

## Multiple Conductors Identified along Zn-Cu VMS trend at Murchison Project

- EM Survey over Zn-Cu rich felsic volcano-sedimentary suite north of Cue township WA completed.
- Preliminary data reveal encouraging late-time conductors, potentially indicative of bedrock sulphides, coincident with interpreted Zn-Cu VMS horizons.
- Final levelled and processed data from contractor NRG expected in mid - October.
- Ground investigation of AEM anomalies along the prospective VMS corridors planned.

Enterprise Metals Ltd (“Enterprise” or “ENT”) is pleased to advise that geophysical contractor New Resolution Geophysics (NRG) has completed a helicopter borne Time Domain Electromagnetic (TEM) survey north of Cue. The survey is an important step in exploration over interpreted VMS horizons considered highly prospective for zinc and copper mineralisation.

Although the locations of the zinc and copper rich VMS (volcanogenic massive sulphide) horizons are broadly known from historical shallow drilling and mapping programs, this new survey commissioned by ENT was designed to refine targeting and highlight new areas for investigation. The preliminary TEM image in Figure 1 below highlights several late time conductors occurring along the Wattagee and Emily Well VMS horizons.

Figure 1. Channel 14 Image of TEM Data over Wattagee and Emily Well VMS Horizons

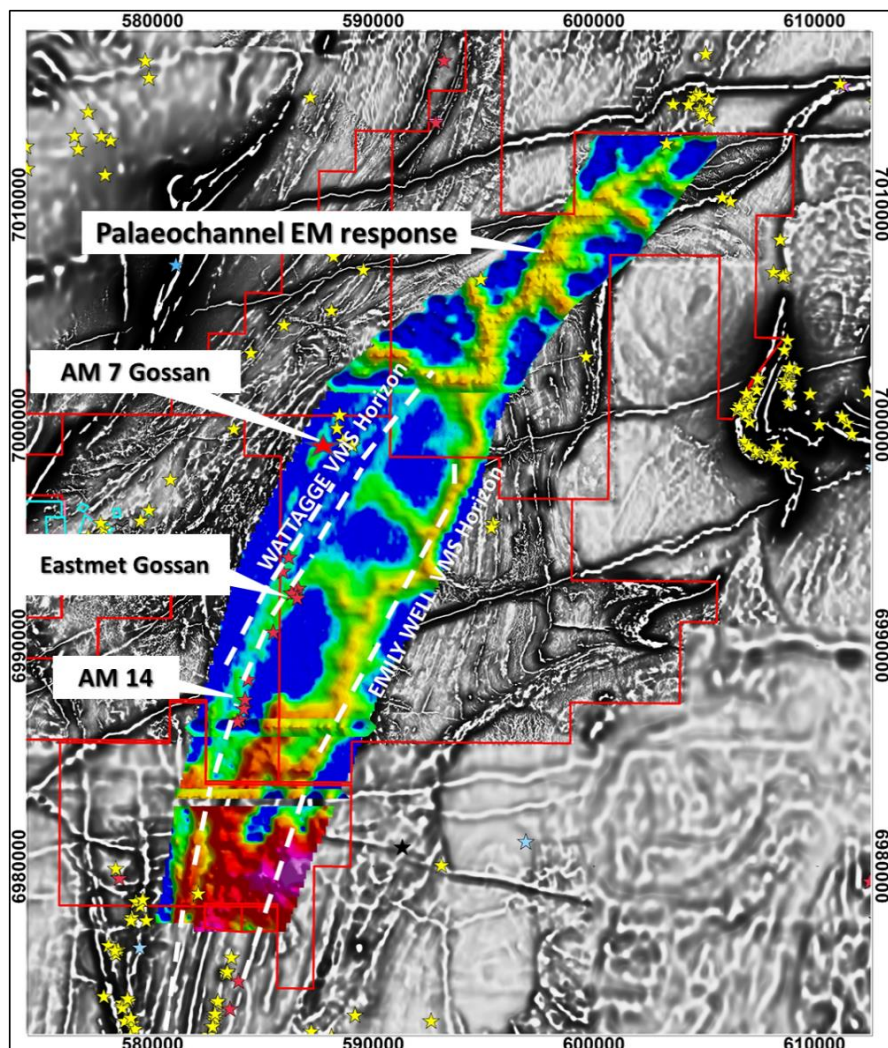


Figure 2 shows part of a series of late time west - east stacked profiles over the AM14 Zn-Cu prospect.

