



**AUSMON RESOURCES  
LIMITED**

14 June 2023

ASX Market Announcements

**UPDATE ON GROUND IP SURVEY IN BROKEN HILL NSW  
EL 9220 ENMORE COBALT-BASE METAL PROJECT**

- **6 of planned 8 lines of ground IP survey completed**
- **400m + chargeability anomaly defined in the Cues Formation**

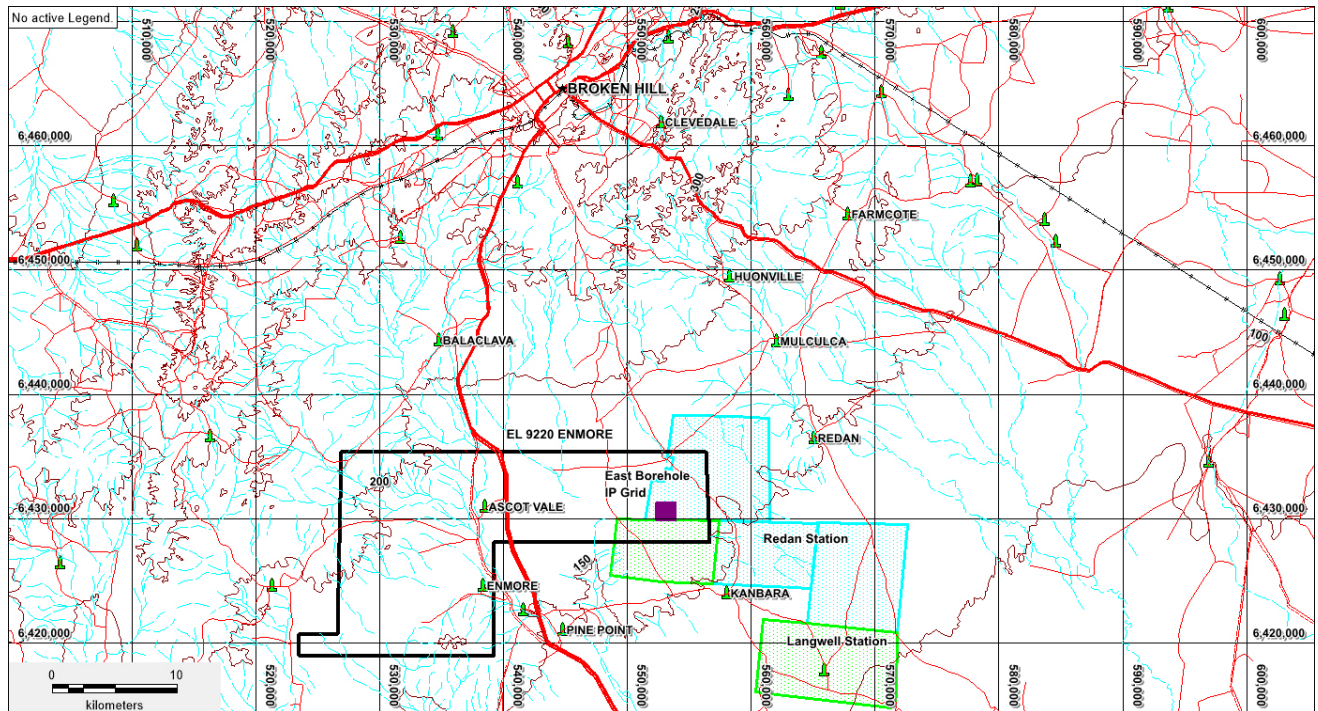
Ausmon Resources Limited (“Company”) is pleased to advise that 6 of the 8 proposed Ground Induced Polarisation (IP) survey lines have been completed and processed at the East Borehole Prospect EL 9220 Enmore (**Figures 1 and 2**). The survey paused for a few days due to rain and the remaining 2 lines are to be completed this week.

The 8 lines were planned with space 200 m apart for Ground IP of 1.4 km long N-S oriented across a 1.5 km base metal exploration target identified during earlier field sampling. The survey applies the dipole-dipole array method with 50 m electrode spacing and long enough so as to give 300 m depth penetration. Merlin Geophysics is conducting the IP survey and Rama Geoscience is interpreting the data in 2D and 3D models.



