploration schedule."

Critical metals exploration and development company **MetalsGrove Mining Limited** (**ASX: MGA**), ("**MetalsGrove**" "**MGA**" or the "**Company**"), is pleased to provide its Quarterly Activities Report for the period ended 31 March 2023 ("**Quarter**").

MetalsGrove is focused on exploration for 'green metals' to supply rapidly growing battery and renewable energy markets globally.

The Company has assembled a strategic portfolio of advanced exploration and near-term development assets, with a total of five projects, two located in Western Australia (WA) and three in the Northern Territory (NT).

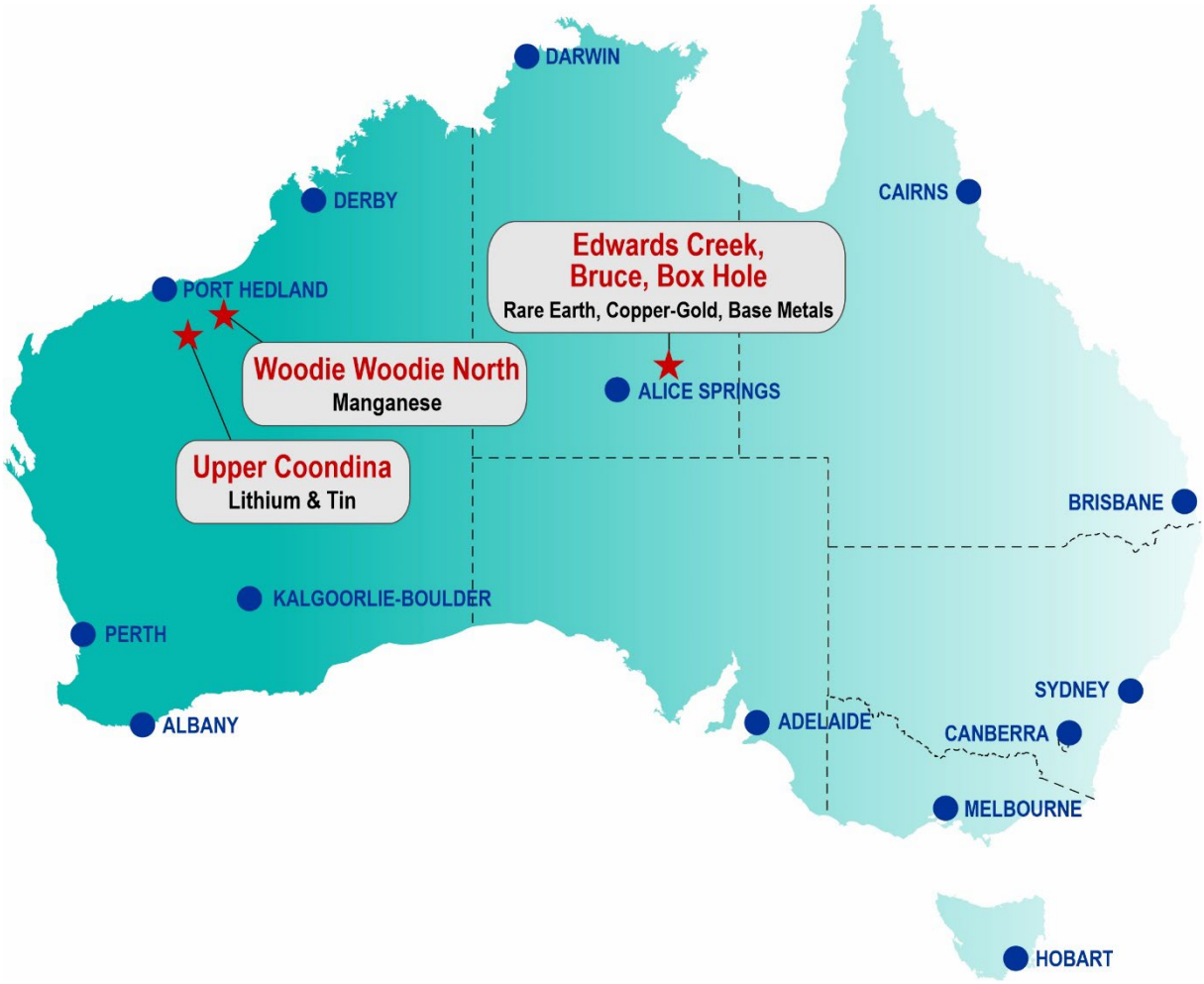

Figure 1: MetalsGrove Mining Ltd Projects location map.

ARUNTA PROJECT – NORTHERN TERRITORY

BRUCE, EDWARDS CREEK, BOX HOLE PROSPECTS

BRUCE RARE EARTH, COPPER-GOLD

During the quarter Intrepid Geophysics was engaged to study and process the aeromagnetic, radiometric and surface geochemistry to delineate exploration target for rare-earth elements (REE), gold-copper and lithium group elements (LCT).

