

ASX:EMS Level 8, 210 George Street Sydney NSW 2000 1300 737 760 info@easternmetals.com.au

# ASX:EMS

ACN 643 902 943

#### CAPITAL STRUCTURE

Share Price: A\$0.013 Cash: A\$0.2M Debt: Nil Ordinary Shares: 113.7M Market Cap: A\$1.5M Enterprise Value: A\$1.3M Options: 2.3M (3years/30c) 20.3M (3years/10c) 10.0M (3years/6c)

#### **BOARD OF DIRECTORS**

**Dr Jason Berton** Non-Executive Chairman

#### Mark Dugmore Independent Non-

Executive Director

# lan White

Independent Non-Executive Director

CHIEF EXECUTIVE OFFICER Ley Kingdom

# COMPANY SECRETARY & CHIEF FINANCIAL OFFICER

lan Morgan

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# 31 January 2025

# **DECEMBER 2024 QUARTERLY ACTIVITIES REPORT**

Drill assays from Browns Reef returned high-grade gold and copper mineralisation; IP survey defines new drill targets at Home of Bullion

# HIGHLIGHTS

# **Cobar Project, NSW**

- Reconnaissance drilling completed at Kelpie Hill, Windmill Dam and Evergreen prospects.
- Assay results from Kelpie Hill show significant high-grade gold plus base metal mineralisation:
  - 7m @ 4.3g/t Au, 2.7g/t Ag, 0.3% Pb from 50m and 1m @ 4.17g/t Au, 2.7g/t Ag from 82m (KHRC001)
  - 3.05m @ 3.9% Zn, 2% Pb, 29.5g/t Ag from 298.5 and 0.5m @ 7.2% Zn,
    2.4% Pb from 299m (KHRC003) (ASX:EMS 23 October 2024)
- Results from Windmill Dam show disseminated copper mineralisation:
  - 20m @ 0.3% Cu from 186m and 30m @ 0.15% Cu from 271m (WDRCDD001) (ASX:EMS 29 October 2024)
- Assay results from Evergreen have extended the strike extent of known mineralisation by a further 50m to the NNW:
  - 2.4m @ 0.6g/t Au, 5g/t Ag, 1.9% Pb and 3.7% Zn from 163.6m, including 0.5m grading at 1.47g/t Au from 164.5m (BRD022) (ASX:EMS 29 October 2024)
- Induced Polarisation (IP) survey due to commence in Q3 FY2025 to help define and prioritise targets for follow-up drill testing.

# Arunta Project, NT

- IP survey defined three new geophysical anomalies directly along strike from the Home of Bullion deposit, representing follow-up drill targets.
- The area offers strong potential for the discovery of additional high-grade, structurally controlled VMS-style lodes along a magnetic high trend.
- NT drilling approvals to be progressed for drilling in CY2025.

# Corporate

• Experienced mining executive Dr Jason Berton appointed as Non-Executive Chair following the retirement of Mr Bob Duffin from the Board. Eastern Metals Limited (**ASX:EMS**) ("**Eastern Metals**" or "the **Company**") is pleased to present its Quarterly Report for the period ending 31 December 2024.

# **EXPLORATION UPDATE**

# **COBAR PROJECT, NSW**

Eastern Metals' focus within the 100%-owned Cobar Project in NSW is the **Browns Reef** zinc-lead-silver-copper-gold deposit (**Figure 1**).



Figure 1: Location of the Cobar Project, southern Cobar Basin, NSW and EL6321, Browns Reef<sup>1</sup>.

<sup>&</sup>lt;sup>1</sup> The third-party projects are not considered by the Company to be peer comparisons to the Company's projects; Eastern Metals is a mineral explorer, not a mineral producer. The third-party projects listed are from producing operations or approved mining projects. Information extracted from each company's website, market announcements, presentations and reports lodged during the FY2023 and FY2024 periods.

