

Thirteen Late Time AEM Zn-Cu Targets Identified at Murchison Project

- Analysis of the 2022 helicopter borne Time Domain Electromagnetic (TEM) survey now received from geophysical consultants
- 13 late-time conductors potentially indicative of bedrock sulphides, coincident with and along strike of historic Zn-Cu surface and drill hole geochemistry have been identified
- Ground investigation of AEM targets is planned to commence in February 2023

Enterprise Metals Ltd (“Enterprise” or “ENT”) is pleased to advise that geophysical consultants Terra Resources Pty Ltd (“Terra”) and Value Adding Resources Pty Ltd (VAR”) have completed detailed reviews of Enterprise’s 2022 helicopter borne Time Domain Electromagnetic (TEM) survey north of Cue. Terra has integrated the airborne EM data with Enterprise’s detailed ground gravity and airborne magnetic data (Figure 1 below), and historic surface and drill hole geochemistry (Figure 2 overleaf).

Figure 1. Detailed Magnetic and Gravity Image with Airborne EM Targets

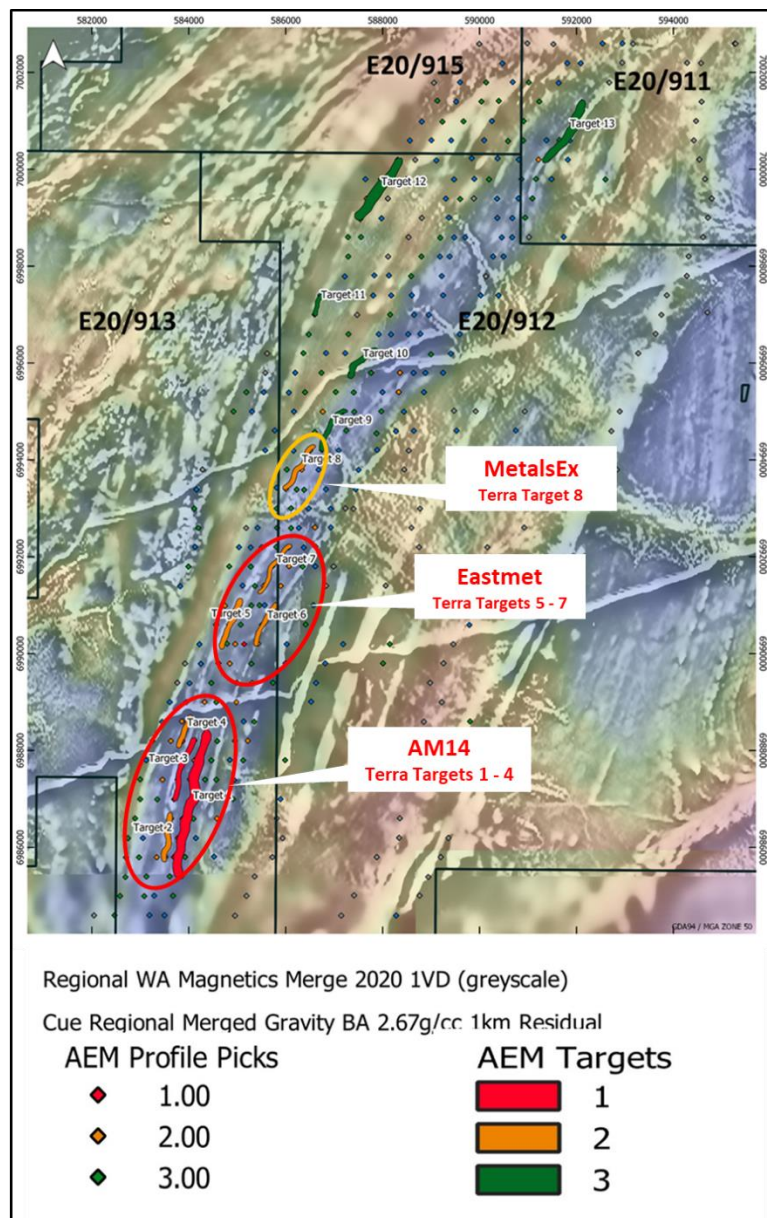
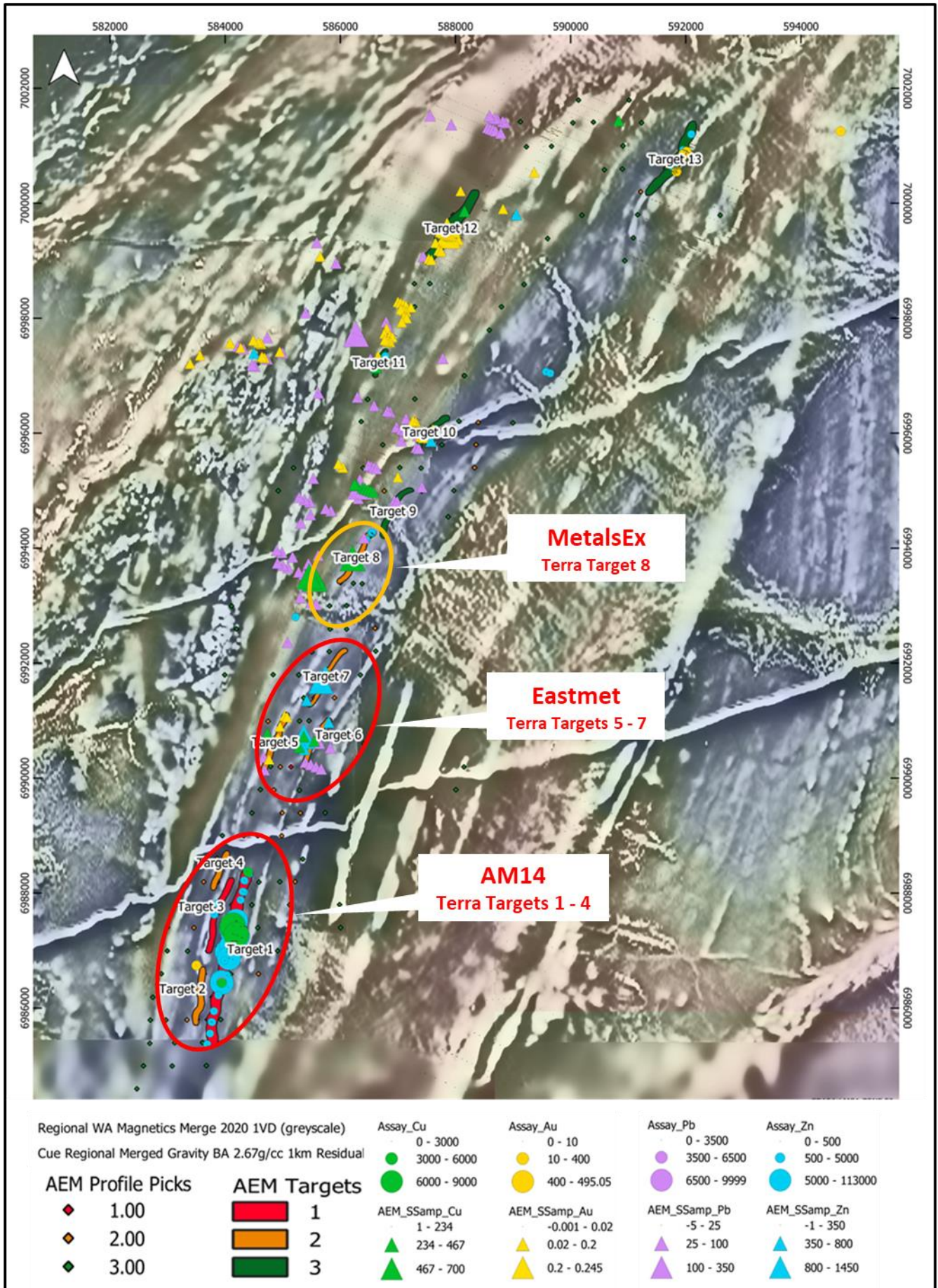
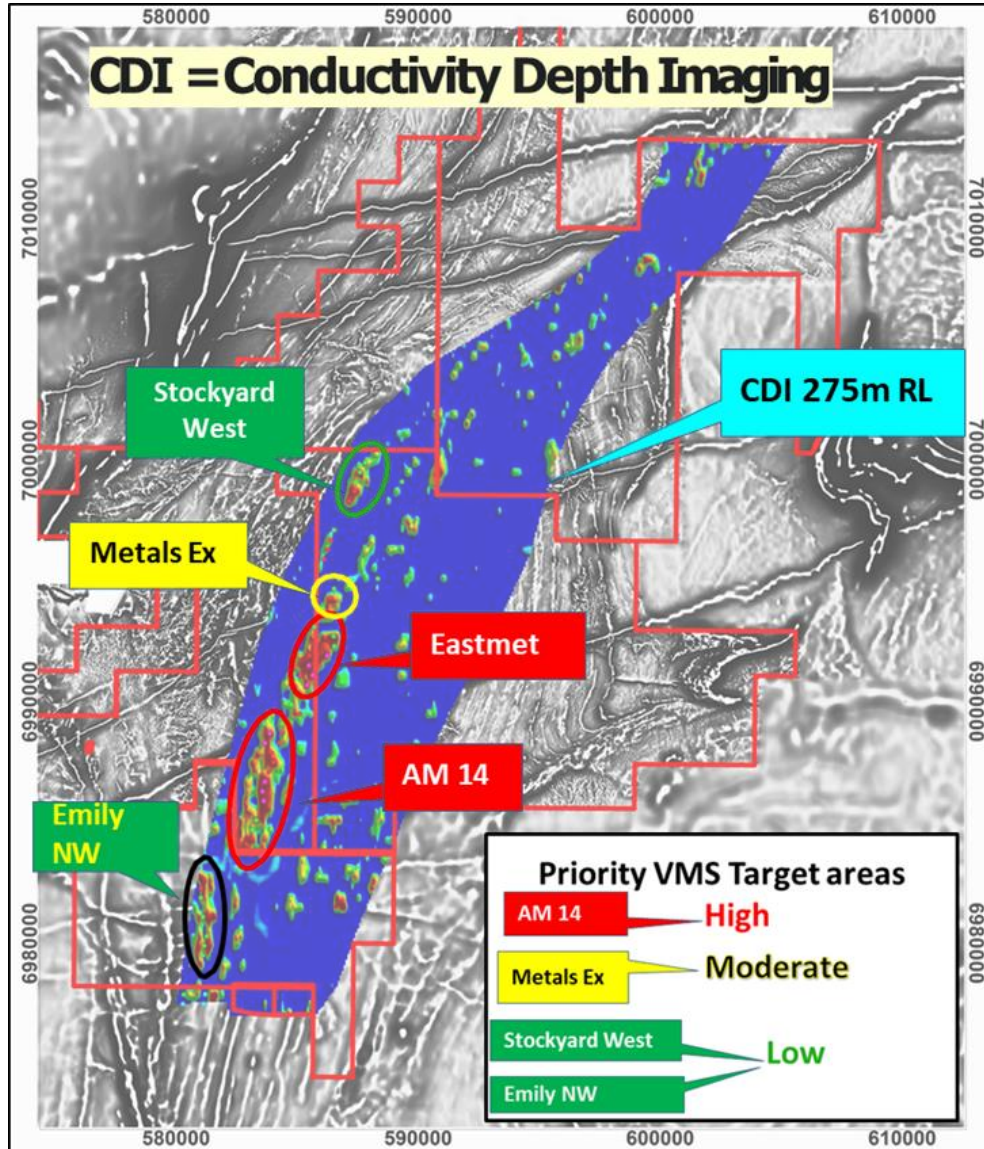


