ASX: EV1 | 29 October 2024

EVOLUTION ENERGY MINERALS

# ASX ANNOUNCEMENT

## Chikundo Cu-Pb-Zn VHMS Prospect

## HIGHLIGHTS

**Chikundo is a recently identified Copper (Cu)-Lead(Pb)-Zinc(Zn) prospect, Chikundo, within the Chilalo Graphite Project tenements:**

- **Recent field work has identified shallow artisanal workings located less than 4.5km SW of the planned Chilalo plant site, showing evidence of malachite as well as possible chalcopyrite mineralisation.**
- **A detailed geochemical analysis of historical soil samples, collected by IMX Resources between 2011 and 2014, has confirmed the area as an encouraging Volcanic Hosted Massive Sulphide (VHMS) style Cu-Pb-Zn prospect, with values up to 5,800ppm Cu at surface.**
- **The Chikundo prospect is currently over 1.5km long and the geochemical anomaly demonstrates the classic criteria for a VHMS deposit.**
- **Associated Pathfinder elements indicate that the anomaly may be still open to the southwest.**

## NEXT STEPS

- **Geological mapping, soil sampling, and trenching programs to both infill and potentially extend the current Cu-Pb-Zn anomalies.**
- **Geophysical modelling of ground Fixed Loop Electromagnetic (FLEM) or airborne VTEM conductors, with the aim of identifying VHMS targets hidden by graphite conductors.**
- **Targeted Reverse Circulation (RC) drilling to test the extent, depth and continuity of the mineralisation.**

**Evolution Energy Minerals Limited** (**Evolution** or **the Company**) **(ASX: EV1, FSE: P77)** is pleased to announce the identification of Copper-Lead-Zinc mineralisation, named the Chikundo VHMS prospect, within the Chilalo Graphite Project area (the **Project**) in southeast Tanzania.

The discovery followed the identification of copper minerals in artisanal workings, where local miners have been chasing the copper mineral malachite. These workings are located approx. 4.5km southwest of the proposed Chilalo plant site and have been developed by locals to about 8-10m depth.

There is clear evidence of copper mineralisation (malachite staining – **Photo 1**) within the walls of the artisanal workings and as well as possible chalcopyrite and covellite in rock chips collected. The Company has recently collected some face samples from these working and they have been sent to SGS laboratories in Mwanza for analysis. The results are currently pending.

**Photo 1: Copper and cobalt staining in the walls of the artisanal workings**

Following this discovery, detailed geochemical analyses of historical soil samples was conducted. The Company has an extensive soil sample database with multi-element analysis, and also high resolution

Fixed Loop Electromagnetic (FLEM) data and Airborne Electromagnetic (AEM) data. All of these datasets will facilitate the rapid exploration of the new Chikundo VHMS prospect.