Figure 2. Stacked Profile of TEM Channels 20-23 over AM14-Wattagee VMS Horizon

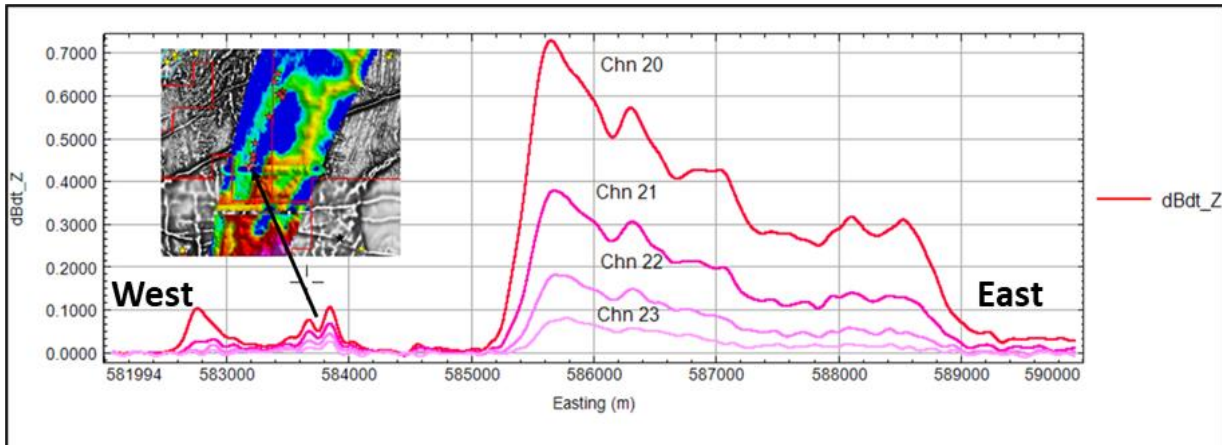
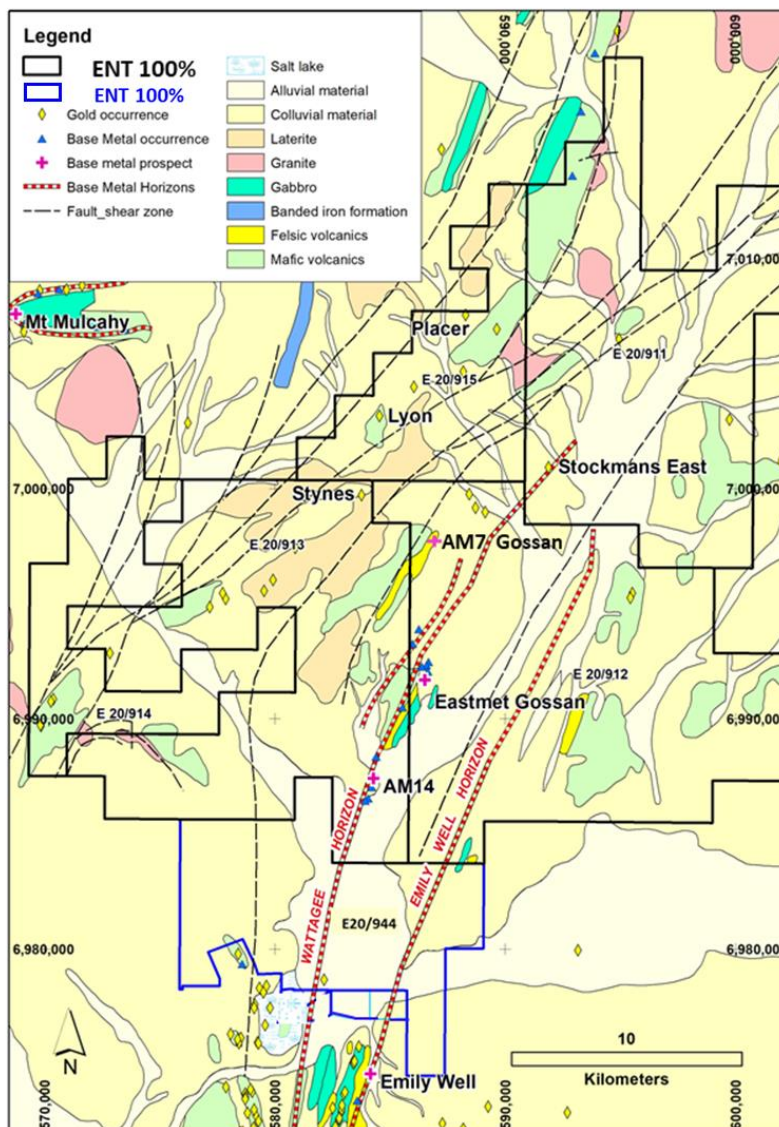


Figure 3 shows the surface geology of Enterprise’s 823km<sup>2</sup> Murchison Project, and the location of the interpreted Wattagee and Emily Well VMS horizons.