**Figure 1: Ausmon Resources NSW and SA Projects**

AUSMON RESOURCES LIMITED ABN 88 134 358 96  
"World Tower" Suite 1312, 87-89 Liverpool Street, Sydney NSW 2000 Australia  
PO BOX 20188 World Square, NSW 2002 Australia  
Tel: 61 2 9264 6988 Fax: 61 2 9283 7166 Email: [office@ausmonresources.com.au](mailto:office@ausmonresources.com.au)  
[www.ausmonresources.com.au](http://www.ausmonresources.com.au) ASX code: AOA



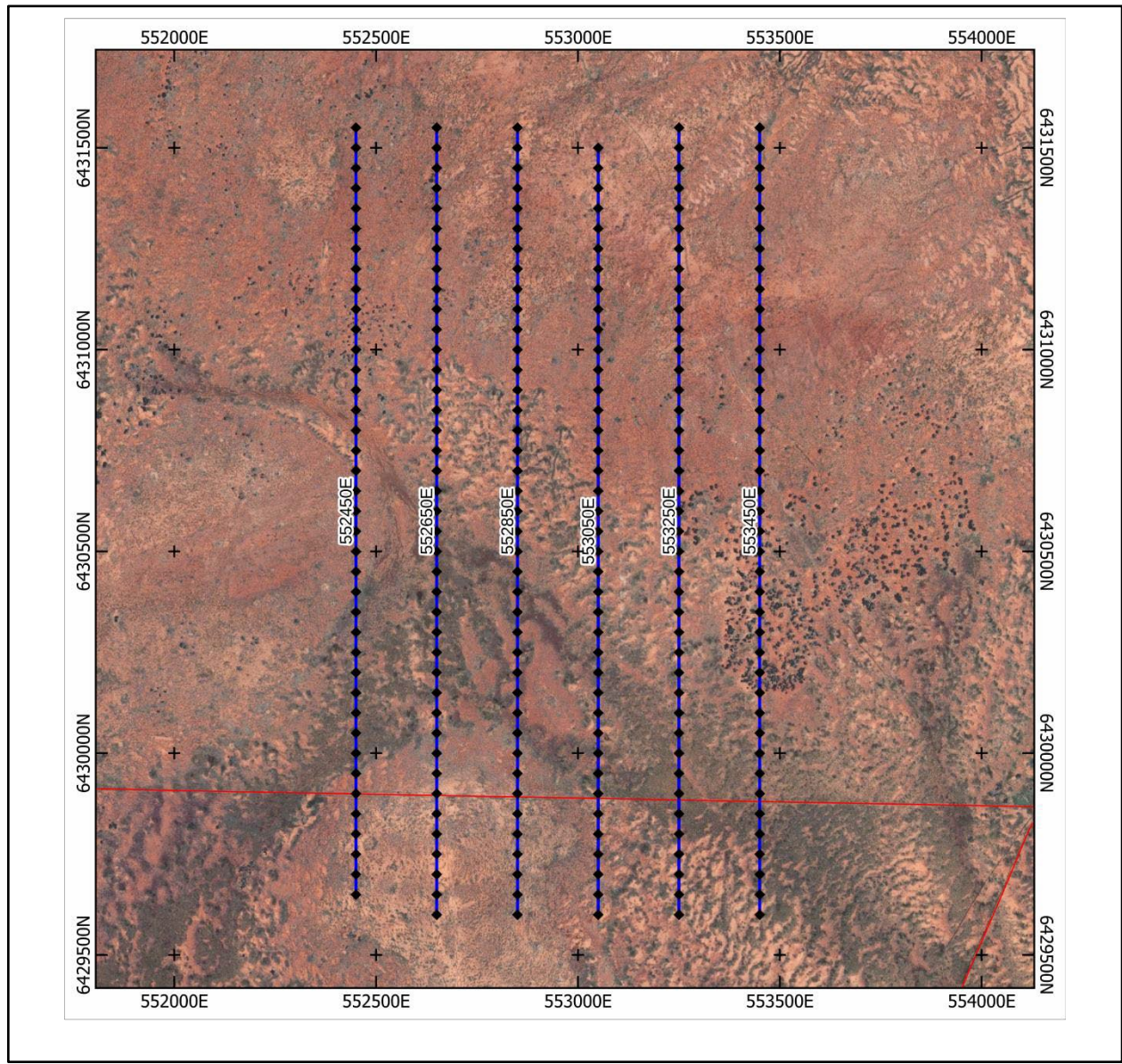
**Figure 2:** East Borehole Prospect Location within EL 9220 Enmore southeast of Broken Hill

The East Borehole IP survey has been conducted by Merlin Geophysics from May 18 to June 1, 2023 until rain prevented access. Equipment used included a Phoenix TXU-30A transmitter and a Smartem 24 receiver system. Receiving electrodes were standard non-polarising porous pots and transmitter electrodes were buried steel plates. The completed survey to date has consisted of six NS lines, each 1.9 km long. Line spacing was 200 m. The survey used a roll along dipole-dipole (DDIP) configuration using 100 m transmitter dipoles and 12 x 50 m receiver dipoles. Station moves were 50 m. See **Table 1** and **Figure 3** for the survey layout.