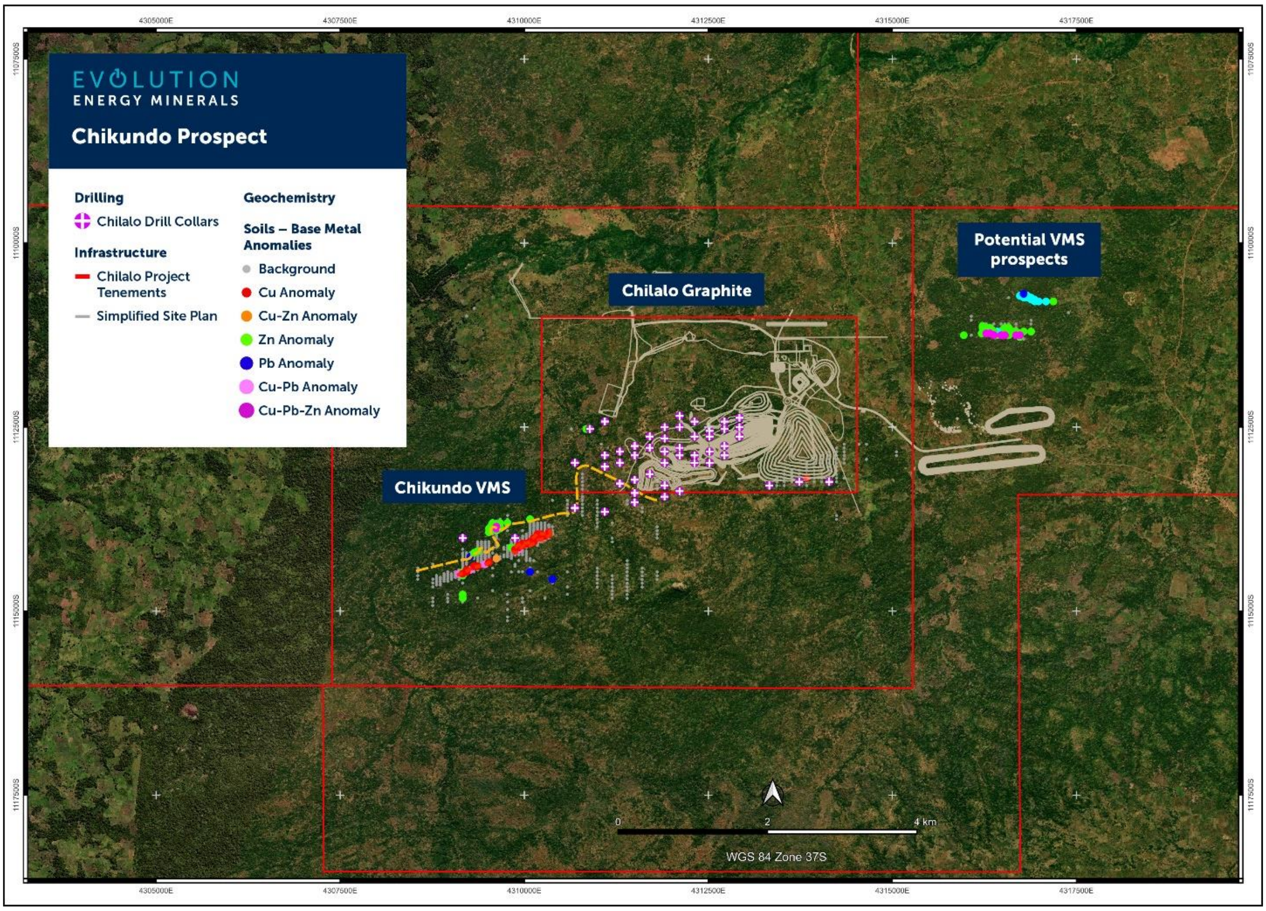


**Figure 1: Location of the Chikundo Cu-Pb-Zb Prospect in relation to the Chilalo Graphite Project planned infrastructure**

The key results from the geochemical analyses included:

- Of the 1,769 soils samples collected over the Project area, 626 samples had been assayed using the 4-acid digest – ICPMS plus Fire Assay method for multi-element analysis. **Only these 626 samples have been used in these analyses.**
- Lithogeochemical analysis (i.e. rock type derived from chemistry) identified up to five different source rocks including two basalts, an ultramafic, a reduced sediment (graphite) and a chemical sediment (exhalate). **All these rock types are consistent with the geological host environment for a VHMS deposit.**
- As shown in **Figure 2**, the analysis indicated a clear contact boundary between a metamorphosed (**meta**)-sediment and meta-basalt, trending in a north-westerly direction.
- The anomalous Cu, Pb and Zn values were able to be verified as true anomalies related to a sulphide source, rather than concentrations due to supergene weathering effects.
- The Cu and Pb anomalies are hosted in the meta-basalt, and the Zn is hosted in the meta-sediment. There is also a Barite layer overlaying the basalt, which in turn is overlain by the reduced sediments. **This is typical of classical VHMS system. Refer Figure 2.**
- Bismuth (Bi) and Telurium (Te) are directly associated with the Cu-Pb-Zn mineralisation in high concentrations (up to 70ppm Te and 82.5ppm Bi). As these elements are not mobile in acidic weathering environments, unlike the base metals, they can be used as effective pathfinder elements, even where the base metals themselves have been remobilised.