Figure 3. Murchison Surface Geological Plan showing Wattagee and Emily Well VMS horizons





## BACKGROUND

Exploration in the 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.

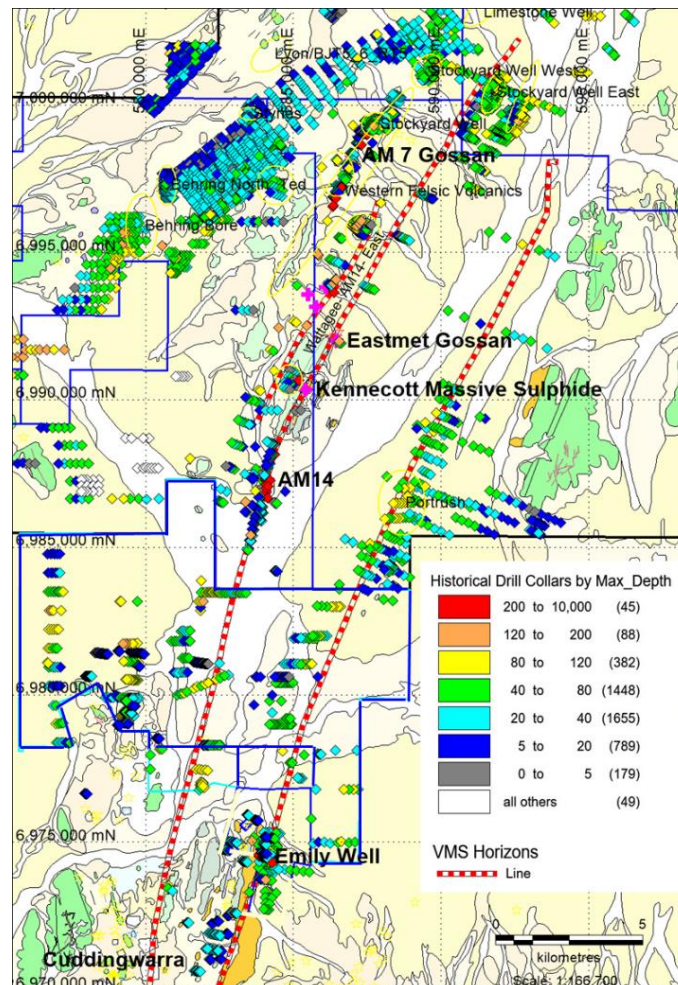
Esso Exploration and Production Australia Inc. (Esso) and others in the 1970's intersected significant downhole widths and grades of zinc-copper sulphide mineralization in shallow drilling at the AM14 and Eastmet Gossan prospects. (Refer JORC Table 1 and Enterprise's ASX releases of 9 Oct & 3 Nov 2017, 24 May 2018 & 30 Sept 2019.) 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.

Refer Table 1 below and Figure 4 displaying compiled drill hole locations coded for depth. The majority of drill holes are quite shallow (between 20m - 80m depth) with the deepest holes at AM14.

**Table 1. Significant Cu-Zn intersections, Wattagee Hill area**

Hole ID	Hole Type	East MGA94.50	North MGA94.50	Dip Degree	EoH (m)	From-To (m)	Int (m)	Zn %	Cu %	Prospect
WP138	DD	584055	6986415	-77 <sup>0</sup>	267	228-231	3	7.5	0.42	AM14
WP135	DD	584201	6987412	-60 <sup>0</sup>	205.5	164-167	3	4.7	0.7	AM 14
WP141	DD	584225	6987032	-60 <sup>0</sup>	323.5	307.2-308.5	1.3	7.07	0.36	AM 14
WP14	PD	586672	6992198	-50 <sup>0</sup>	136.5	117	4.6	1.70	0.26	Eastmet Goss