Line	South	North	Length (m)
552450E	6429650N	6431550N	1850
552650E	6429600N	6431550N	1900
552850E	6429600N	6431550N	1900
553050E	6429600N	6431500N	1850
553250E	6429600N	6431550N	1900
553450E	6429600N	6431550N	1900

**Table 1.** East Borehole DDIP 2023 Survey Specifications. Coordinates are GDA94/MGA54.

For personal use only



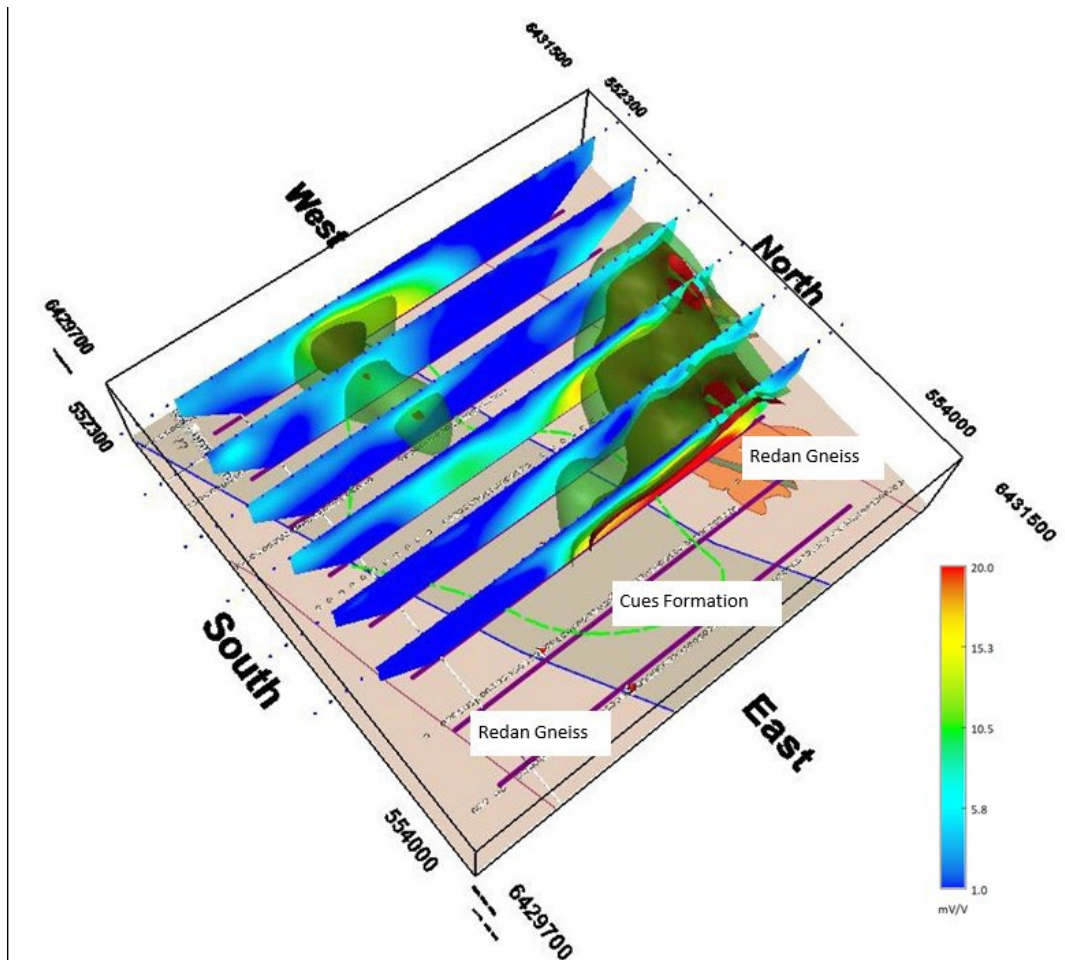
**Figure 3.** East Borehole DDIP 2023 Survey Location Map (GDA94/MGA54).  
Black dots are DDIP electrode locations.