### **EL6321 Browns Reef**

Browns Reef (EL6321) is an 'advanced exploration project' located 5km west of Lake Cargelligo in the southern Cobar Basin, NSW (**Figure 2**). Historical and current data shows that the main mineralised trend has good continuity from south of Browns Reef through Evergreen, Kelpie Hill and historical prospects to the north for ~6km and is open to both the north and south. This trend has been ascribed to the Woorara Fault, a crustal scale structure with several spatially related mineral occurrences, including Wirlong and Browns Reef.

Eastern Metals completed a Reverse Circulation (RC) drilling program during the December Quarter to test high-priority targets. The drilling tested two new targets, Kelpie Hill and Windmill Dam, as well as the more advanced Evergreen prospect (**Figure 2**).



Figure 2: Location of EL6321 (Browns Reef) and the Kelpie Hill, Windmill Dam & Evergreen prospects.

# Kelpie Hill Prospect, Browns Reef (EL6321)

Three Reverse Circulation percussion ("RC") holes were completed at the Kelpie Hill prospect for 560 metres. Two of the holes (KHRC001 and KHRC002) directly targeted a strong lead-arsenic soil geochemical anomaly, while the third (KHRC003) was drilled as a pre-collar for a diamond tail (KHRCDD003) to intersect the target zone at greater depth (see **Figure 3**).



Figure 3: Cross-section of Kelpie Hill drill-holes KHRC001, KHRC002 and KHRCDD003 showing significant intercepts including 7m @ 4.3g/t gold (Au) from 50m downhole.

All three holes intersected anomalous lead-zinc gossanous ironstones, with KHRCDD003 also intersecting primary sulphides below the depth of oxidation. Diamond cored HQ "tails" were drilled to extend holes KHRC002 and KHRC003.

Hole KHRC001, which was extended to a total depth of 243 metres, returned a high-grade gold intercept of **7m @ 4.3g/t gold** (Au) from 50m downhole.

The 50-56 metre interval was logged by the site geologist as "massive red haematitic ironstone, gossanous" in the weathered oxidised zone of the Preston Formation to the west of the interpreted Woorara Fault, a large regional scale structure on the Preston-Clements contact. Refer to **Figure 4**.

Significant intercepts for KHRC001 include:

- 7m @ 4.3g/t Au, 2.7g/t Ag, 0.3% Pb from 50m, including:
  - 1m @ 8.56g/t Au from 51m
- 1m @ 4.17g/t Au, 2.7g/t Ag from 82m
  - 5m @ 3.45g/t Ag, 0.35% Zn from 103m, including:
  - 1m @ 8.3g/t Ag from 106m



Figure 4: Kelpie Hill plan view of drillholes KHRC001, KHRC002 and KHRCDD003 with Pb soil contours, and interpreted faults.

Hole KHRC002 was extended as hole KHRCDD002 with a diamond cored tail from 197 metres to 201.35 metres; however, this hole was abandoned due to drilling complications and did not reach the planned target depth into the Clements Formation on the eastern side of the target zone.

The oxide zone interval 169 to 197 metres is strongly lead anomalous, with the interval 175.5 to 197 metres logged by the site geologist as "strongly silica altered ex-shale and sandstone, often highly ferruginous to gossanous, limonite and haematite stain, pits ex-sulphide, quartz veins".

Significant intercepts for **KHRC002**<sup>2</sup> include:

- 26m @ 0.4% Pb from 171m, including:
  - 6m @ 0.3g/t Au, 2.4g/t Ag, 0.3% Pb from 181m

Hole **KHRC003** was extended as hole KHRCDD003 with a diamond cored "tail" from 120m to 361.6m, successfully intersecting the target zone from 255.4m downhole.

Significant intercepts for KHRCDD003 include:

- 0.5m @ **1.66g/t Au** from 279m
- 3.05m @ 3.9% Zn, 2% Pb, 29.5g/t Ag from 298.5m, including:
  - 0.5m @ 1.5% Zn from 298.5m
  - 0.5m @ 7.2% Zn, 2.4% Pb from 299m
  - 0.5m @ 3.6% Zn from 300.5m
  - 0.55m @ 110g/t Ag, 6.2% Pb, 0.1% Zn from 301m
- 7.85m @ 0.3% Pb and 0.8% Zn from 301.65m, including:
  - 0.35m @ 1.8% Pb and 3.6% Zn from 301.65m
- 2.5m @ 1.7% Zn, 0.3% Pb from 315m, including:
  - 0.5m @ 1.85% Zn from 316m

The main target zone in KHRCDD003 is largely oxidized and strongly iron oxide stained, with gossanous textures present locally from 255.4m downhole (see **Figure 5**).