**Figure 4. Surface Geology with Compiled Drill Hole Locations Coded for Depth.**



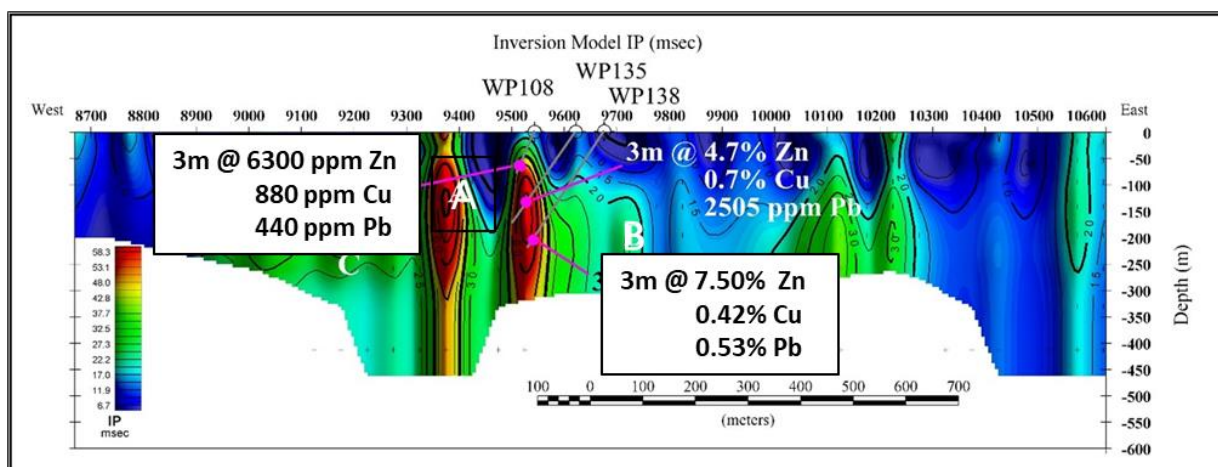
Enterprise has digitized and re-processed electrical geophysics completed by Esso over the AM 14 area, with a view to re-evaluating selected targets for further drill testing, generating new targets and identifying areas requiring follow-up geochemical programs and drilling.

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.

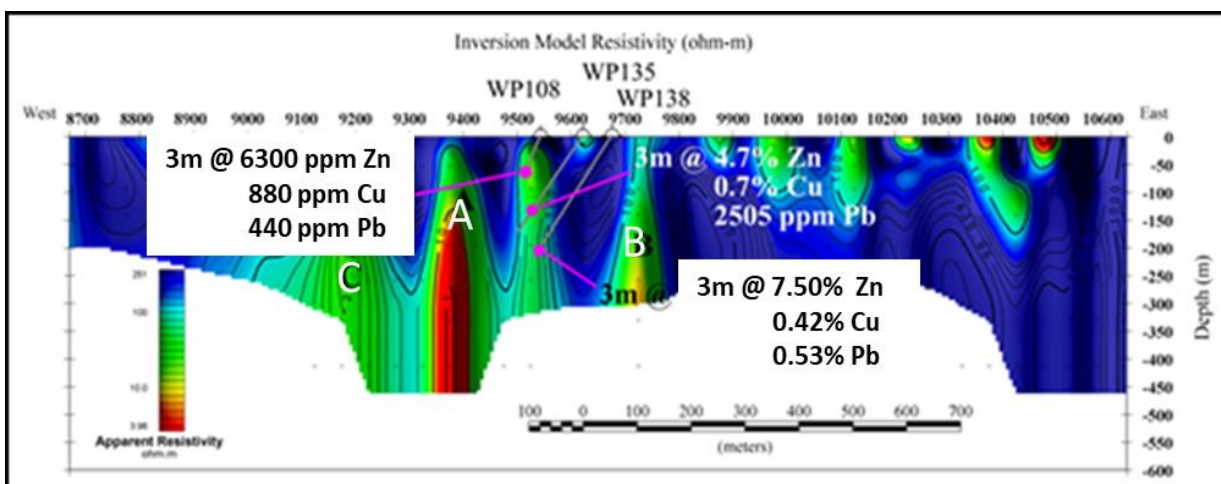
An IP line over the massive sulphide lenses intersected by Esso's drill holes WP135 and WP138 were reprocessed, and IP and resistivity models produced. The massive sulphide lenses were characterised by high IP and low resistivity (conductive) responses.

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

**Figure 5. Induced Polarisation Model – 2D Chargeability Model**



**Figure 6. Induced Polarisation Model – 2D Resistivity Model over Esso's WP108,135 and 138 drill holes.**



### **Enterprise's Murchison Airborne EM Survey**

The September AEM survey consisted of 91 east-west lines 400m apart and totaled some 624 line km's. The survey covered Enterprise's Prospecting Licences 20/2302 and P20/2303 just north of Cuddingwarra and Emily Well, the eastern half of E20/944, the Wattagee horizon in E20/913, the Emily Well horizon in E20/912, and the interpreted NW continuation of these two horizons up to the northern limit of E20/911.