Figure 2. Detailed Magnetic and Gravity Image with Airborne EM Targets and Cu, Pb, Zn Geochemistry



Conductivity Depth Imaging (CDI) of the AEM data at an RL of 275m by Value Adding Resources Pty Ltd has identified 5 clusters of conductors, which are associated with the known isolated prospects discovered and partly drilled during the 1970's. The difference is that today's modern high powered AEM survey has extended the conductive target zones beyond the surface gossans that were drill tested by the early explorers such as Esso, Eastmet and MetalsEx. Refer Figure 3.

Figure 3. Priority Targets on Conductivity Depth Image at 257RL over 1VD Magnetic Image



The AM 14 and Eastmet Gossan Targets

Exploration in the Wattagee area commenced in 1971 with a focus on copper-zinc around prospects either defined by gossan sampling (and therefore limited to the small windows of outcrop, for example, around Wattagee Hill and the Eastmet Gossan), or areas of anomalous conductivity defined in relatively primitive fixed wing airborne EM surveys, effective only in areas of nil to shallow transported cover.

Esso Exploration and Production Australia Inc. (Esso) and others in the 1970's intersected significant downhole widths and grades of zinc-copper sulphide mineralization in shallow drilling at the AM14 and Eastmet Gossan prospects. (Refer JORC Table 1 and Enterprise's ASX releases of 9 Oct & 3 Nov 2017, 24 May 2018, 30 Sept 2019 and 7 October 2022.) These historic zinc-copper intersections are significant as VMS style deposits can occur in clusters and along strike and down dip within distinct stratigraphic horizons. The majority of drill holes were quite shallow (between 20m - 80m depth). The deepest holes were at AM14, where the best results were obtained. Refer Table 1, Significant Intersections, and Figures 4, 5 and 6.

Table 1. Significant Cu-Zn Intersections, AM14, Wattagee Hill area

Hole ID	East MGA94-50	North MGA94-50	Dip	Azi	EoH (m)	From-To (m)	Int (m)	Zn %	Cu %
WP138	584055	6986415	-61 ⁰	280 ⁰	267	228-231	3	7.5	0.42
WP135	584201	6987412	-60 ⁰	270 ⁰	205.5	164-167	3	4.7	0.7
WP141	584225	6987032	-70 ⁰	290 ⁰	323.5	307.2-308.5	1.3	7.07	0.36

Figure 4. CDI at 275RL showing AM 14 Gossan Target with Historic Drill Holes and Assays

