## Second new discovery further

## confirms resource expansion potential at Chilalo

#### HIGHLIGHTS

- Drilling has identified a new area of mineralisation located to the east of Chilalo and north of previously announced new discovery in Chilalo East to be known as Chilalo E2.
- Mineralisation at Chilalo E2 is near-surface with significant width and grades, notable intercepts included:
  - o 22m at 5.68% TGC from 80m in hole NRC22-203
  - 18m at 5.18% TGC from 16m in hole NRC22-213
  - o 20m @ 5.42% TGC from 80m in hole NRC22-216
  - 20m at 5.76% TGC from 2m in hole NRC22-219
  - o 22m @ 6.34% TGC from 54m in hole NRC22-220
- Mineralisation has been confirmed over 1.1 km out of a potential 5km strike length indicated by the electromagnetic conductor
- The recent discoveries of E1 and Chilalo East highlight the potential for lower cost mining, production expansion and extensions to mine life

**Evolution Energy Minerals ("Evolution" or the "Company") (ASX: EV1, FSE: P77)** is pleased to announce that assay results from 11 holes for 1255 metres of a 5,440 metre, 44 hole reverse circulation drilling program at its Chilalo Graphite Project in south-east Tanzania have identified a second new discovery located to the east of the Chilalo Mining Licence ("Chilalo") and north of the recently reported Chilalo East discovery.<sup>1</sup> Chilalo is already host to a high-grade mineral resource of 20.1Mt at 9.9% TGC for 1,991Kt of contained graphite.<sup>2</sup>

**Evolution's Managing Director, Phil Hoskins, commented:** "The shallow depth, width, grade and close proximity of Chilalo E2 to the existing Chilalo mineral resource and the recently discovered Chilalo East deposit is significant for Evolution. These results clearly demonstrate the scope to materially grow the Chilalo mineral resource and thereby potentially enable a production expansion, extension to mine life and reduction in mining costs."

Since 2015, significant electromagnetic ("**EM**") surveys have been conducted to identify conductive material at Chilalo. This drill program was designed to test some of the strongest EM conductors to discover additional graphite mineralisation and confirm the scale potential for the Chilalo resource. The drilling identified a new mineralised zone – Chilalo E2 – that extends over 1.1km and remains open to the east and west (see Figures 1 and 2).

The drilling generally correlates well with the EM response and has identified multiple zones. Downhole EM ("**DHEM**") and follow-up drilling will be required as it is likely that there are more parallel graphite layers that were not hit by this drilling.

<sup>&</sup>lt;sup>1</sup> See ASX announcement 1 May 2023.

<sup>&</sup>lt;sup>2</sup> See ASX announcement dated 20 March 2023 and Appendix 1.

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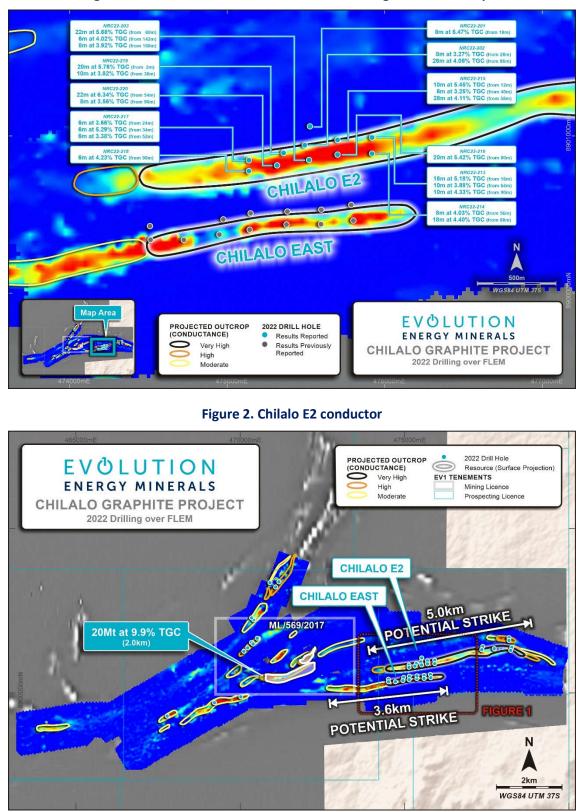


Figure 1. Chilalo E2 – Location of drill holes and significant intercepts

A number of drillholes have been cased allowing for DHEM surveys to be carried out in key areas. DHEM will help to differentiate between multiple mineralised layers within a drillhole, identify off-hole graphite layers that were not intersected, and assist with additional drill planning and resource modelling.