However, in the sulphide zone below 299m, visible galena and sphalerite were observed in core (see **Figure 6** and refer to Table 1 in the ASX:EMS Announcement dated 23 October 2024 for assays grades).

<sup>&</sup>lt;sup>2</sup> Eastern Metals Ltd (ASX:EMS) ASX Announcement 23 October 2024, 'Shallow High-Grade Gold Zone Intersected at Kelpie Hill'.



Figure 5: Ferruginous-gossanous oxidised Preston Formation sediments, KHRCDD003. Refer to Table 1 in ASX:EMS Announcement dated 23 October 2024 for assay grades.

Of the three holes drilled at Kelpie Hill to date, only KHRCDD003 intersected the target unit partially in the sulphide zone below the depth of oxidation at 294m downhole.

The sulphide zone intersection contains intervals of abundant pyrite, with significant galena and sphalerite, typical of Browns Reef mineralisation (see **Figure 5**).

Oxidation of the target zone at Kelpie Hill extends to approximately 260 metres vertical depth, ~150 metres greater than at Evergreen Prospect located some 800 metres south-east where the depth of oxidation is around 100 metres.

KHRCDD003 also demonstrated that the depth of oxidation is greater over zones originally bearing sulphides than in the adjacent unmineralised sedimentary rocks, where depth to fresh rock is around 100 metres (refer to **Figure 3**).



**Figure 6:** Laminated semi-massive to massive galena-pyrite-sphalerite in hole KHRCDD003, Preston Formation. Refer to Table 1 in ASX:EMS Announcement dated 23 October 2024 for assay grades.

In this context, it is notable that previous drilling at Evergreen by Kidman Resources ("Kidman", ASX:KDR) demonstrated that the oxide zone intersection in hole BRD006 was highly depleted, particularly for zinc and copper, despite being directly above (~175 metres) the high-grade sulphide zone Kidman encountered in hole BRD013- the Evergreen discovery hole<sup>3</sup> (see **Figure 7**).

Grades of oxide zone zinc-lead-silver intersections in Eastern Metals' holes KHRC001 and KHRC002 are comparable to those seen in Kidman's hole BRD006, located about 700m to the north of Evergreen.

<sup>&</sup>lt;sup>3</sup> Kidman Resources Ltd (ASX:KDR) ASX Announcement 22 October 2014, '14.7% Zn in step out hole at Browns Reef'.

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**Figure 7:** Long-section of Pineview, Evergreen and Kelpie Hill showing BRD006 in the depleted zone above the Evergreen discovery hole, BRD013.

Historical and current data show that the main mineralised trend has good continuity from south of Browns Reef through Evergreen, Kelpie Hill and historical prospects to the north for ~6km and is open to both the north and south. This trend has been ascribed to the Woorara Fault, a crustal scale structure with several spatially related mineral occurrences including Wirlong and Browns Reef.

However, from Eastern Metals' soil geochemical data<sup>4</sup>, it is also apparent that thicker, more developed zones are much more localised, raising the probability that another factor is involved, such as cross fracturing and the potential for fault related dilation zones.

Historical geological mapping combined with recent pXRF soil geochemistry, suggest that the main Pb geochemical anomaly at Kelpie Hill has a sinistral (left lateral) offset, inferred to reflect a probable NNE-SSW trending fault. This suggests that the interpreted dilational broadening of the soil anomaly may be related to similar cross-cutting structures at other prospects such as Windmill Dam.

# Windmill Dam, Browns Reef (EL6321)

Windmill Dam is located between areas of known mineralisation at Pineview (the historical Browns Reef shaft) and Evergreen (refer to **Figure 2**) in an area that historically has remained under-explored due to farming activities and land access restrictions.