- Bismuth is shown as an example of a pathfinder anomaly in **Figure 3.** The pathfinder elements indicate that the mineralisation may extend further to the southwest than indicated by copper / lead anomalism.
- The soils show a very strong trend towards Chlorite + Sericite +/- Pyrite alteration, which is a **key indicator of a VHMS system**.
- Two other anomalies, one Cu-Pb-Zn and the other predominantly Pb-Zn, both located to the northeast of the Chilalo graphite project (**Refer Figure 1**), are also evident in soils data and will be progressively explored.

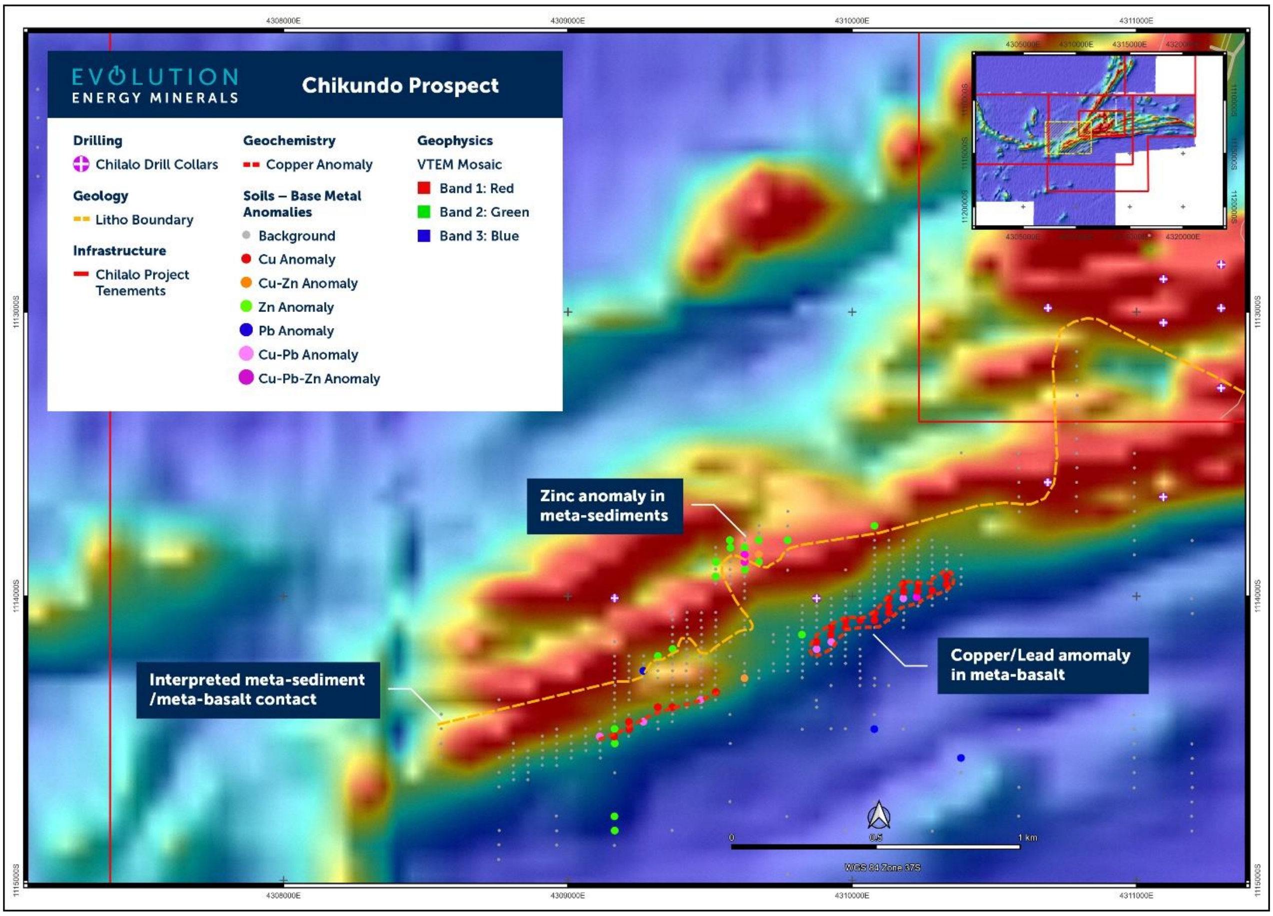


**Figure 2: Copper, Lead and Zinc anomalies on VTEM data at the Chikundo Cu-Pb-Zb prospect**

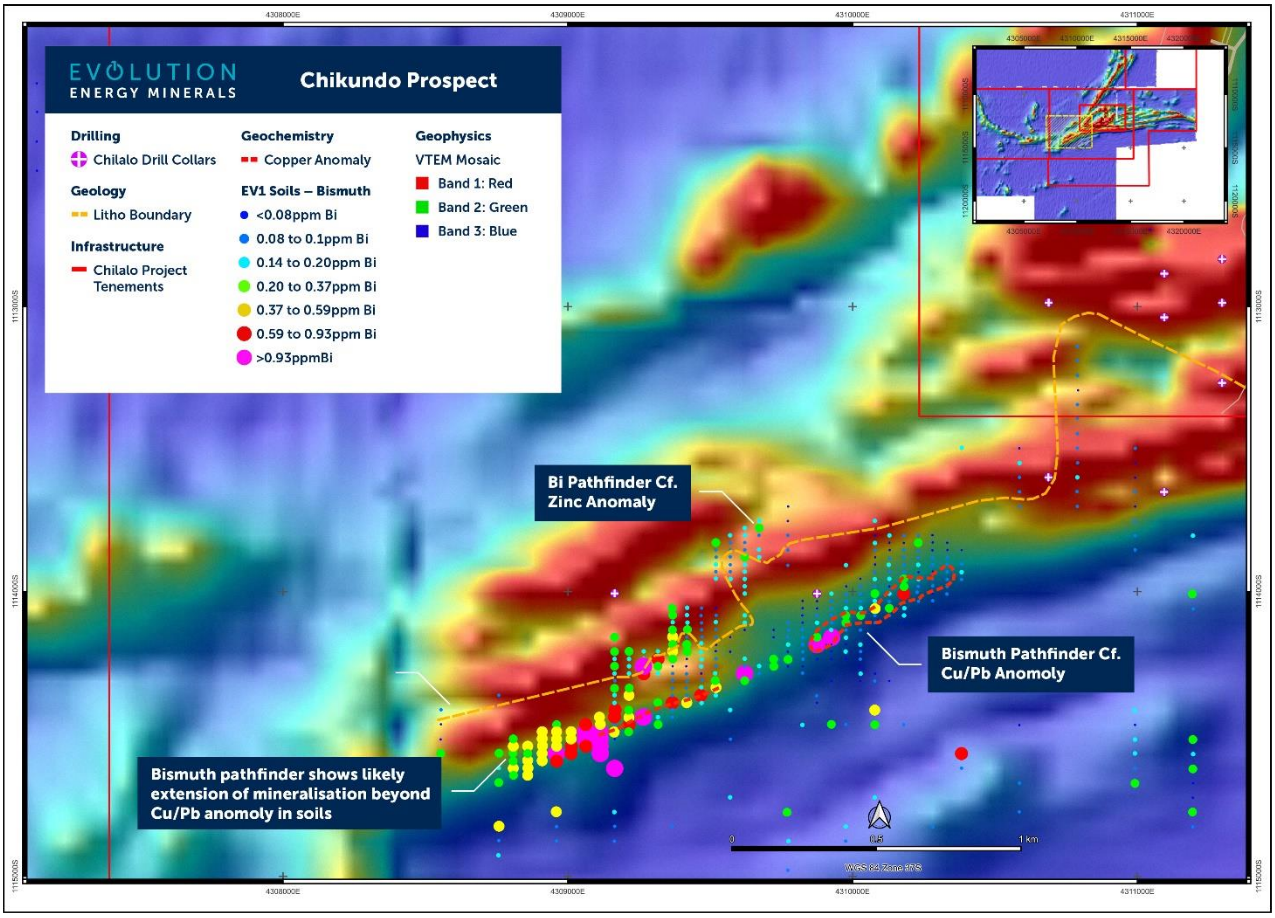


**Figure 3: Bismuth Pathfinder indicating the possible extension of the anomaly to the southwest**

Given its proximity to Chilalo, the Company will progress exploration activities with the aim of defining a mineral resource. This will include:

- Geological mapping, soil sampling, and trenching programs to both infill and potentially extend the current anomalies.
- Geophysical modelling of ground Fixed Loop Electromagnetic (FLEM) or AEM conductors, with the aim of identifying VHMS targets hidden by graphite conductors.
- Targeted Reverse Circulation (**RC**) drilling to test the extent, depth and continuity of the mineralisation.

## Evolution's Chairman, Robin Birchall, commented:

*"I am delighted to be able to announce this exciting new Copper discovery, as an allied battery metal on our tenements. A significant amount of geological work had been done on this ground as part of the exploration stage, that informs our initial work programme at very little cost. This anomaly may allow us to diversify the company's asset portfolio while also accelerating progress of the Chilalo graphite asset.*

## Forward Statements

This release includes forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning the Company's planned exploration programs and other statements that are not historical facts. When used in this release, the words such as "could", "plan", "estimate", "expect", "anticipate", "intend", "may", "potential", "should", "might" and similar expressions are forward-looking statements. Although the Company believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve known and unknown risks and uncertainties and are subject to factors outside of the Company's control. Accordingly, no assurance can be given that actual results will be consistent with these forward-looking statements.

## Competent Person Statement

The reported Exploration Results were compiled by Craig Moulton, a Member of the Australian Institute of Mining and Metallurgy and a Fellow of the Geological Society London. Mr Moulton 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 Moulton is a Non-Executive Director with the Company.

**This announcement has been approved for release by Evolution's Board of Directors.**

**For further information, please contact:**

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# ABOUT EVOLUTION (ASX:EV1)