The recently released updated DFS was underpinned by an Ore Reserve of eight million tonnes at a grade of 10.5%.<sup>3</sup> Notwithstanding the potential to grow the resource and expand the scale of operations at Chilalo as shown by these results, the outcomes of the updated DFS are unchanged and all material assumptions and technical parameters underpinning the Ore Reserve continue to apply and have not materially changed.

This announcement has been approved for release by Evolution's board of directors.

#### For further information please contact:

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#### **Competent Person's Statement**

The information in this announcement that relates to exploration results, data quality and geological interpretations for the Chilalo Graphite Project is based on information compiled by Mr Mathew Perrot, who is a Registered Practicing Geologist, a member of the Australian Institute of Geoscientists, Member No 2804. Mr Perrot is the principal geologist with Mathew Perrot Consulting Geologist Pty Ltd. Mr Perrot 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 Perrot consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

#### **Reference to Previous ASX Announcements**

The Chilalo Mineral Resource estimate shown in Appendix 1 was first reported by Evolution in the Company's prospectus dated 28 September 2021 as supplemented by a supplementary prospectus dated 6 October 2021 (collectively, the "**Prospectus**") that was lodged with ASX on 12 November 2021. Evolution confirms that it is not aware of any new information or data that materially affects that information and that all material assumptions and technical parameters underpinning that Information continue to apply and have not materially changed.

Hole No	Hole Type	East	North	RL	Dip	Azi	End Depth (m)	From	То	Interval	Graphite %TGC
NRC22-201	RC	475525	8901062	268	-60	000	90	18	26	8	5.5
NRC22-202	RC	475492	8900943	263	-60	000	120	28	36	8	3.3
								86	112	26	4.1
NRC22-203	RC	475519	8900849	276	-60	000	193	80	102	22	5.7
								142	148	6	4.0
								166	174	8	3.9
NRC22-213	RC	475919	8900991	259	-60	330	111	16	34	18	5.2
								64	74	10	3.9
								90	100	10	4.3
NRC22-214	RC	475919	8900889	278	-60	000	132	56	64	8	4.0
								88	106	18	4.4
NRC22-215	RC	475700	8900976	265	-60	000	90	12	22	10	5.5
								40	46	6	3.2
								58	86	28	4.1
NRC22-216	RC	475700	8900883	260	-60	000	120	80	100	20	5.4
NRC22-217	RC	475137	8900847	246	-60	000	84	24	30	6	3.7
								34	40	6	5.3
								52	58	6	3.4

#### Table 1. Chilalo East: Drill collar locations and drilling details

<sup>&</sup>lt;sup>3</sup> See ASX announcement dated 20 March 2023.

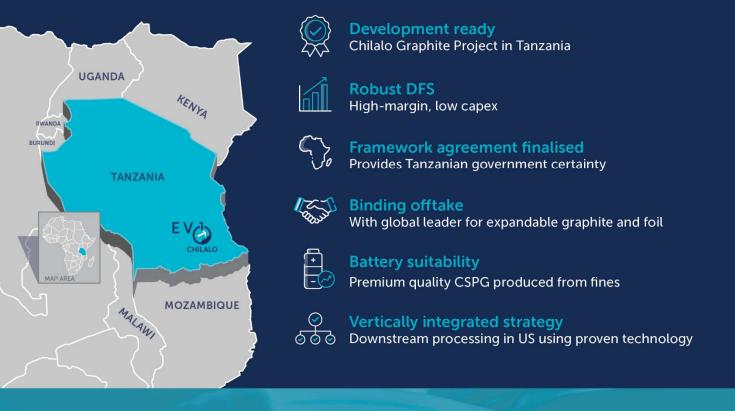
Hole No	Hole Type	East	North	RL	Dip	Azi	End Depth (m)	From	То	Interval	Graphite %TGC
NRC22-218	RC	475137	8900779	259	-60	000	127	90	96	6	4.2
NRC22-219	RC	475357	8900893	238	-60	000	68	2	22	20	5.6
								36	46	10	3.8
NRC22-220	RC	475316	8900815	264	-60	000	120	54	76	22	6.3
								90	98	8	3.5