Importantly, this programme highlighted a 1,000m X 600m intrusive system considered highly prospective for rare earth element (REE) mineralisation (see Figures 2-5 below).

Further information on the work carried out at Bruce and the identification of the large intrusive system are discussed below.

Surface Rock Chip Sampling at Bruce

Rare earth projects can typically be divided up into various categories, depending on the quantity and ratio of rare earths that they contain. Table 1 shows a select few rare earth projects. Rare earth projects tend to be defined according to the REE they contain that will give the most value to the project. For example, Ngualla and Nolan's Bore are NdPr projects as it will be the neodymium and praseodymium that give the most value. Browns Range contains significant dysprosium (640ppm) and yttrium (4,330ppm, 57% of total REO) and is considered a heavy rare earth project (the HREO is 88% of total REO). Mount Weld is a high-grade rare-earth deposit (8.6% REO in the Ore Reserve); much of the grade is driven by the low-value lanthanum and cerium, however, it is the NdPr (19,500ppm) and dysprosium (338ppm) that will be key value drivers.

The two highest grade rock chip assays have been added to the base of Table 1 as a comparison with the other project types. Sample BS02 has a significantly high proportion of yttrium (258ppm, 45% of total REO) and dysprosium is also elevated (44ppm). These proportions are comparable to Brown's Range. Sample BS04 showed similar ratios but had a low overall grade (114ppm, Table 2).

Sample B08 has a relatively high proportion of NdPr (21% of total REO), similar to the NdPr projects Mount Weld, Ngualla and Nolan's Bore. The ratios of all the rock chips above 100ppm TREO are shown in Table 2 and a high proportion of MREO to TREO is consistent throughout the rock chips.

The rare earth elements composition for the two highest grade rock chips are compared to the average abundance of rare earths for granite in Table 3. The heavy rare earths in Sample BS02 are several times the expected background.

The comparison of the rare earth distributions with other projects in the Arunta region (namely Brown's Range and Nolan's Bore) are encouraging and follow up drilling will commence Q2 CY2023.

Table 1: Rare earth grades and ratios for select rare earth projects and the grades and ratios in the Metals Grove rock chips and Norwest drilling for comparison.

Company	Project Name	Cut-off REO %	REO %	LREO ppm	HREO ppm	MREO ppm	NdPr ppm	HREO /REO	MREO /REO	NdPr /REO	Y_2O_3 /REO
Pensana	Longonjo	0.1% NdPr (~0.5% REO)	1.60	14,720	1,250	4,200	2,710	8%	26%	17%	2.6%
Peak Resources	Ngualla	3	4.75	46,140	1,380	11,220	10,110	3%	24%	21%	0.2%
Lynas	Mount Weld	4	8.60				19,500			23%	
Arafura	Nolan's Bore	1	2.60	24,544	2,506	8,861	6,864	10%	34%	26%	1.4%
Hastings	Yangibana	0.2% NdPr	1.17	10,263	920	5,167	3,900	8%	44%	33%	1.4%
Northern Minerals	Browns Range	0.15	0.76		6,688			88%			57%
Norwest	*Drilling 2023*	*0*	*0.11*			*369*			*33%*	*25%*	
MetalsGrove	*BS02*	*0*	*0.06*	*197*	*398*	*160*	*59*	*69%*	*28%*	*10%*	*45%*
MetalsGrove	*B08*	*0*	*0.05*	*426*	*85*	*145*	*106*	*17%*	*29%*	*21%*	*7%*

- *REO is the sum of all the rare earth oxides.*
- *HREO is the sum of the oxides of the heavy rare earth elements: Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu and Y. The HREO are less common than the LREO and are generally of higher value.*
- *LREO is the sum of the oxides of the light rare earth elements: La, Ce, Pr and Nd.*
- *MREO is a set of oxides that are referred to as the Magnetic Rare Earth Oxides. They are Nd, Pr, Dy, Tb, Gd, Ho and Sm. These are generally considered to be of higher value than the non-MREO.*
- *NdPr is neodymium and praseodymium.*
- *Note: there is no standard definition for these terms and companies may use slightly different groupings; for example some companies may put the LREO-HREO split after Sm instead of Nd.*