**Development ready**
Chilalo Graphite Project in Tanzania

**Chilalo Project**
High margin, low capex

**BTR strategic partnership**
Transformational offtake, funding and downstream collaboration

**Battery suitability**
Premium quality CSPG produced from fines

**Vertically integrated strategy**
Accelerated and de-risked partnership model with proven technology

**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.

# JORC Tables

## Section 1 Sampling Techniques and Data

| Criteria | |
|---|---|
| ***Sampling techniques*** | • Of the total 1,770 samples within the Company's tenement area, only 626 samples were used in the analysis. These samples were used preferentially due to the 4-acid digest / ICPMS method used for laboratory analysis. Only this method allowed for lithogeochemical analysis.<br>• The sample grids ranged from a regional pattern of 400 x 200m, which was progressively closed down to 50m x 25m over the area of interest. The area of interest is focused on conductive anomalies in regional VTEM.<br>• Soil sampling was carried out by experienced field personnel (geologists/geo-technicians).<br>• Soil samples were collected using a pickaxe and scoop.<br>• Potential contamination or transported cover material was removed prior to samples being collected.<br>• If the samples were wet, they were packed in the plastic bags to avoid loss of fines or cross contamination with other samples.<br>• Typically, about 1 kg of sample was collected from each sample location.<br>• Samples were labelled using a pre-numbered sample tag and a tag id was also marked on the calico bag.<br>• The sample location description and coordinates were recorded along with sample id on sample register.<br>• The sample location description consists of topography, drainage direction and any outcrop in the vicinity.<br>• Samples were carried by backpack during sampling and delivered to the storage area where they are well labelled<br>• To homogenise the samples, they were crushed to less than 25um and sieved with a minimum weight of 600g.<br>• Each 600g samples was split into two portions of 300g each.<br>• One portion was prepared for submission to the lab and the other 300g portion was stored.<br>• Selected samples were also analysed using a portable XRF, which was then also used for to identify which samples were sent to the laboratory for assay, or for which analytical method was to be used.<br>• QA/QC samples (i.e. standards, field duplicates and blanks) were also added at a rated of 1 in 20 samples.<br>• Laboratory methods used included an ICPMS finish (ME-MS61) multi-element geochemistry except for a 30g fire assay using PGM-ICP23 for Gold, platinum and Palladium. |
| ***Drilling techniques*** | • All of the samples were collected by hand, no drilling equipment was used |
| ***Drill sample recovery*** | • As no drilling equipment was used, drill sample recover was not measured. |
| ***Logging*** | • All samples contain a geological description and colour of the regolith sampled. |
| ***Sub-sampling techniques and sample preparation*** | • Wet soil samples were dried, then crushed and sieved to obtain a minimum of 600g passing 25um.<br>• The 600g was split into to 2 portions of 300g each. Both portions were packed in paper bags or as pulps and labelled. One portion to be sent to lab and another portion was stored.<br>• All samples were labelled as retains, and stored in case further analysis was required.<br>• QA/QC sample insertion rates were one in every 20th sample or not less than 5% of all samples collected for each of 1 standard, 1 blank and 1 site duplicate.<br>• One of each of the 2 control samples (blank or standard) was inserted into the sample stream every 20th sample. |
| ***Quality of assay data and laboratory tests*** | • Sieved samples were analysed with a portable XRF which was supervised by experienced geo-technicians.<br>• All soil samples were sent to ALS for analytical assay using 4-cacd digest / ICPMS (ME-MS61) multi-element geochemistry except for a 30g fire assay using PGM-ICP23 for Gold, platinum and Palladium.<br>• This method is considered very suitable for base metal exploration.<br>• Laboratory duplicates and standards were used as quality control measures at different sub-sampling stages.<br>• QAQC (Std, field dup and blank) are inserted at an interval of the 20 samples.<br>• Examination of all the QA/QC data indicated that the laboratory performance was satisfactory for both standards and are at acceptable levels of precision and accuracy. |
| ***Verification of sampling and assaying*** | • Senior (the then IMX Resources) geological personnel supervised the sampling, and alternative personnel verified the sampling locations.<br>• External oversight was established via an external consultant who regularly assessed on-site standards and practices to ensure best practice.<br>• Assay data was loaded directly into the database which was hosted by and managed by an external database consultancy, in order to eliminate transcription errors.<br>• Visual checks and comparison were undertaken between the recorded database assays and hard copy records at a rate of 5% of all loaded data.<br>• No adjustments were reported to be made to assay data. |
| ***Location of data points*** | • All sample locations were recorded using a handheld GPS with an accuracy of <5 m for easting, northing coordinates.<br>• Field sample locations are validated against planned coordinate.<br>• The coordinates grid system used was UTM WGS84 Zone 37 South datum and projection.<br>• This method is considered appropriate for exploration level geochemistry / sample collection. |