#### Appendix 1. Chilalo Mineral Resource Estimate

Domain	Classification	Zone	Million Tonnes (Mt)	TGC (%)	Contained Graphite (Kt)
		Main	9.2	10.6	982
	Indicated	Northeast	1.0	9.5	100
		All	10.3	10.5	1,082
High Grade		Main	7.4	9.5	704
	Inferred	ferred Northeast	2.3	8.8	205
		All	9.8	9.3	908
	Indicated + Inferred	All	20.1	9.9	1,991
Low Grade		Main	37.8	3.4	1,282
	Inferred	Northeast	9.5	4.1	394
		All	47.3	3.5	1,677
High Grade + Low Grade	Indicated + Inferred	All	67.3	5.4	3,667

The Chilalo MRE was estimated within constraining wireframe solids using a core high-grade domain defined above a nominal 5% TGC cut-off within a surrounding low-grade zone defined above a nominal 2% TGC cut-off. The resource is quoted from all classified blocks above a lower cut-off of 2% TGC within these wireframe solids. Differences may occur due to rounding.

## **ABOUT EVOLUTION (ASX:EV1)**



# Evolution's vision is to become a vertically integrated company that will only supply sustainably sourced graphite products and battery materials.

This will be achieved by combining our unique graphite source with industry-leading technology partners, working closely with customers and producing diversified downstream products in both Tanzania and strategically located manufacturing hubs around the world. Evolution is committed to being global leaders in ESG and ensuring its operations support the push for decarbonisation and the global green economy.

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#### JORC 2012 Table One Reporting

#### Section 1: Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	2022 drilling program:
	• Reverse circulation (RC) drilling was used to collect 2 m downhole samples for the laboratory analysis
	<ul> <li>Typically, a 1–2 kg sample was collected using a cone splitter or hand spear if samples were wet. Samples were composited to 2 m numbered calicos and bagged before dispatch to the laboratory and sent for combustion infrared detection (LECO) analyses. All RC samples were submitted for analysis.</li> </ul>
	<ul> <li>CRMs, coarse blank material and field duplicate samples were used to monitor analytical accuracy and sampling precision.</li> </ul>
	<ul> <li>Sampling is guided by Evolution's standard operating and QAQC procedures.</li> </ul>
Drilling techniques	2022 drilling program:
	<ul> <li>RC holes were drilled in a direction to intersect EM plates orthogonally.</li> </ul>
	<ul> <li>RC holes were drilled using a 140–146 mm face sampling hammer button bit.</li> </ul>
	<ul> <li>The RC drilling was completed using a Schramm 450 with additional booster and auxiliary used as required to keep samples dry and produce identifiable rock chips.</li> </ul>
	Downhole directional survey was taken every 30 m to ensure target was reached.
Drill sample recovery	2022 drilling program:
	<ul> <li>Sample quality and recovery of RC drilling was continuously monitored during drilling to ensure that samples were representative, and recoveries maximized.</li> </ul>
	RC sample recovery was recorded using sample weights.
Logging	2022 drilling program:
	RC drilling:
	<ul> <li>Detailed geological logging of RC holes captured various qualitative and quantitative parameters including lithology, mineralisation, colour, texture and sample quality. RC holes were logged at 1 m intervals.</li> </ul>
	RC chip trays are photographed, wet and dry for future reference.
	<ul> <li>Logging data is collected via rugged laptops. The data is subsequently loaded into a dedicated fully relational geological database (Datashed) hosted by a consultant (rOREdata Pty Ltd) for storage.</li> </ul>
	All holes drilled have been geologically logged in their entireties.
Subsampling	2022 drilling program:
techniques and sample preparation	<ul> <li>RC samples were sampled dry and routinely taken at 1 m intervals. This was completed either directly with a 1–2 kg sample retrieved from a regularly cleaned cone splitter or a representative 1/8 sample taken from a regularly cleaned three-tier riffle splitter. The remainder of the drilled sample was recovered in a large plastic bag.</li> </ul>
	• RC 1 m samples were then composited into a 2 m sample using a laboratory deck splitter, or where possible sampled to nearest 1m geological boundary.
	• A small fraction of RC samples returned to the surface wet. These samples were sampled using a spear by a trained technician. All samples were submitted for assay.
	• All RC samples were labelled such that they corresponded to remainder samples if further analysis was required.
	<ul> <li>Control samples (blanks, field duplicates and commercial standards) are inserted into the sample stream every 20<sup>th</sup> sample (one standard, one blank, one site duplicate) or not less than 5% of all collected samples for each control sample.</li> </ul>
	<ul> <li>High valued standards are preferably inserted within the strong mineralisation. Similarly, low valued standards are inserted within the weak mineralisation. A mineralised zone is a zone greater than 5 m with a visual estimate of more than 5% graphite.</li> </ul>
	<ul> <li>Samples were stored on site prior to being transported to the laboratory under seal.</li> </ul>
	<ul> <li>Samples were marked with unique sequential numbering to ensure controls against sample loss or omission.</li> </ul>
	<ul> <li>Samples were sorted, dried and weighed at the laboratory where they were then crushed and riffle split to obtain a sub-fraction for pulverisation, in preparation for sample analysis.</li> </ul>
Quality of assay data	2022 drilling program:
and laboratory tests	