Table 2: Rock chips with REO above 100ppm

Sample IDs	REO ppm	LREO ppm	HREO ppm	MREO ppm	NdPr ppm	HREO /REO	MREO /REO	NdPr /REO	Y_2O_3 /REO
BS02	577	197	398	160	59	69%	28%	10%	45%
B08	495	426	85	145	106	17%	29%	21%	7%
M01	221	169	59	66	44	27%	30%	20%	13%
WD04	217	173	51	63	41	24%	29%	19%	11%
BS03	216	189	35	60	42	16%	28%	19%	6%
WD03	164	114	56	49	32	34%	30%	19%	19%
M06	152	130	27	43	31	18%	28%	21%	8%
M08	144	97	51	36	23	35%	25%	16%	20%
BSE02	140	94	53	49	27	38%	35%	19%	18%
WH04	132	97	41	45	25	31%	34%	19%	14%
BRG01	121	102	22	35	25	18%	29%	21%	8%
BF03	117	79	42	40	25	36%	34%	21%	18%
BS04	114	43	74	35	14	65%	31%	12%	37%
BSE01	106	95	15	31	23	14%	29%	21%	4%

Table 3: The rare earth elements of the two highest grade rock chips and the average abundance of rare earths in a granite.

	La ppm	Ce ppm	Pr ppm	Nd ppm	Sm ppm	Eu ppm	Gd ppm	Tb ppm	Dy ppm	Ho ppm	Er ppm	Tm ppm	Yb ppm	Lu ppm	Y ppm
BS02	27.3	72.2	9.8	40.1	15.0	4.5	22.4	5.2	38.8	6.8	16.8	1.9	9.1	1.1	203
B08	85.1	166	19.1	71.2	13.5	3.1	10.7	1.3	7.0	1.2	3.2	0.4	2.5	0.4	27.8
Granite	25.0	46.0	4.6	18.0	3.0	-	2.0	0.1	0.5	0.1	0.2	-	0.1	0.0	40.0

Aeromagnetic and Radiometric Survey at Bruce

Implicit 3D geological modelling and validation

An initial/starting GeoModeller model was constructed from the relevant surface and subsurface geological, remote sensed and geophysical data. This was limited to magnetic domains and a few significant structures ingested into GeoModeller. Surfaces constructed adhered to a common stratigraphic pile for rule-based model validation. Multiscale Edges were computed from Reduced to Pole magnetics to assist with the domaining and structural work.

Targeting

Cauchy products from Phase 1 across the Plenty River and Bruce target AOIs were imported into the GeoModeller project and interpolated into a 3D voxet for comparison with the implicit volumetric 3D geological model. Cauchy downward continuation products and a magnetic analytic signal transformation were used to refine the magnetic intrusive body outline and its southern north dipping contact.

A targeting exercise was undertaken to identify prospective areas and targets in the context of the geological model to ensure prospective areas/targets were geologically and geophysically reliable.

The proposed drilling programme will decide to focus on the magnetic intrusive body and an associated high K/REE pegmatite and will test maximum of 200m depth.

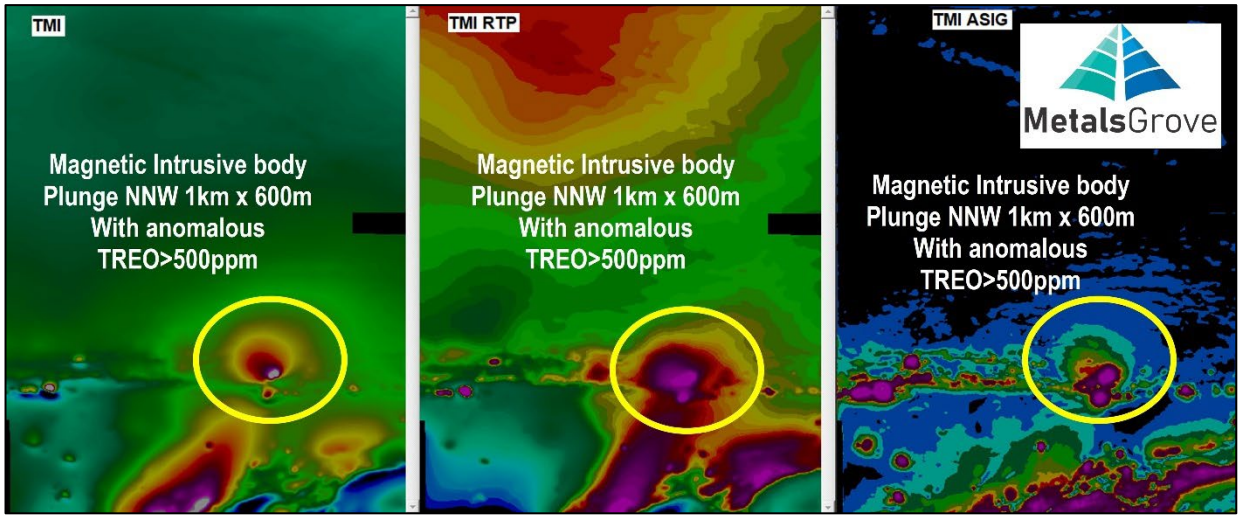

Figure 2: Comparison of TMI, TMI Reduced to Pole & TMI Analytic Signal Highlights Areas of Magnetic Remanence-Plenty River

Magnetic comparison of TMI, TMI Reduced to Pole & TMI Analytic Signal Highlights Areas of Magnetic Remanence in the southern half. TMI Analytic Signal and Cauchy products were used to constrain the 1km diameter elliptical shaped intrusive body plunging NNW in the mid lower right.