**Two main chargeability zones has been defined by the IP survey**

On the western three lines there is a chargeability response that is located close to the northern Cues Formation / Redan Gneiss contact (**Figure4**). The response is strongest on the western line 552450E. The depth to the top of the source is around 100 m and the model shows the zone as depth extensive. It is also quite a broad and diffuse response with width over 200 m. The 3D inversion model shows the zone extending east along the south side of the contact for about 400 m, although it weakens towards the east. This anomaly is along strike from the geochemical anomalism (Zn > 300 ppm in historic drilling).

For personal use only

In the northeastern corner of the survey area is a coincident chargeable and highly resistive response. Resistivity values rise to over 1000  $\Omega\text{m}$  and the chargeability is over 20 mV/V. The zone becomes wider and stronger towards the east and on the easternmost line 553450E the 2D chargeability model shows a 600 m wide zone of high chargeability which is increasing in strength with depth. The 3D model in this area also shows an extensive chargeability zone but with lower overall chargeability (this difference is likely to be due to limitations in the 2D algorithm in not allowing for 3D volumes of chargeability). At the surface this response appears to be related to outcropping Redan Gneiss, and it is likely that the broad response at depth is also a lithological response related to the Redan Gneiss. To close of both ends of the IP survey Line 7 will be completed next as originally planned. The proposed line 8 (most easterly line in purple in Figure 4) will now be moved to 200 m west of line at 552450E where the chargeability response has been strongest.



**Figure 4.** Perspective view looking from the SE. Sections are 2D inverted chargeability. Shells are from the 3D inverted chargeability model (7 mV/V transparent green, darker shell 10 mV/V). Geology map supplied by Ausmon. Green dashed line represents Zn > 300ppm in historic drilling.