### **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 will be undertaken to assess surficial conditions, outcrop where evident and cover conditions. It is expected that ground geophysical surveys will be required to follow up accurately prioritised AEM anomalies and thereby identify targets for drill testing.

Final levelled and processed data is expected to be received from contractor NRG in mid - October. This data will be integrated by Enterprise’s geologists and geophysical contractors with Enterprise’s considerable database containing previous explorers’ mapping, soil sampling, drilling and limited Induced Polarisation surveys

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

### **For further information, contact:**

Dermot Ryan - Director

Ph: +61 8 6381 0392

[admin@enterprisemetals.com.au](mailto:admin@enterprisemetals.com.au)

### **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.*

### **Murchison Project References**

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 a674.4

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

## 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"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• The streaming data provides an along line resolution of ~0.5m with uninterrupted 'soundings' from near surface to &gt;300m depth of investigation. No other AEM system can offer this level of resolution laterally and vertically.</li> <li>• 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.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• Drill sample recovery is not relevant at this stage as Enterprise has not drilled any holes in this part of the Murchison project.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>• Drill hole logging is not relevant at this stage as Enterprise has not drilled any holes in this part of the Murchison project.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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 which can take between 4 - 6 weeks before the client receives the results of the survey.</li> </ul>



Criteria	Commentary
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>No verification of sampling and assaying has been undertaken as Enterprise has not drilled any holes in this part of the Murchison project.</li> <li>NRG has strict protocols in place to guarantee quality data from the AEM survey</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>An SF11/C (Loop) and SF00(Heli) Laser Altimeter with 1cm resolution was used for capture of sensor height above terrain.</li> <li>The Radar Altimeter was calibrated at the start of each survey</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>The flight line spacing for the AEM survey was 400m.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>The flight lines were arranged on East- West lines, on GDA 94-50 Northings.</li> <li>The flight lines were approximately orthogonal to the interpreted stratigraphy and VMS horizons.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>NRG handled all field data and are currently processing the final data in their laboratory.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>No audits have yet been undertaken as processing is still underway and Enterprise has only received an example of Channel 14 processing.</li> </ul>

## Section 2 Murchison Project - Reporting of Exploration Results

Criteria	Commentary																																								
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>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.</li> <li>Calypso Minerals Pty Ltd is a wholly owned subsidiary of Enterprise Metals Limited. See table below:</li> </ul> <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> <ul style="list-style-type: none"> <li>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 do exist within the lease package.</li> <li>All tenements are in good standing and no known impediments exist.</li> </ul>	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
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																																						

Criteria	Commentary
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>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.</li> <li>The main explorers at this time were Shell, Esso, Chevron and Outokompu utilising extensive RAB drilling, with follow up percussion and diamond core drilling.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>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.</li> <li><b>Note:</b> there is very little exposed bedrock in much of the area as basement rock is obscured by alluvium, laterite and a thick transported sequence.</li> <li>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.</li> <li>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"> <li><b>Unit 1:</b> 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.</li> <li><b>Unit 2:</b> 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.</li> <li><b>Unit 3:</b> A 700 – 800m thick basalt succession.</li> <li><b>Unit 4:</b> 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.</li> <li><b>Unit 5:</b> A 250mthick basalt succession.</li> </ul> </li> <li>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.</li> <li>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.</li> <li>Exploration data from previous explorers is a valuable legacy and will assist Enterprise in future exploration in the adjacent covered and untested areas.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>However the database will be useful in the interpretation phase of the AEM data.</li> </ul>



Criteria	Commentary
	<ul style="list-style-type: none"> <li>Figure 5 of this report illustrates the fact that the historical drilling was focused on areas where gossans were exposed at surface.</li> <li>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.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>No relevant new data to aggregate at the present time.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>No new drill program has been proposed. The results of the AEM survey will require ground follow up, potentially with consists of early-stage exploration targets with only an early stage understanding of structural orientations hosting mineralised intervals. Estimated True Widths are supplied wherever possible.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>Digitising of key historical drill sections is underway, along with historical hole location diagrams and representative exploration results.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>Further exploration work on the eastern felsic volcanic suite may include ground geophysics and follow-up drilling depending on assessment of current data and the new AEM data.</li> </ul>