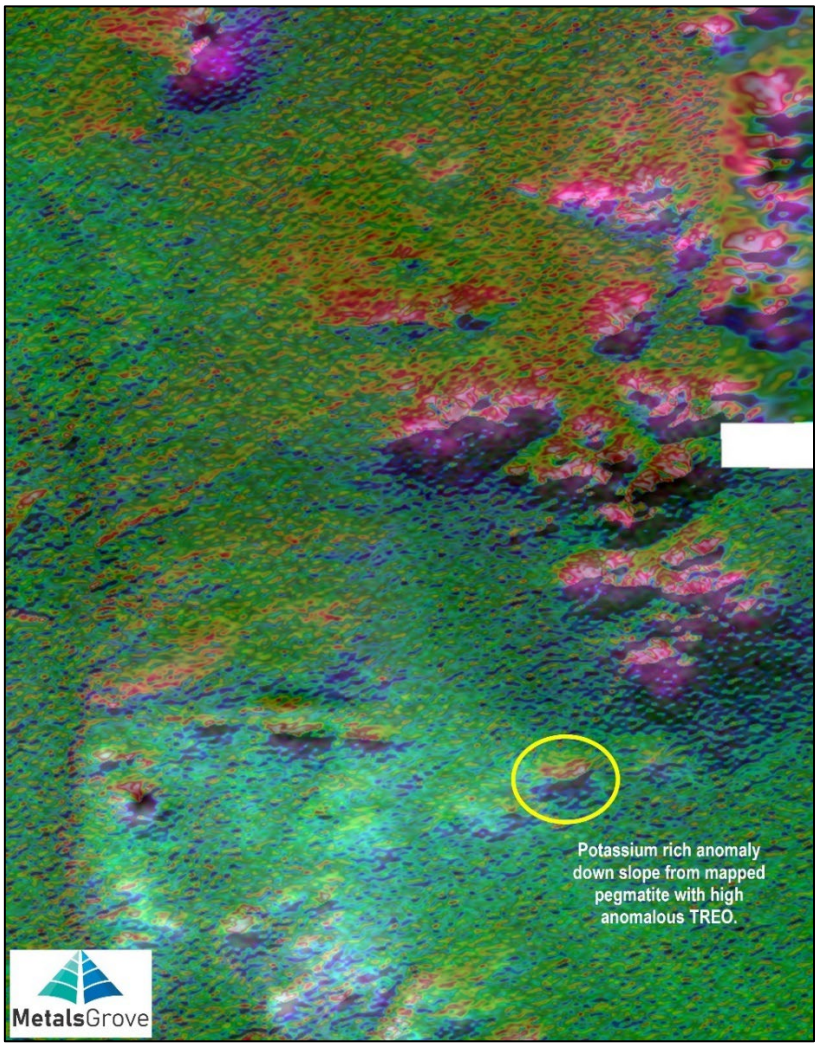

Figure 3: Potassium rich anomaly down slope from mapped pegmatite with high anomalous REE's-Plenty River.