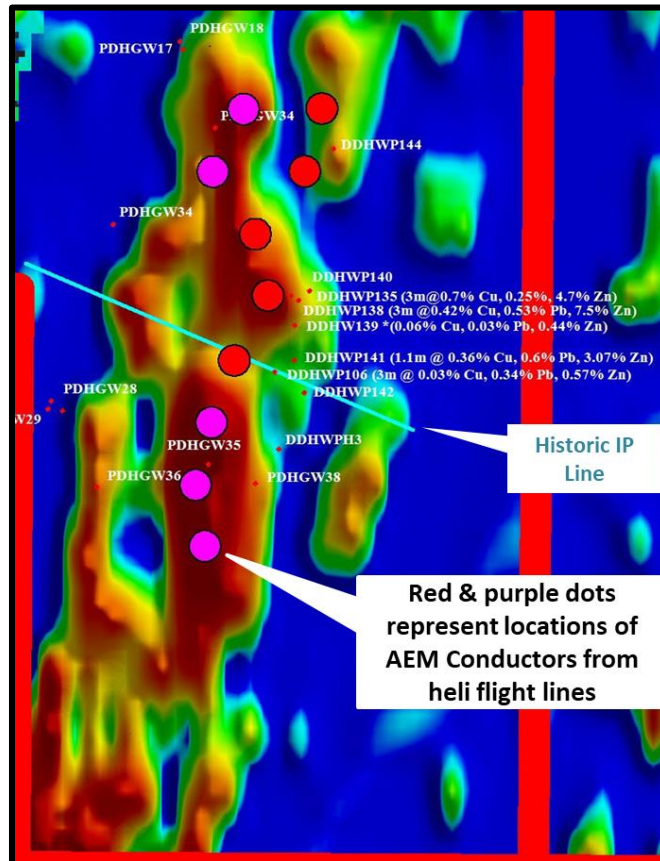


Figure 5. CDI of AM 14 Target at 275RL and Stacked Profiles Showing Conductors

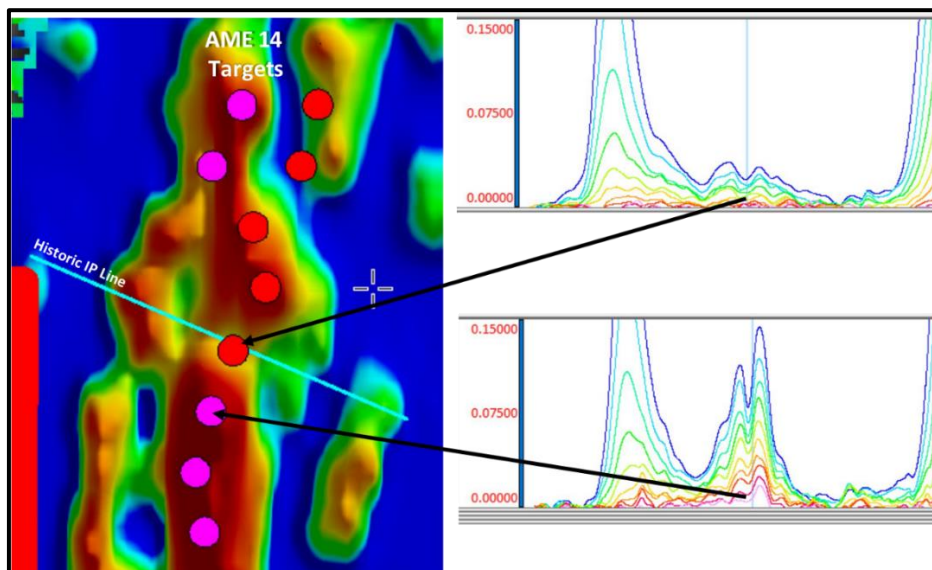


Figure 6. CDI of AM 14 Targets at 275RL and Stacked Profiles Showing Conductors

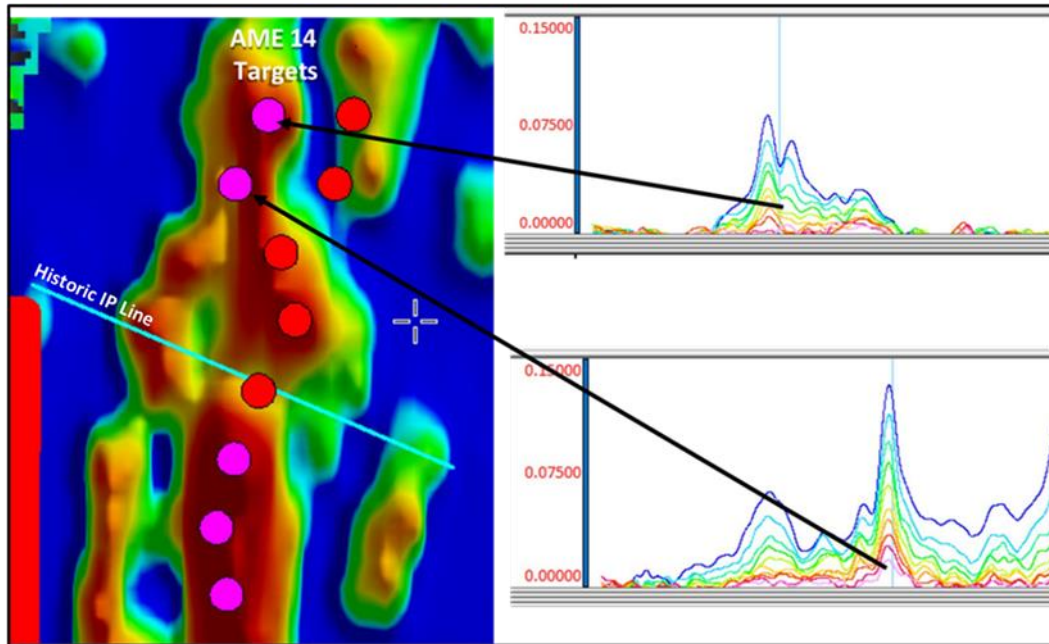
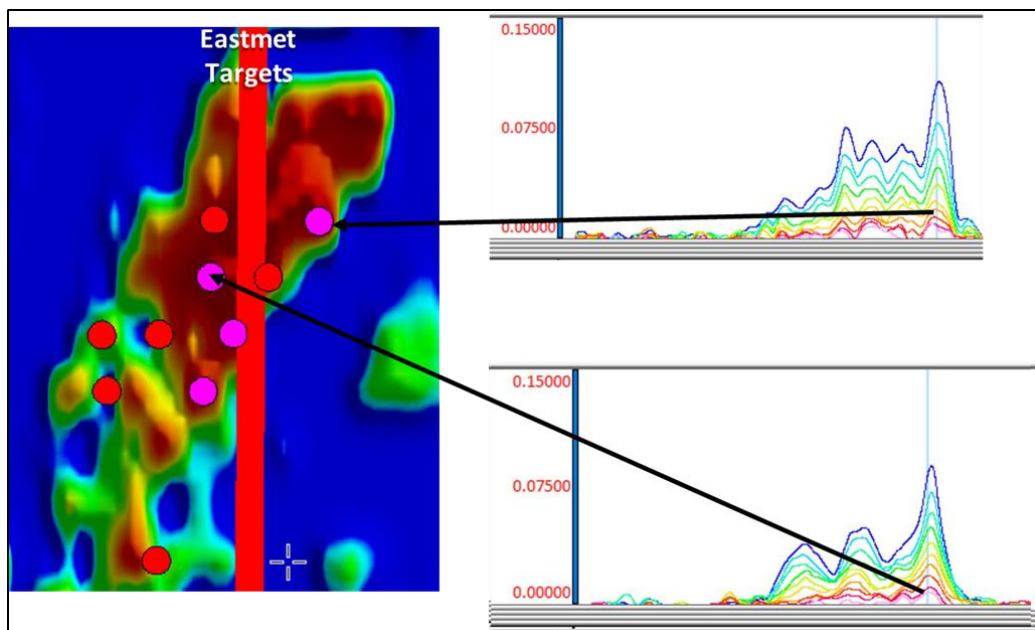


Figure 7. CDI of Eastmet Targets at 275RL and Stacked Profiles Showing Conductors



Enterprise has previously digitised and re-processed electrical geophysics completed by Esso over the AM 14 area, with a view to re-evaluating selected targets for further drill testing, generating new targets and identifying areas requiring follow-up geochemical programs and drilling.