## Background

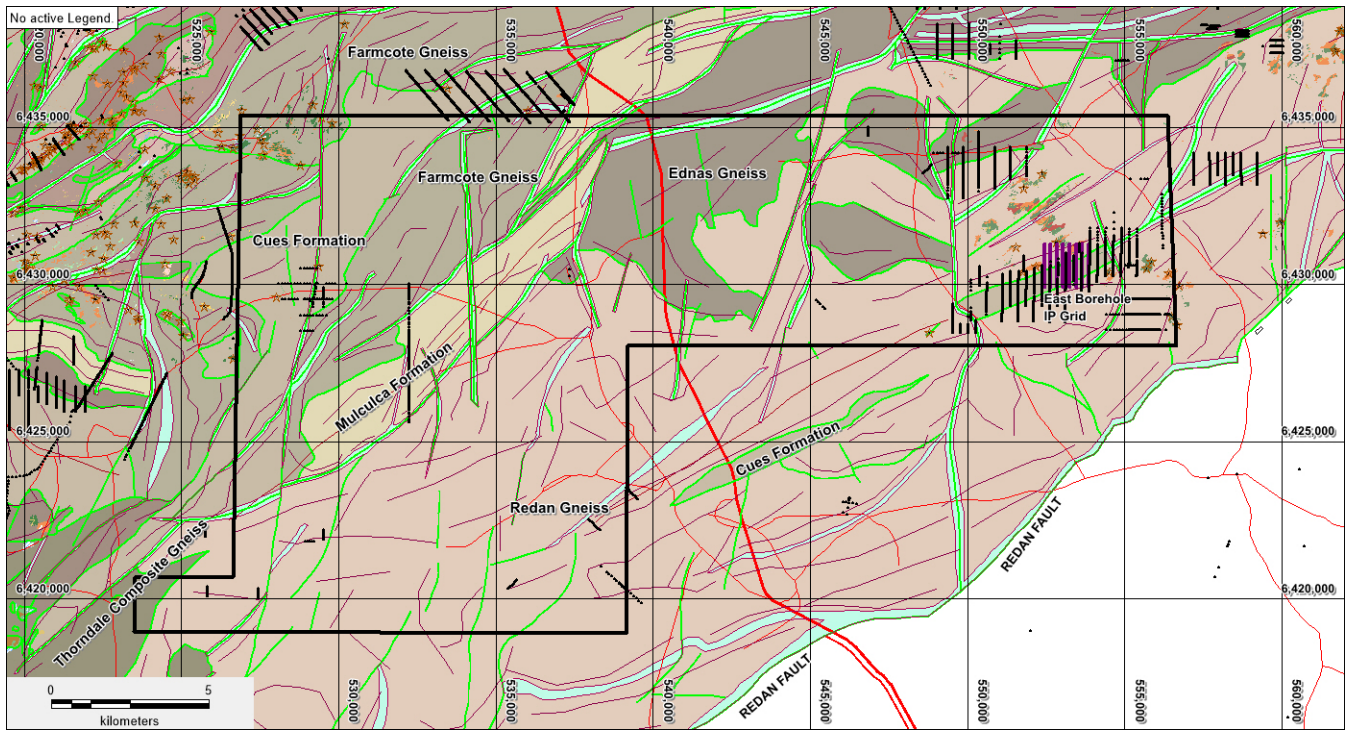
### Geology of the area

The Enmore tenement is located in the Thackaringa Group and underlying gneissic units located stratigraphically below the Broken Hill Group that hosts the world class Broken Hill Orebody Pb Zn Ag orebody currently being mined adjacent and to the south of Broken Hill Township (**Figures 5 to 7**).

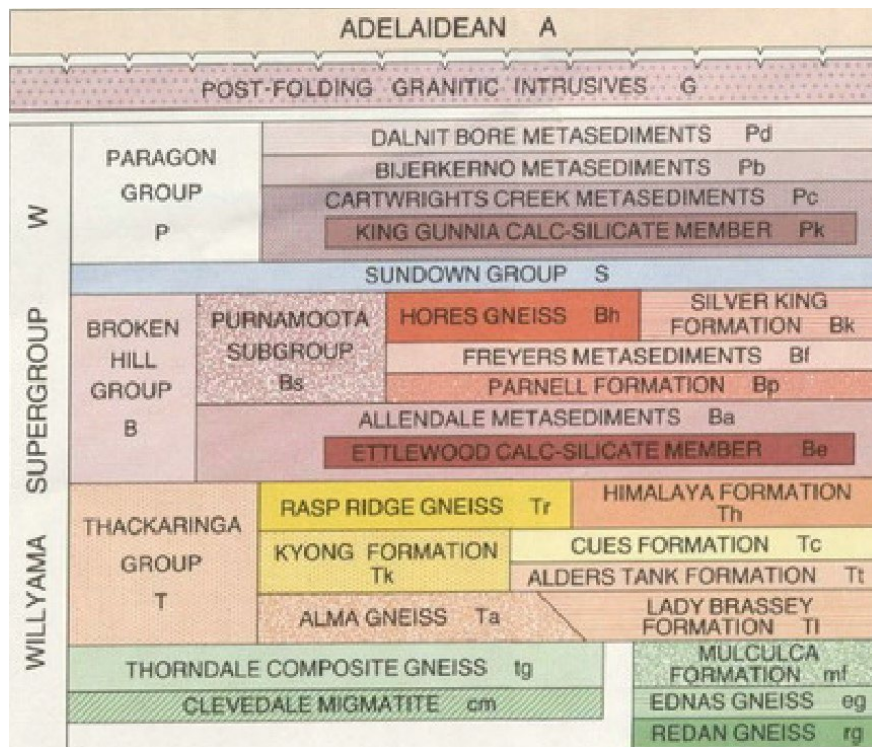
The Enmore tenement is dominated by the Redan Gneiss in the east and Edna/Farmcote Gneisses, Mulculca Formation in the west. The Cuse Formation of the Thackaringa Group outcrops as the East Borehole Prospect and in the far northwest of the tenement. The Cues Formation at the East Borehole Prospect comprises predominantly felsic biotite schist flanked by quartz feldspar gneiss of the Redan Gneiss (**Figure 8**). The Cues formation from GSNSW drilling database shows several drill holes to have intersected limonitic gossanous within the Cues Formation that regionally includes “Psammitic and pelitic metasediments with the Cues Formation locally including garnet-quartz +/- magnetite rocks and granular quartz-iron oxide/sulphides rocks”.

The intersection of limonite gossanous intervals in the East Borehole Drilling (historic) may be the surface expression of deeper sulphide mineralisation that is being tested by the IP survey. The NE-NW trending Cues Formation at the East Borehole Prospect (**Figures 8 and 9**) show the Cues Formation as having a low magnetic response and the Redan Gneiss adjacent and to the north as having a linear magnetic response. The IP survey has been designed to test the linear magnetic low and adjacent linear magnetic high in the Redan Gneiss.