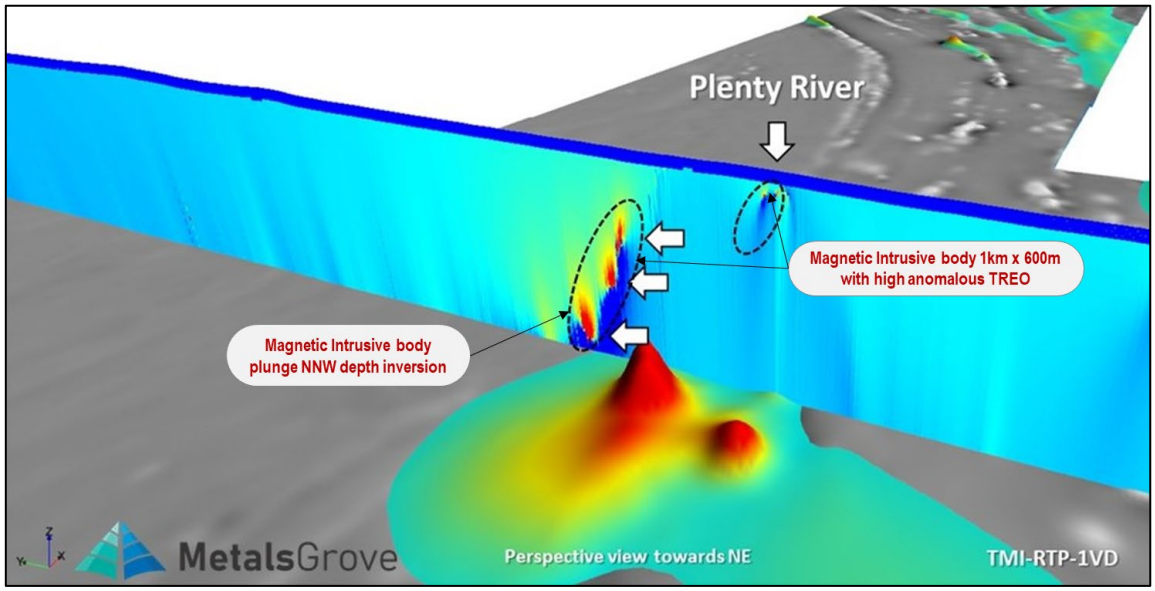

Figure 4: TMI Reduced to Pole & TMI Analytic Signal Highlights Areas of Magnetic Remanence Depth solution inversion.

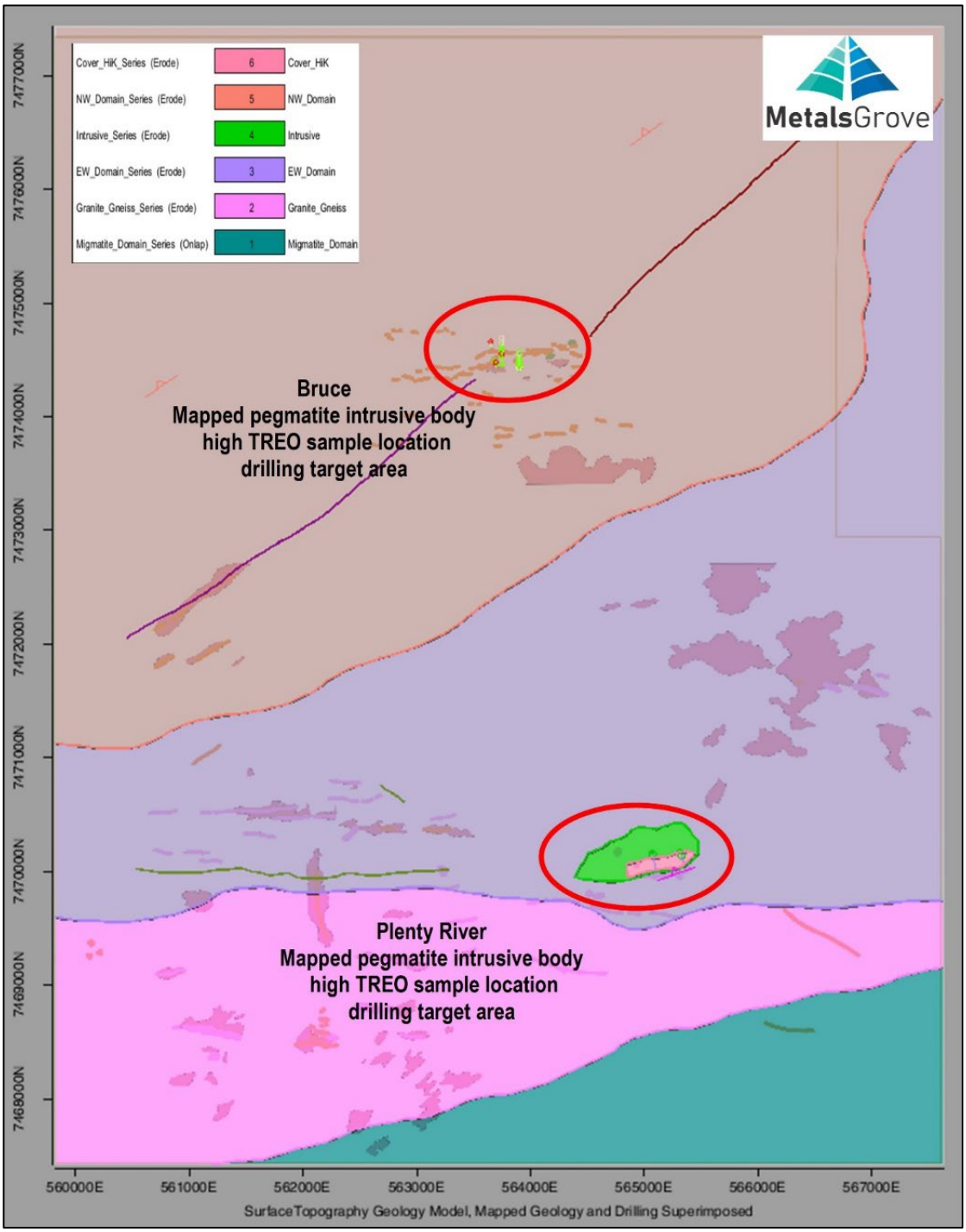

Figure 5: Mapped Pegmatite at contact with Intrusive body and location of interest.