The IP surveys conducted by Esso over the AM14 prospect were modelled with 2D inversion software. The inversion models were run with a vertical bias to match the steeply dipping geology.

An IP line (Figures 5 and 6) over the massive sulphide lenses intersected by Esso's drill holes WP135 and WP138 was reprocessed, with IP and resistivity models produced. The massive sulphide lenses were characterised by high IP and low resistivity (conductive) responses.

The resistivity model identified three additional conductive zones (A, B & C) which have associated high IP responses. These additional conductive zones (inc. Target A) do not appear to have been drill tested and are considered by Enterprise to be priority targets.

Figure 8. Induced Polarisation Model – 2D Chargeability Model

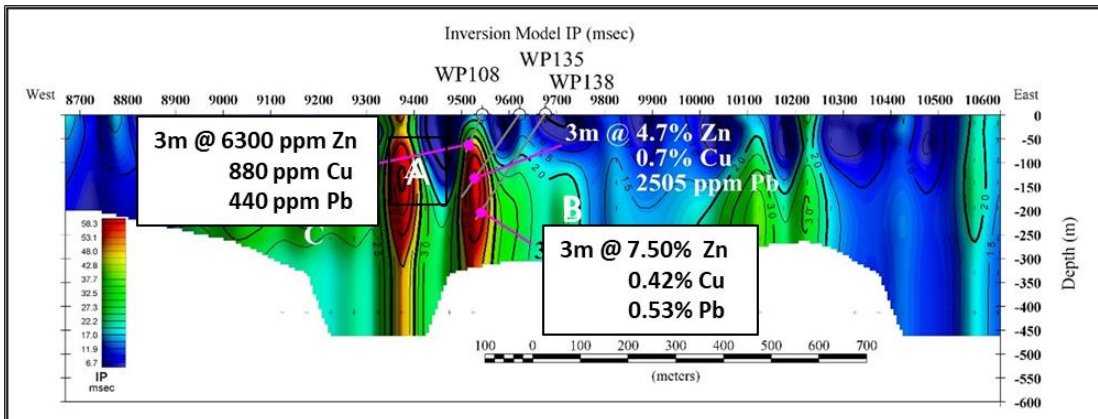
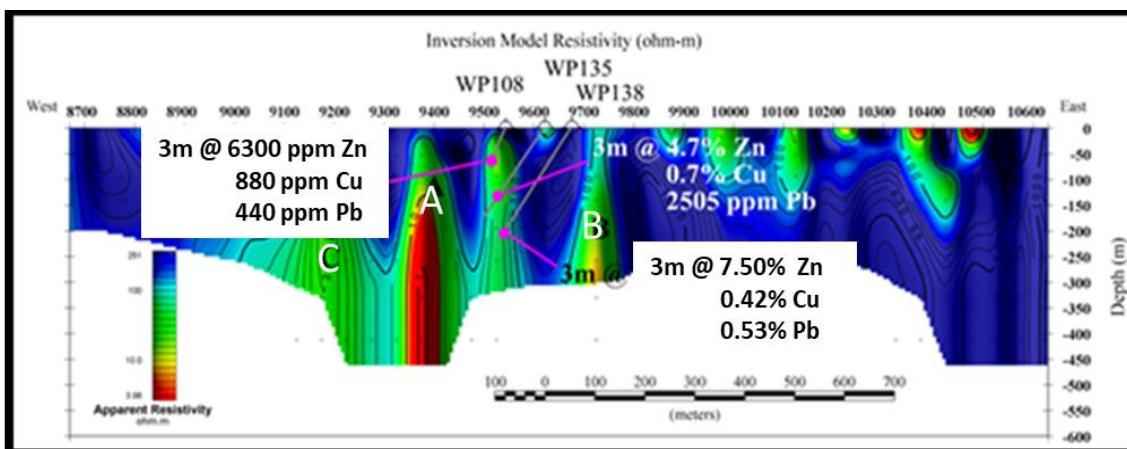


Figure 9. Induced Polarisation Model – 2D Resistivity Model over Esso’s WP108,135 and 138 drill holes.



Comments on Zn-Cu Mineralization at Wattagee Well and the role of geophysics in future discoveries.

Following the discovery of a number of significant copper sulphide deposits in Western Australia during the 1970’s “mineral boom”, the Geological Survey of Western Austral published in 1979 Mineral Resources Bulletin 13, “*Copper Mineralization in Western Australia*”, authored by R.J. Marston.

Marston documented the copper-zinc-lead anomalous gossans examined by Kennecott, Eastmet and Esso in a 6-km-long, north-northeast striking belt of low ridges to the west of Wattagee Well.

The mineralized horizons were described as “*fine-grained quartz-muscovite (-chlorile) phyllitic or schist, with some of tuffaceous aspect, and carbonaceous phyllite. These rocks were a minor component of a sequence of quench textured feldspathic metabasalt, and amygdaloidal pale coloured metabasalt, all intruded by metagabbro*”.