Criteria	Commentary
	<ul> <li>Samples were sent to the SGS laboratory in Mwanza (Tanzania) for sample preparation. Samples are crushed to &gt;70% passing -2 mm and then pulverised to &gt;85% passing-75 microns.</li> </ul>
	<ul> <li>Samples were then sent to ALS for assay using a combustion infrared detection method using a LECO analyser to determine TGC (ALS Minerals Codes C-IR18).</li> </ul>
	<ul> <li>Samples have also been assayed for total sulphur by means of a combustion infrared detection method using a LECO analyser (ALS Minerals Code S-IR08).</li> </ul>
	<ul> <li>Laboratory duplicates and standards were also used as quality control measures at different subsampling stages.</li> </ul>
	• Examination of all the QAQC data indicates that the laboratory performance has been satisfactory for both standards, with no failures and acceptable levels of precision and accuracy.
Verification of sampling	2022 drilling program:
and assaying	<ul> <li>Senior Ngwena Tanzania Ltd (Ngwena)/Evolution Energy Minerals Ltd (Evolution) geological personnel supervised the sampling, and alternative personnel verified the sampling locations.</li> </ul>
	<ul> <li>Assay data is loaded directly into the fully relational Datashed geological database which is hosted and managed by an external database consultancy.</li> </ul>
	• Visual comparisons will be undertaken between the recorded database assays and hard copy records at a rate of not less than 5% of all loaded data.
	<ul> <li>No adjustments have been made to assay data.</li> </ul>
Location of data points	2022 drilling program:
	<ul> <li>Drillhole collar locations have been surveyed using a handheld global positioning system (GPS) with an accuracy of 5 m for easting, northing and elevation coordinates.</li> </ul>
	<ul> <li>Collar surveys are validated against planned coordinates and the topographic surface.</li> </ul>
	<ul> <li>Downhole surveys are conducted during drilling using a Reflex single shot every 30 m.</li> </ul>
	<ul> <li>The primary (only) grid used is UTM WGS84 Zone 37 South datum and projection.</li> </ul>
Data spacing and	2022 drilling program:
distribution	<ul> <li>Initial scout drilling of the EM plates were as isolated traverses with drill centers typically 100m apart and up to 500m between lines. Based on visual estimation of mineralization by Evolutions geologists infill drilling to a 200 x 100 m grid pattern was undertaken in favorable areas</li> </ul>
Orientation of data in	2022 drilling program:
relation to geological structure	• All drillholes have been orientated to intersect EM plates (and likely graphitic mineralization) as close to perpendicular as possible.
	• Details of the various orientations of drilling is provided in Table 1 which details the collar information.
	<ul> <li>The orientation of drilling is not expected to introduce any significant sampling bias.</li> </ul>
Sample security	2022 drilling program:
	<ul> <li>All samples are marked with unique sequential numbering to ensure controls against sample loss or omission. This number was retained during the entire process.</li> </ul>
	• The samples are stored in the field yard at Ruangwa which has 24-hour security prior to transportation by sealed, locked commercial truck carrier to SGS Mwanza.
	• Once prepared the sealed samples were then air freighted to the ALS laboratory in Johannesburg, South Africa by SGS Mwanza transportation couriers.
Audits or reviews	2022 drilling program:
	<ul> <li>No audits have been carried out on the results</li> </ul>