Next steps

- Continue detailed field mapping in the areas west of Whistleduck to further enhance the geological modelling.
- Close spaced soil sampling at Bruce and Plenty River to delineate the drilling targets.
- Follow-up drilling programmes once complete the maiden drilling and geology interpreted.

UPPER COONDINA LITHIUM, TIN AND TANTALUM-WA

Maiden drilling RC drilling interpretation

In December 2022, MGA complete its maiden 4,200m drilling programme at Upper Coondina, designed to target initial high priority areas identified through various sampling and field mapping activities.

This first phase of drilling was designed to test several vertical and low angle pegmatites at the Chola Prospect (see Figure 6) with shallow wide-spaced RC holes to obtain an understanding of zonation and lithium mineralisation.

Work completed at Upper Coondina to date has comprised a combination of soil sampling, airborne survey and surface field mapping, which confirms a corridor containing multiple pegmatites which are coincident with the source area and with surface geochemistry.

RC drilling intersected multiple stacked Spodumene Pegmatites[1] have been intersected including:

- ***Up to 40m-wide mineralised zone, 0.20% Li_2O, 0.6% Rb_2O and 118ppm Ta_2O_5.***

Best spodumene-pegmatite mineralisation intersections include:

- ***UCR22033: 38m @ 0.10% Li_2O from 1m (surface) and 5m @ 20ppm Ta_2O_5 from 7m, 3m @ 47ppm Ta_2O_5 from 16m and 3m @ 24ppm from 24m and 7m @ 685 ppm Rb_2O incl: 2m @ 1140ppm from 24m.***
- ***UCR22035: 13m @ 0.10% Li_2O from 27m and 7m @ 0.10% Li_2O from 50m and 11m @ 16ppm Ta_2O_5 from 31m and 17m @ 524ppm Rb_2O from 31m incl: 1m @ 1285ppm Rb_2O from 40m.***
- ***UCR22012: 10m @ 0.10% Li_2O from 19m and 1m @ 27ppm Ta_2O_5 from 20m and 2m @ 31ppm Ta_2O_5 from 46m and 2m @ 831ppm Rb_2O from 19m.***
- ***UCR22018: 10m @ 0.10% Li_2O from 5m and 9m @ 0.10% Li_2O from 38m and 9m @ 20ppm Ta_2O_5 from 1m and 9m @ 20ppm Ta_2O_5 from 35m and 12m @ 628ppm Rb_2O from surface incl: 1m @ 1296ppm Rb_2O from 1m.***
- ***UCR22038: 9m @ 0.10% Li_2O from 5m and 12m @ 0.10% Li_2O from 42m and 1m @ 29ppm Ta_2O_5 from 3m.***

DGPR surveying has also defined 23 additional potential pegmatite structures conjugate with existing known mineralised pegmatites.

Planning is underway to commence follow-up drilling to test additional pegmatite structures within high-priority target areas.

Further exploration including detailed geophysics and structural mapping are required to delineate main zone high grade mineralisation lithium bearing pegmatites. The detailed modern exploration technology and high-level structural mapping will identify mineralization at depth and pegmatites undercover to determine new targets within and outside of the drilling areas.