“*Poorly exposed fragmentary gossan outcrops can be traced discontinuously over 400m strike-length, and with the assistance of induced polarization and INPUT geophysical methods can be extended a further 1 km along strike. In the north drilling has encountered only massive pyrrhotite, impoverished in copper and zinc. In the south, zinc- rich mineralization (up to 7.5 percent over 3 m) averaging less than 0.5 per cent copper has been found by Esso in a percussion-diamond drilling programme testing a 1.4 km long, anomalous zone. Eastmet intersected a 6m wide zone assaying 0.7 per cent copper in 1970, also in the southern part of the area*”.

Between 1976 and 2022, there has been no deep modern geophysical methods applied to the Wattagee Well zinc- copper occurrences, although geophysical methods have advanced significantly over the past 46 years. Enterprise Metals Ltd plans to follow up the excellent work by those historical explorers and determine if there is one or more significant massive copper sulphide deposits below the AEM targets outlined by the 2022 NRG helicopter borne Time Domain Electromagnetic (TEM) survey.

In a second publication, “*Copper-zinc massive Sulphide Deposits in Western Australia*”, published by the CSIRO in 2004, and edited by T.F. McConachy and B. I. A. McInnes, the authors note that:

“With the notable exceptions of Scuddles, Jaguar, and more recent deep near-mine discoveries (360-1300 m below surface) at the Golden Grove camp, most of the known volcanic-hosted massive sulphide Cu-Zn deposits in Western Australia have manifested themselves in some form of iron-rich gossan exposed at surface (e.g. Gossan Hill, Teutonic Bore).

Nine years after the Gossan Hill discovery in 1970, exploration 4km to the north utilising magnetics and deep rotary airblast drilling methods (Mill et al., 1990) led to the discovery of the Scuddles deposit at a depth of 140 m.

A recent discovery at Golden Grove is the Xantho deposit at a depth of 1,300 m below surface. This depth is comparable to discovery depths in some of the longer established mines at Mt Isa and Broken Hill (e.g. Widdup, 1983).

The Jaguar deposit was discovered 450 m below surface, 4 km south of Teutonic Bore, by Crone 'Deep EM' and drilling (Pilbara Mines, 2002), some 26 years after the discovery of Teutonic Bore.

The discovery of buried deposits close to existing deposits, or clusters, is a feature of many camps in the Canadian Shield (Franklin et al., 1981), and is an emerging trend in the Western Australian examples”.

Next Steps – Ground follow-up of AEM anomalies

Detailed ground inspections of the prospective VMS horizon “corridor” in the areas of the new AEM anomalies is being undertaken to assess surficial conditions, outcrop where evident and cover conditions. It is expected that ground EM surveys will be required to accurately follow up prioritised AEM anomalies and thereby identify targets for drill testing.

This ASX Announcement has been approved in accordance with the Company’s published continuous disclosure policy and authorized for release by the Company’s Board of Directors

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Competent Person Statement

The information in this report that relates to Exploration Activities and Results is based on information compiled by Mr Dermot Ryan, who is an employee of Montana Exploration Services Pty Ltd and a Director and security holder of the Company. Mr Ryan is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities 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, Mineral Resources and Ore Reserves. Mr Ryan consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

Historic exploration results referred to in this Report were previously reported to the WA Department of Mines and Petroleum in the 1970’s by professional geologists working for reputable mining and exploration companies prior to the imposition of the JORC code. Enterprise Metals Limited understands that this information has not been updated since to comply with the JORC Code 2012, but believes the information has not materially changed since it was last reported.

For further historic information, refer to Enterprise Metals Ltd’s ASX releases dated 9 Oct & 3 Nov 2017, 24 May 2018, 30 Sept 2019 and 7 October 2022

Murchison Project References

Franklin, J.M., Sangster, D.F., & Lyon, J.W., 1981, Volcanic -associated massive sulphide deposits. Economic Geology, 75th Anniversary volum, p485-627

Marston, R.J., 1979, Copper Mineralization in Western Australia, Mineral Resources Bulletin 13, Geological Survey of Western Australia. p125.

McConachy, T.F., & McInnes, B.I. F., 2004, Copper-zinc Massive Sulphide Deposits in Western Australia, CSIRO, "CSIRO Explores 2" series. P15-32.

WP14 and 15: Nunn, R.H., 1971. Annual Report, Mineral Claims 694- 697, 985- 988, 1029- 1033 and 1215- 1216. Unpublished Report for Eastmet Minerals N.L. WAMEX Open File Report a2771.

WP135: Harris, M.P., 1976. Wattagee- Project 667. Annual Report for the period ending March, 1976. Unpublished Report for Esso Exploration and Production Australia Inc. WAMEX Open File Report a6264.

WP138: Robinson, S.H., 1976. Wattagee Project 667. Annual Report for the period ending 31/12/1976. Unpublished Report for Esso Exploration and Production Australia Inc. WAMEX Open File Report a6744

Wilhelmji, H.R., 1990. Evaluation of the Wattagee Hill Volcanogenic Massive Sulphide Deposits, North of Cue, Murchison of Western Australia. Unpublished Report for Outokumpu Exploration Australia Pty Ltd. WAMEX Open File Report a31198.