For personal use only



**Figure 5: East Borehole Solid Geological Interpretation - GSNSW Minview GIS Website**



**Figure 6: Broken Hill Regional Stratigraphic Column**

**CUES FORMATION** Mainly psammopelitic to psammitic composite gneisses or metasediments, with intercalated bodies of basic gneiss. The basic gneisses occur in a substantial continuous interval in the middle sections of the formation, underlain by thinner, less continuous bodies. The basic gneisses are moderately Fe-rich, (abundant orthopyroxene or garnet), and finely layered, in places with pale feldspar-rich layers, and are associated with medium-grained quartz - feldspar - biotite - garnet gneiss or rock which occurs in thin bodies or pods. A distinctive leucocratic quartz - microcline - albite  $\pm$  garnet gneiss (interpreted as metarhyolite) occurs as thin, continuous and extensive horizons, in several areas. The Cues Formation is characterized by stratiform horizons of granular garnet-quartz  $\pm$  magnetite rocks, and granular quartz - iron oxide/sulphide rocks, and granular quartz - magnetite rocks. The sulphide-bearing rocks may be lateral equivalents of, or associates of, Broken Hill type stratiform mineralization. Minor layered garnet - epidote - quartz calc-silicate rocks occur locally within the middle to basal section.

**KYONG FORMATION** Psammitic to pelitic metasediments intercalated with quartzo-feldspathic gneisses which form beds 1m to tens of metres thick and lenses. Gneisses include leucocratic and biotite-rich types, and some contain sillimanite and/or feldspar megacrysts. Minor basic gneiss, granular ferruginous and cupriferous quartz rock, garnet-quartz rock, garnet-haematite rock, very minor medium-grained quartz-feldspar-biotite-garnet gneiss, quartz magnetite rock, and poorly layered calc-silicate rock.

**ALDERS TANK FORMATION** Consists largely of composite gneisses, with little or no basic gneiss, local minor plagioclase-quartz rocks and minor granular quartz-iron oxide/iron sulphide "lode" rocks. The composite gneisses range from quartzo-feldspathic and psammopelitic in the southwest, to psammitic/ psammopelitic elsewhere. In the Broken Hill Synform the composite gneiss is quartzo-feldspathic and very cordierite-garnet rich near the base.

**LADY BRASSEY FORMATION** Well to poorly bedded leucocratic sodic plagioclase - quartz rocks, either massive, discrete units or thin to thick interbeds within psammitic to pelitic metasedimentary composite gneisses. Substantial conformable masses of basic gneiss. In the southeast contains abundant leucocratic quartzo-feldspathic gneiss, and is magnetite rich.

**THORNDALE COMPOSITE GNEISS.** Mainly metasedimentary quartz - feldspar - biotite - sillimanite  $\pm$  garnet  $\pm$  cordierite composite gneiss, consisting of interlayered psammite and psammopelite, generally with minor pelite and abundant pegmatitic to granitic quartzo-feldspathic segregations. Segregations commonly disrupt bedding. Other rocks present include psammitic, psammopelitic, and pelitic metasediment, basic gneiss, minor plagioclase-quartz rock and K-feldspar - rich leucocratic rock, and rare quartz - magnetite and quartz - iron oxide/sulphide rocks. Bedding in the composite gneiss/metasediments is generally disrupted, lenticular and/or discontinuous, and highly variable in thickness. Rare graded bedding, crossbedding, and scour-and-fill structures are present in places.

**CLEVEDALE MIGMATITE.** Mainly migmatite to quartzo-feldspathic composite gneiss (commonly leucocratic). Minor basic gneiss and very rare, thin, plagioclase - quartz rock and medium-grained biotite-rich quartzo-feldspathic gneiss. Bedding extensively disrupted and mainly thin and discontinuous.