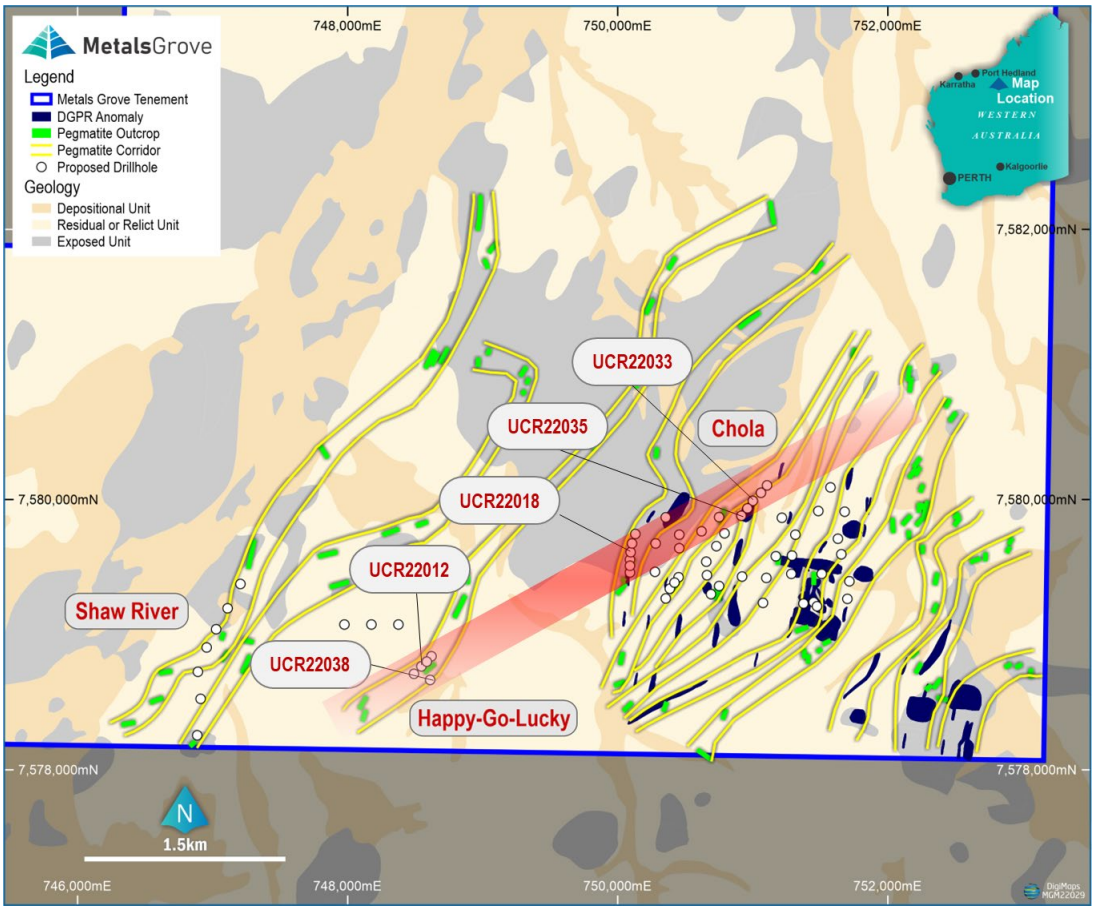

Figure 6: Upper Coondina Lithium projects showing pegmatites outcrop with drill hole location and pegmatite structural corridor.

Figure 7: Phase 1 drilling programme Spodumene Pegmatite intersection at Upper Coondina.

Surface Mapping and Sampling

Surface field mapping of the northern part of E45/5952 has been completed. Mapping identified a shear zone which is considered to be the most significant zone of pegmatite.

Next steps

- Continue detailed field mapping in the areas north of Chola, Happy Go Lucky and Shaw River prospects to further enhance the geological modelling.
- Continue DGPR survey in the areas north of Chola, Happy Go Lucky and Shaw River prospects to identify potential extensions of the undercover pegmatites.
- Planning for follow-up drilling programmes following technical review of recent drilling and geological interpretation.
- Completion of heritage surveys prior to Phase 2 drill programmes.

BOX HOLE PROSPECT (EL32419)

The Box Hole zinc-lead, REE prospect comprises a single granted mineral exploration licence (EL32419), located approximated 340 km northeast of Alice Springs, NT. The tenement covers an area of approximately 12,765 ha.

During the quarter Intrepid Geophysics was engaged to process the aeromagnetic and radiometric data and analyse and process historical exploration to delineate exploration drilling target for copper-gold and lead-zinc.

EDWARDS CREEK PROSPECT (EL 32420)

The Edwards Creek polymetallic (copper-lead-zinc-gold) prospect comprises a single granted mineral exploration licence (EL32420), located approximately 85 km north-northeast of Alice Springs, NT. The tenement covers an area of approximately 7,568 ha.

During the quarter Intrepid Geophysics was engaged to process the aeromagnetic and radiometric data and analyse and process historical exploration to delineate exploration drilling target for lead-zinc and rare-earth elements (REE).

WOODIE WOODIE NORTH MANGANESE-WESTERN AUSTRALIA

The Woodie Woodie North Project is a highly mineralised region which has clearly demonstrated the potential to host significant manganese mineralisation.

During the quarter plan to complete the surface mapping and heritage survey, due to the wet weather the exploration programme is planned to be completed in the next quarter.

BUSINESS DEVELOPMENT

In addition to aggressively advancing exploration, the Company is continuing to assess opportunities of resource assets that have a strategic fit, with the intention of providing maximum value to Shareholders.

CORPORATE

Appointment of Company Secretary

In February, MGA announced the appointment of Ms Rebecca Broughton as Company Secretary with appointment from 27 February 2023.

Ms Broughton is currently CFO of MetalsGrove and has worked for a number of listed companies in both financial and company secretarial roles.

Mr Jack Rosagro resigned effective 27 February 2023. The Board expresses their appreciation to Mr Rosagro.