| Criteria | |
|---|---|
| ***Data spacing and distribution*** | • The soil sampling program was completed on a 400m by 200m and, then 200m by 200m at the initial stage.<br>• Infill sampling was completed to a grid of approximately 50m by 25 m over the anomalous assay results or areas of interest. |
| ***Orientation of data in relation to geological structure*** | • The sample grids are North / South magnetic grids, with the length and with determined by conductors displayed by geophysical (VTEM) data. |
| ***Sample security*** | • All samples were marked with unique sequential numbering to ensure controls against sample loss or omission. This sample number was retained during the entire processes from field collection to sample preparation at the local field camp, and submission to the laboratory.<br>• The samples were packed in the field and sealed prior to transport to the local field office/storage which has 24-hour security prior to be transported or shipped to designated ALS laboratory either Johannesburg in South Africa or Brisbane in Australia. |
| ***Audits or reviews*** | • Senior IMX personnel and expatriates visited the field soil sampling and sample preparation/processing stations from routinely to ensure the sampling protocol and preparations met best practices and conformed to industry standards. |

## Section 2 Reporting of Exploration Results

| Criteria | Commentary |
|---|---|
| ***Mineral tenement and land tenure status*** | • The exploration results reported in this announcement are from work carried out on granted prospecting licences PL 12590/2023, which is owned by Kudu Graphite Limited, an entity jointly owned by Evolution Energy Minerals (84%) and Government of Tanzania (16%).<br>• The tenement is currently in good standing. |
| ***Exploration done by other parties*** | • Exploration has been performed by Kudu Graphite Ltd, a company jointly owned by Evolution Energy Minerals of Australia (84%) and the government of Tanzania (16%).<br>• The Soil sampling discussed in this announcement was carried out historically by IMX Resources of Australia, the original parent company of Evolution Energy Minerals. |
| ***Geology*** | • The regional geology is comprised of late Proterozoic Mozambique mobile belt lithologies consisting of mafic to felsic gneisses interlayered with amphibolite and metasedimentary rocks.<br>• The mineralisation consists of a series of intercalated graphitic horizons within felsic gneiss (aluminous rich sediments), amphibolite (mafic sourced material) and rarely high purity marble horizons.<br>• The assumed geological model is a volcanic hosted massive sulphide system. The geology identified both via field observation and lithogeochemistry is consistent with this style of mineralisation. |
| ***Drill hole Information*** | • This analyses in this announcement does not rely on any drilling information. |
| ***Data aggregation methods*** | • No data aggregation or compositing methods were used. |
| ***Relationship between mineralisation widths and intercept lengths*** | • This analyses in this announcement does not rely on any drilling information. |
| ***Diagrams*** | • Sample locations are shown in figures 1 and 2 in this announcement. |
| ***Balanced reporting*** | • All of the samples shown in this announcement relate to those collected over the Chikundo Prospect area of interest, which have been sent for the 4-acid digest / ICPMS & fire assay methods described above. While other samples, utilising an aqua regia method do exist over the tenement area, they do not cover this prospect.<br>• On this basis, and the appropriateness of this assay regime, the reporting of these samples is believed to be balanced and representative.<br>• There is no known bias apparent between the two data sets for the primary elements under analysis. |
| ***Other substantive exploration data*** | • A VTEM geophysical survey was initially completed over a large portion of the IMX Resources Property.<br>• It identified numerous anomalies (conductors) which are likely to be associated with conductive mineralisation, primarily graphite.<br>• Fixed Loop EM (FLEM) and Down Hole EM was also captured; however, this was focused on graphite exploration. |
| ***Further work*** | • Geological mapping, soil sampling, and trenching programs to both infill and potentially extend the current anomalies.<br>• Geophysical modelling of ground Fixed Loop Electromagnetic (FLEM) or AEM conductors, with the aim of identifying VHMS targets hidden by graphite conductors.<br>• Targeted Reverse Circulation (RC) drilling to test the extent, depth and continuity of the mineralisation. |