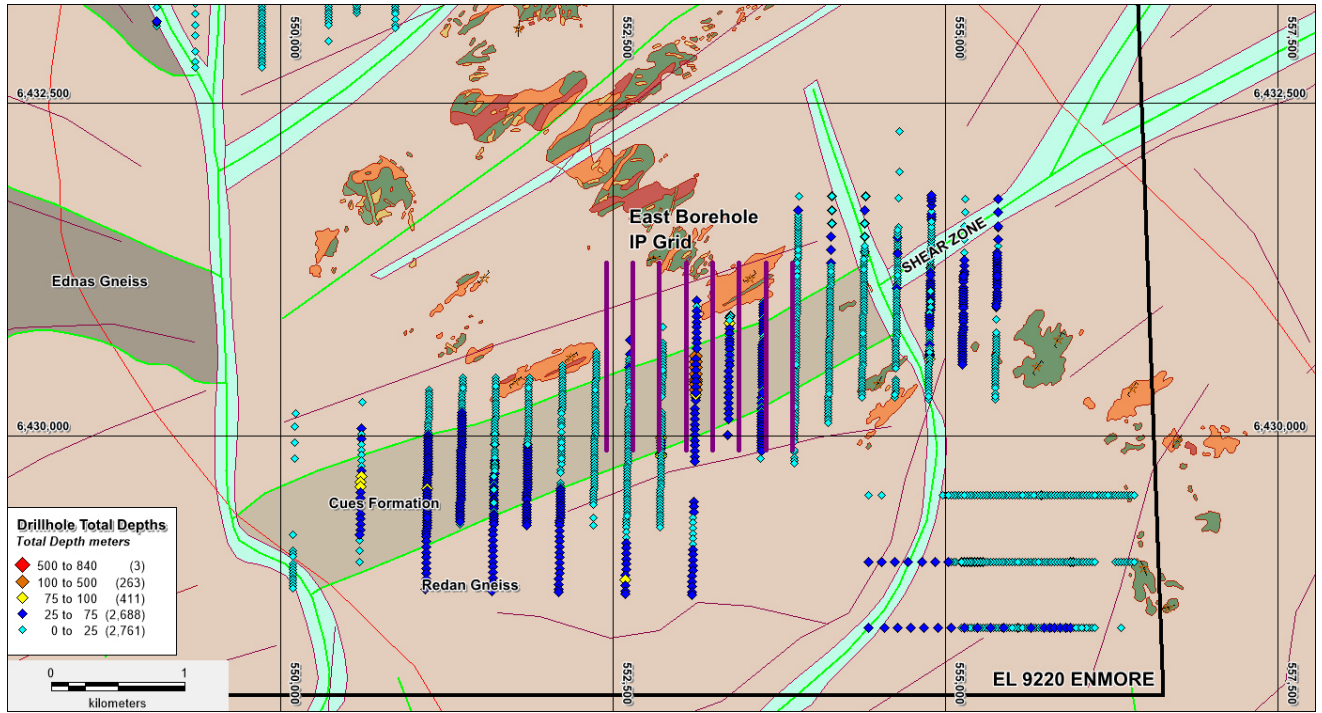
**MULCULCA FORMATION.** Abundant metasedimentary composite gneiss, variable sodic plagioclase - quartz - magnetite rock, quartz - albite - magnetite gneiss, minor quartz - magnetite rock common, minor basic gneiss, albite - hornblende-quartz rock.

**EDNAS GNEISS.** Quartz - albite - magnetite gneiss, sodic plagioclase - quartz - magnetite rock, minor albite - hornblende - quartz rock, minor quartzo - feldspathic composite gneiss.