Cash Position

At quarter-end the Company held $3,794,000 in cash.

ASX ADDITIONAL INFORMATION

The Company provides the following information pursuant to ASX Listing Rule requirements:

- ASX Listing Rule 5.3.1:

  Exploration and Evaluation Expenditure spend during the quarter was $613,000.

- ASX Listing Rule 5.3.2:

  The Company confirms that there was no mine production and development activities for the quarter.

- ASX Listing Rule 5.3.4:

  The below table provides the comparison of the Company's actual expenditure since its admission to the Official List of the ASX to its Use of Funds included in its Prospectus dated 13th May 2022.

Use of Fund	Estimate of the first 2 years after ASX admission	Actual use PYD Mar 2023 Quarter	Balance Remaining
Upper Coondina	$1,685,865	1,010,985	674,880
Bruce	$1,453,000	216,695	1,236,305
Box Hole	$423,000	141,863	281,137
Edwards Creek	$427,000	115,313	311,687
Woodie Woodie North	$450,000	213,977	236,023
Cash Settlement-SHH and TLPL	$60,000	60,000	-
Estimated costs of the offer	$696,264	696,264	-
Working capital	$1,141,736	-	1,141,736
Administration costs	$524,000	611,768	- 87,768
Total	**$6,860,865**	**3,066,865**	**3,794,000**

- ASX Listing Rule 5.3.5:

  The company advises that there were $94,000 payments made to related parties of the Company and their associates during the quarter.

TENEMENTS

In accordance with Listing Rule 5.3.3, MetalsGrove provides the following Information concerning Its mining tenements.

No applications were made during the quarter by the Company to acquire or surrender its existing licenses.

Project	Tenement	Holder	Lease Status
Upper Coondina	E45/5952	MetalsGrove Mining Ltd	Granted
Woodie Woodie North	E45/5945	MetalsGrove Mining Ltd	Granted
Edwards Creek	EL32420	Territory Lithium Pty Ltd	Granted
Bruce	EL31225	Territory Lithium Pty Ltd	Granted
Box Hole	EL32419	Territory Lithium Pty Ltd	Granted

Note: Territory Lithium Pty Ltd is wholly owned subsidiary of MetalsGrove Mining Limited

ABOUT METALSGROVE

MetalsGrove Mining Limited (ASX: MGA) is an Australian-based exploration and development company, focused on the exploration and development of its portfolio of high-quality lithium, rare earth, copper-gold, manganese and base metal projects in Western Australia and the Northern Territory.

MGA is committed to green metal exploration and development to meet the growing demand from the battery storage and renewable energy markets in the transition to a de-carbonised world.

COMPETENT PERSON STATEMENT – EXPLORATION STRATEGY

The information in this announcement that relates to exploration strategy and results is based on information provided to and compiled by Sean Sivasamy who is a Member of The Australian Institute of Mining and Metallurgy. Mr Sivasamy is Managing Director and CEO of MetalsGrove Mining Limited.

Mr Sivasamy has sufficient experience which is relevant to the style of mineralisation and exploration processes as reported herein 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'.

The information in this announcement that relates to Geophysical interpretations was provided by Mr Russell Mortimer of Southern Geoscience Consultants who is a Member of The Australian Institute of Geoscientists.

Mr Mortimer has sufficient experience which is relevant to the style of mineralisation and exploration processes reported herein 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 Sivasamy and Mr Mortimer both consent to the inclusion in this announcement of the information contained herein, in the form and context in which it appears.

This announcement includes information that relates to Exploration Results prepared and first disclosed under the JORC Code (2012) and extracted from the Company's initial public offering prospectus which was released on the ASX on 13th May 2022. A copy of this prospectus is available from the ASX Announcements page of the Company's website: https://metalsgrove.com.au/

FORWARD LOOKING STATEMENTS

This announcement may contain certain "forward looking statements" which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis.

However, forward looking statements are subject to risks, uncertainties, assumptions, and other factors which could cause actual results to differ materially from future results expressed, projected or implied by such forward looking statements. Such risks include, but are not limited to exploration risk, mineral resource risk, metal price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the countries and states in which we sell our product to, and government regulation and judicial outcomes.

For more detailed discussion of such risks and other factors, see the Company's Prospectus, as well as the Company's other filings. Readers should not place undue reliance on forward looking information. The Company does not undertake any obligation to release publicly any revisions to any "forward looking statement" to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

Authorised for release by the MetalsGrove Mining Limited Board of Directors,

SHAREHOLDER ENQUIRIES	MEDIA ENQUIRIES
Sean Sivasamy Managing Director & CEO MetalsGrove Mining Ltd seans@metalsgrove.com.au	Sam Burns SIX° Investor Relations +61 400 164 067 sam.burns@sdir.com.au