JORC Code, 2012 Edition – Table 1 Report
Section 1 Murchison Project - Sampling Techniques and Data

Murchison Project - Eastern Felsic Volcanoclastic Suite

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> Commencing in 1970, active exploration for Volcanogenic Hosted Massive Sulphides (VHMS) deposits in the Eastern Felsic Volcanoclastic suite north of Cue had been undertaken by Esso Exploration and Production Aust, Eastmet Minerals NL and others. However, between 1980 and 2002, the focus of most explorers in the Murchison area had been on gold exploration, with scant focus has been on base metals. Airborne EM systems to detect conductive massive sulphide bodies have come a long way in the intervening 42 years. In May 2022 Enterprise Metals Ltd contracted New Resolution Geophysics (NRG™) to undertake a modern helicopter Airborne Electromagnetic Survey (AEM) over the Eastern Felsic Volcanoclastic suite of rocks on the eastern side of the Enterprise's Murchison Project area. Due to the popularity and quality of NRG's Xcite system with other explorers, the AEM Survey was not completed until the first fortnight in September 2022. NRG's Xcite system when compared to all other AEM technologies available in the market is uniquely qualified and is unparalleled in its abilities. It is the only system that offers early time (near surface) resolution due to its very fast transmitter pulse turn-off speed, coupled with late time (deep penetrating) performance in a single pulse waveform. The streaming data provides an along line resolution of ~0.5m with uninterrupted 'soundings' from near surface to >300m depth of investigation. No other AEM system can offer this level of resolution laterally and vertically. Enterprise's TEM survey consisted of 91 east-west lines 400m apart and totalled some 624 line km's. The survey covered Enterprise's Prospecting Licences 20/2302 and P20/2303, the eastern half of E20/944, the Wattagee VMS horizon in E20/913, the Emily Well VMS horizon in E20/912, and the interpreted NW continuation of these two horizons up to the northern limit of E20/911.
<i>Drilling techniques</i>	<ul style="list-style-type: none"> No drilling has been undertaken by Enterprise in the Eastern Felsic Volcanoclastic suite of rocks on the eastern side of the Enterprise's Murchison Project area.
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> Drill sample recovery is not relevant at this stage as Enterprise has not drilled any holes in this part of the Murchison project.
<i>Logging</i>	<ul style="list-style-type: none"> Drill hole logging is not relevant at this stage as Enterprise has not drilled any holes in this part of the Murchison project. Historical drill holes in the 1970's were logged and interpreted by ASX listed companies with qualified geologists.
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> Sub-sampling techniques and sample preparation are not relevant at this stage as Enterprise has not drilled any holes in this part of the Murchison project.
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> Assay data and laboratory tests are not relevant at this stage as Enterprise has not drilled any holes in this part of the Murchison project. Historical samples from drill holes and soils analysed in the 1970's were analysed by reputable licenced mineral laboratories in WA. With regards to the airborne EM data collected by NRG, the raw data collected in the field undergoes a strict routine of levelling and processing and has now been

Criteria	Commentary
	forwarded to Enterprise and Enterprise's geophysical consultants for review, analysis and recommendations.
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> No verification of sampling and assaying has been undertaken as Enterprise has not drilled any holes in this part of the Murchison project. Historic drill hole and surface samples were analysed by reputable licenced mineral laboratories. NRG has strict protocols in place to guarantee quality data from the AEM survey
<i>Location of data points</i>	<ul style="list-style-type: none"> A survey altitude of 30m to 40m (Tx-Rx array) and a 60 to 70m (helicopter altitude) was employed and varied from time to time due to tree height. The magnetometer sensor was located mid-way between the bird and the helicopter. A minimum line length of 3km was utilised for the flight path. The X, Y co-ordinates for the AEM data were collected and stored in MGA 94-Zone 50 using a Novatel DL-V3L1L2 GPS unit. An SF11/C (Loop) and SF00(Heli) Laser Altimeter with 1cm resolution was used for capture of sensor height above terrain. The Radar Altimeter was calibrated at the start of each survey
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> The flight line spacing for the AEM survey was 400m.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> The flight lines were arranged on East- West lines, on GDA 94-50 Northings. The flight lines were approximately orthogonal to the interpreted stratigraphy and VMS horizons.
<i>Sample security</i>	<ul style="list-style-type: none"> NRG handled all field data and are currently processing the final data in their laboratory.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> No audits have yet been undertaken as processing is still underway and Enterprise has only received an example of Channel 14 processing.