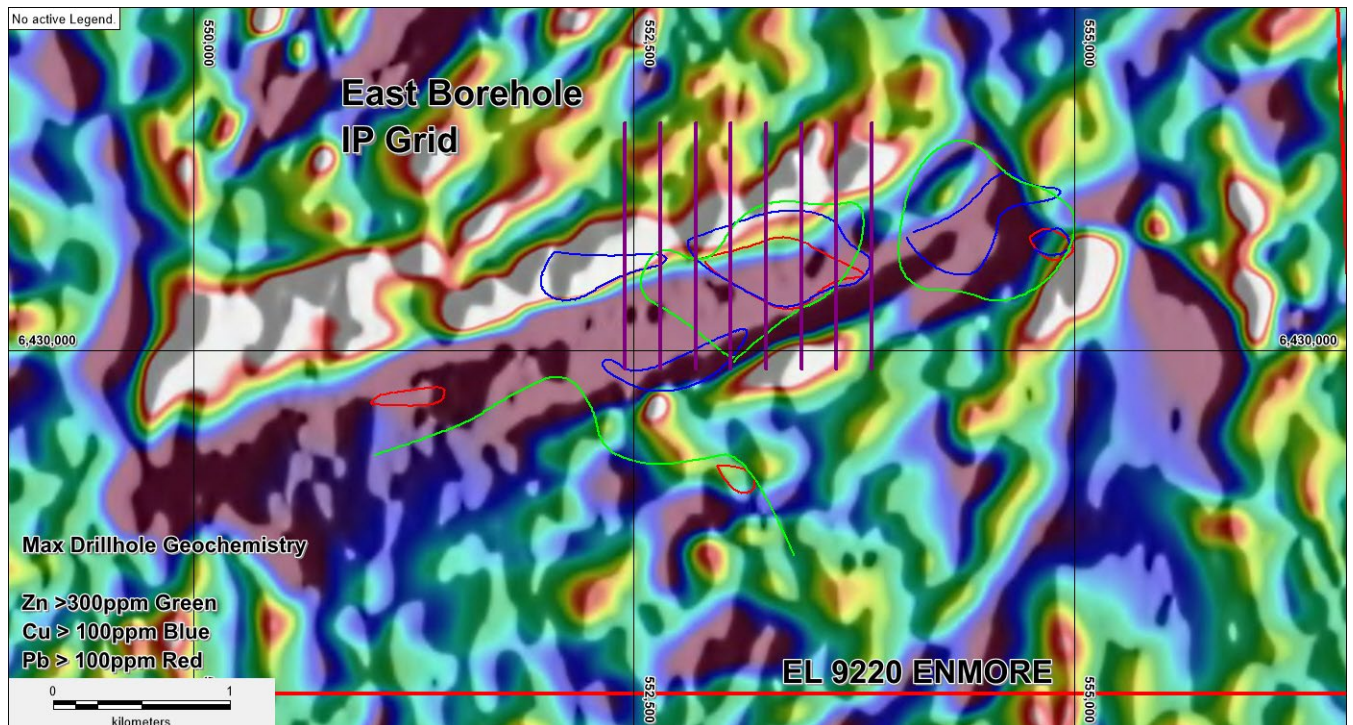
**REDAN GNEISS.** Albite - hornblende - quartz rock, sodic plagioclase - quartz - magnetite rock, minor quartz - albite - magnetite gneiss.

**Figure 7: Stratigraphic Unit Descriptions - GSNSW**

For personal use only



**Figure 8:** East Borehole Solid Geological Interpretation with GSNSW 1:25,000 Redan mapping outcrop polygons overlaid. Also shown is the GSNSW Minview Drilling Dataset codes for depth of drilling in meters.



**Figure 9:** Aeromagnetic RTP Magnetic Image showing the East Borehole IP Grid in purple and the associated low magnetic response of the Cues



## Induced Polarisation Method



*Digging and watering pit for electrode and prepared electrode in the ground*

Induced polarization (IP), is a measure of a delayed voltage response in earth materials. The IP effect is caused by a current-induced electron transfer reaction between electrolyte ions and metallic-luster minerals. IP is a low frequency measurement of the electrical energy storage capacity of the earth. By passing an induced current into the ground and measuring the change in voltage with respect to time, or changes in phase at a given frequency with respect to a reference phase, the IP effect can be determined.

To produce an IP effect, fluid-filled pores must be present since the rock matrix is basically an insulator. The IP effect becomes evident when these pore spaces are in contact with metallic-luster minerals, graphite, clays, or other alteration products. IP effects make the apparent resistivity of the host rock change with frequency -- generally the rock resistivity decreases as the measurement frequency increases.

The Tx electrode is a 1-metre-long x 150 mm x 5 mm mild steel plate that is buried at about 200 mm deep and soaked with water. These are picked up after the dirt is put back into the hole. After the first rain shower it may be difficult to find the Tx location. The receiver pots are coffee cup size and are buried into a mud slurry, these leave a small round hole about 100 mm deep after use.

### **Next Phase of Exploration at EL 9220**

- Complete last two lines planned for the East Borehole IP Survey and process the output data.
- Fine fraction soil grid sampling of the Clues Formation in the NW of the tenement where there has been very little exploration apart from a small historic shallow drilling program in the south of the area (**Figure 3**).
- Complete interpretation and assessment of the results of the IP survey to consider possibility of RC drill testing at the East Borehole Prospect

### **Competent Person Statement**

*The information in the report above that relates to Exploration Results, Exploration Targets and Mineral Resources is based on information compiled by Mr Mark Derriman, who is the Company's Consultant Geologist and a member of The Australian Institute of Geoscientists (1566). Mr Mark Derriman has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activities which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves. Mr Mark Derriman consents to the inclusion in this report of matters based on his information in the form and context in which it appears.*

### **Forward-Looking Statement**

*This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward-looking statements. Although Ausmon Resources Limited believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.*

Authorised by:

Eric Sam Yue  
Executive Director/Secretary

T: 02 9264 6988

E: [office@ausmonresources.com.au](mailto:office@ausmonresources.com.au)