### Section 2: Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	<ul> <li>The exploration results reported in this announcement are on granted prospecting licence PL 9946/2014, which is owned by Ngwena Tanzania, a wholly owned subsidiary of Evolution.</li> <li>PL 9946/2014, is currently valid and in good standing.</li> </ul>
Exploration done by other parties	<ul> <li>Exploration has been performed by an incorporated subsidiary company of Evolution, Ngwena Tanzania.</li> <li>Stream sediment surveys carried out historically by BHP were not assayed for the commodity referred to in the announcement.</li> </ul>
Geology	<ul> <li>The regional geology is comprised of late Proterozoic Mozambique mobile belt lithologies consisting of mafic to felsic gneisses interlayered with amphibolites and metasedimentary rocks. The mineralisation consists of a series of intercalated graphitic horizons within felsic gneiss (siliceous and aluminous rich sediments), amphibolites (mafic sourced material) and rarely high purity marble horizons.</li> </ul>
Drillhole information	<ul> <li>All relevant drillhole information has been previously reported to the Australian Securities Exchange (ASX). No material changes have occurred to this information since it was originally reported.</li> <li>All relevant data has been reported.</li> </ul>
Data aggregation methods	<ul> <li>Significant intercepts have been calculated on a weighted average where a significant intercept is greater than 3% Total Graphitic Carbon greater than 6 meters in thickness with no more than 2m of internal dilution allowed</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>Drilling has been oriented as much as practical to intercept mineralization orthogonal to the mineralization.</li> <li>Insufficient drilling has been carried out to define the relationship between mineralization widths and interception lengths</li> </ul>
Diagrams	Refer to figures within the main body of this report
Balanced reporting	Further results will be released when available
Other substantive exploration data	<ul> <li>A versatile time domain electromagnetic (VTEM) geophysical survey was initially completed over a large portion of the Nachingwea Property. It identified numerous anomalies which were likely to be associated with graphite mineralisation. Based on the VTEM data a number of the identified targets were drilled in 2014 and the Chilalo high-grade deposit was discovered.</li> </ul>
	<ul> <li>Downhole electromagnetic (DHEM) surveys were carried out on 18 of the RC drillholes completed in 2014; nine diamond holes completed in 2015, five RC drillholes completed in 2016 and 11 diamond holes completed in 2018. The DHEM survey data were acquired by Evolution's in-house survey crew and equipment (EMIT probe and receiver, and Zonge transmitter). The aim of the DHEM survey campaign was to detect known and off-hole electromagnetic (EM) responses associated with graphite mineralisation. The EM responses were modelled by Resource Potentials Pty Ltd to determine the location, orientation and size of the conductors associated with graphite mineralisation. The modelled DHEM conductor plate wireframes were provided in 3D DXF format to assist in geological modelling.</li> </ul>
	<ul> <li>Fixed loop electromagnetic (FLEM) surveys were carried out during the 2015 and 2016 field seasons to collect ground EM data over multiple linear conductive graphitic horizons identified in the existing versatile time-domain EM (VTEM) survey data. Evolution's in-house Zonge GGT-10 transmitter, a SmartEM 24 receiver and a Smart Fluxgate 3-component B-Field sensor and personnel were used for the FLEM surveying.</li> </ul>
	• All other meaningful exploration data concerning the Chilalo Project has been reported in previous reports to the ASX.
Further work	May include:
	DHEM surveys
	RC drilling
	Diamond drilling