Section 2 Murchison Project - Reporting of Exploration Results

Criteria	Commentary																																								
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> The Murchison JV Project is comprised of 7 granted Exploration Licenses in the name of Calypso Minerals Pty Ltd, and 2 granted Prospecting Licenses in the name of Enterprise Metals Limited. Calypso Minerals Pty Ltd is a wholly owned subsidiary of Enterprise Metals Limited. See table below: <table border="1"> <thead> <tr> <th>Lease</th> <th>ENT % Interest</th> <th>State</th> <th>Grant Date</th> </tr> </thead> <tbody> <tr> <td>E20/911</td> <td>100%</td> <td>WA</td> <td>18/05/2018</td> </tr> <tr> <td>E20/912</td> <td>100%</td> <td>WA</td> <td>18/05/2018</td> </tr> <tr> <td>E20/913</td> <td>100%</td> <td>WA</td> <td>22/05/2018</td> </tr> <tr> <td>E20/914</td> <td>100%</td> <td>WA</td> <td>22/05/2018</td> </tr> <tr> <td>E20/915</td> <td>100%</td> <td>WA</td> <td>22/05/2018</td> </tr> <tr> <td>E20/918</td> <td>100%</td> <td>WA</td> <td>22/05/2018</td> </tr> <tr> <td>E20/944</td> <td>100%</td> <td>WA</td> <td>06/09/2019</td> </tr> <tr> <td>P20/2302</td> <td>100%</td> <td>WA</td> <td>18/05/2018</td> </tr> <tr> <td>P20/2303</td> <td>100%</td> <td>WA</td> <td>18/05/2018</td> </tr> </tbody> </table>	Lease	ENT % Interest	State	Grant Date	E20/911	100%	WA	18/05/2018	E20/912	100%	WA	18/05/2018	E20/913	100%	WA	22/05/2018	E20/914	100%	WA	22/05/2018	E20/915	100%	WA	22/05/2018	E20/918	100%	WA	22/05/2018	E20/944	100%	WA	06/09/2019	P20/2302	100%	WA	18/05/2018	P20/2303	100%	WA	18/05/2018
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	<ul style="list-style-type: none"> Native title is held by Wajarri Yamatji Group. The Group is engaged to undertake Cultural Heritage Surveys across any drill programs prior to drilling. Any historical sites are registered, and Cultural Heritage reports are made public. Historical sites are not known to exist within the lease package. All tenements are in good standing and no known impediments to exploration exist.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> From the early 1970's to about 1980, the main exploration focus was for base metal (Cu, Zn) within the felsic volcanic suite that lies on the eastern side of the project area, between the Wattagee VMS Horizon and the Emily Well VMS Horizon. The main explorers at this time were Shell, Esso, Chevron and Outokompu utilising extensive RAB drilling, with follow up percussion and diamond core drilling.
<i>Geology</i>	<ul style="list-style-type: none"> The Murchison leases sit within the Archean Wattagee Hill Greenstone Belt in the North Western part of the Murchison Domain of the Yilgarn Craton. Regional geology is based upon GSWA regional airborne magnetic surveys and previous GSWA geological mapping. Mineralisation in the area is mainly shear hosted but other styles of mineralisation are present. Note: there is very little exposed bedrock in much of the area as basement rock is obscured by alluvium, laterite and a thick transported sequence. Detailed mapping and information from drilling has shown that the geology of the Wattagee area is composed of a sequence of volcanic and volcanoclastic rocks that have been isoclinally folded into a northeast-trending syncline. The syncline has been structurally modified by faulting along the axial surface, resulting in the faulted juxtaposition of its two limbs in the south, and by refolding along a northwest trending axial surface. A number of lithological stratigraphic units have been recognised in the limbs of the syncline and are listed below: <ul style="list-style-type: none"> Unit 1: Felsic volcanic and andesite porphyry succession of unknown thickness that is exposed at Emu Hills and to the east of the Eastmet and AM14 volcanogenic massive sulphide areas. Unit 2: A 500 -700m thick basalt succession with thin intercalated horizons of tuff and graphitic shale exposed between the AM14 and Eastmet volcanogenic massive sulphide areas. The latter horizons host the Cu and Zn rich massive sulphide deposits at AM 14 and Eastmet. Unit 3: A 700 – 800m thick basalt succession. Unit 4: A 1,000 – 1,500m thick succession of tuff, lapilli tuff, volcanic breccia and felsic volcanics. A number of graphitic and sulphidic shale horizons are interbedded in the sequence. A basalt lense is also present in the succession. Unit 5: A 250mthick basalt succession. A series of gabbro and ultramafic bodies have been emplaced between the felsic volcanic and basalt successions of Unit 1 and 2 between the AM 14 and Eastmet areas. Many of these igneous bodies are differentiated into lower ultramafic and upper mafic divisions and some of them host low grade copper and nickel mineralisation. Of the five lithostratigraphic units, that of the basalt and intercalated shale – tuff succession of Unit 2 has the greatest economic potential because of the presence of copper and zinc-rich volcanogenic massive sulphides. However, all of the identified volcanogenic massive sulphide deposits (Eastmet, Kennecott, AM 14) are sub-economic at the present time. Exploration data from previous explorers is a valuable legacy and will assist Enterprise in future exploration in the adjacent covered and untested areas.

Criteria	Commentary
<i>Drill hole Information</i>	<ul style="list-style-type: none"> • To date, Enterprise has not undertaken any drilling within the eastern felsic volcanic suite, but the Company is compiling an extensive digital database containing previous explorer's drill collar and geochemical analytical data. • Due to the exploration reporting practices of the early 1970s, much critical drill hole data cannot be found in the DMIRS Wamex Open File Reports. • However the database will be useful in the interpretation phase of the AEM data. • where gossans were exposed at surface. • Previous explorers initially used shallow percussion drill holes to test below the gossans, and following significantly elevated Zn and Cu values, undertook Induced Polarisation surveys, and drilled follow up deeper diamond drill holes. A significant number of these deeper holes intersected disseminated and massive sulphides.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> • No relevant new data to aggregate at the present time.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> • No new drill program has been proposed. The targets identified by the 2022 AEM survey will require ground geophysical surveys. Following those geophysical surveys, it may be possible to gauge the orientation of any conductors. Estimated True Widths were not supplied for historical intersections.
<i>Diagrams</i>	<ul style="list-style-type: none"> • Digitising of key historical drill sections is underway, along with historical hole location diagrams and representative exploration results.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> • Intersection lengths and grades will be reported as down-hole, length weighted averages of grades above a cut-off. Numbers of drill holes and metres will be included in the body of future announcements.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> • Other historical exploration data sets being collated include multi-element data for bedrock samples, field mapping data, outcrop rock chip data and geophysical surveys which include IP.
<i>Further work</i>	<ul style="list-style-type: none"> • Further exploration work on the eastern felsic volcanic suite will include ground geophysics and follow-up drilling based on assessment of current data and the new 2022 AEM data.