<sup>&</sup>lt;sup>4</sup> Eastern Metals Ltd (ASX:EMS) ASX Announcement 3 June 2024, 'New High-Priority Targets Identified at Browns Reef, NSW'.

One Reverse Circulation percussion ("RC") hole, WDRC001, targeting a strong lead-arsenic-antimony surface geochemical anomaly, was subsequently extended with an HQ diamond cored tail to a total depth of 359.9m as hole WDRCDD001 (refer to **Figure 8**).



Figure 8: Cross-section of Windmill Dam drillhole WDRCDD001 showing significant intercepts.

Broad copper-rich zones and metal zonation intersected within WDRCDD001 suggest that a potential heat and mineralisation source is more proximal to this drill-hole than in previously drilled prospects along the Browns Reef trend.

Texture destroying, intense phyllic (silica-sericite) alteration was intersected within the Clements Formation from approximately 216m down-hole, interpreted as evidence that an intrusive feeder zone may be present below. Refer to **Figure 9**.



**Figure 9:** Intense texture destroying phyllic (silica-sericite) alteration present within WDRCDD001 from 215.62m to 218.93m.

Significant intercepts for WDRCDD001 include:

- 0.5m @ 6.7g/t Ag, 0.9% Pb, 0.3% Zn from 162.5m
- 20m @ 0.3% Cu from 186m
- 0.5m @ 7g/t Ag, 1.7% Cu from 189.5m
- 3.2m @ 0.9%Cu from 195m, including:
  - 0.5m @ 3.2% Cu from 195m
- 5.5m @ 17.6g/t Ag, 0.2% Cu, 0.6% Pb, 0.7% Zn from 198.5m, including:
  - 1m @ 19.5g/t Ag, 0.4% Cu, 0.3% Pb from 198.5m
  - 0.5m @ 37g/t Ag, 0.2% Cu, 1.3% Pb, 0.6% Zn from 200m
  - 0.5m @ 20g/t Ag, 0.2% Cu, 0.9% Pb, 0.7% Zn from 201m
  - 0.5m @ 29g/t Ag, 0.6% Cu, 1% Pb, 1.7% Zn from 202m

- 1m @ 24.5g/t Ag, 0.2% Cu, 0.9% Pb, 0.7% Zn from 203m
- 30m @ 0.15% Cu from 271m
- 3m @ 2.8g/t Ag, 0.3% Cu from 283m
- 4.5m @ 5.9g/t Ag, 0.3% Cu, 0.2% Pb, 0.6% Zn from 288.5m, including:
  - 0.5m @ 14g/t Ag, 1% Pb, 1.8% Zn from 289.5m
  - 1m @ 5.4g/t Ag, 0.2% Cu, 0.1% Pb, 1 % Zn from 290m.
  - 1m @ 6g/t Ag, 0.8% Cu, 0.1% Pb, 0.1% Zn from 291m

Hydrothermally emplaced gold was mined within coarse, gold-bearing quartz veins hosted in Ordovician sediments in the middle of Lake Cargelligo in the 1870s. These Ordovician sediments are interpreted as the same Clements Formation that lies to the east of the Woorara Fault-Preston Formation unconformity within EL6321.

These gold veins, textures and alteration assemblages observed in core<sup>5</sup>, and recent drilling results – **7m @ 4.3g/t Au** and **20m @ 0.3% Cu** – at Kelpie Hill and Windmill Dam respectively, provide evidence for the potential of a metal bearing intrusive underneath the Browns Reef mineralised trend.

<sup>&</sup>lt;sup>5</sup> Eastern Metals Ltd (ASX:EMS) ASX Announcement 29 October 2024, 'Final Assay Results from Cobar Project Confirm Potential'.





Figure 10: Plan view of recently drilled holes and inferred faults. Adapted from EZ mapping, 1982.

# **Evergreen Prospect, Browns Reef (EL6321)**

Two holes (BRD022 and BRD023) were drilled to test for an extension to the north of the known mineralised zone at Evergreen.

Both were pre-collared using RC to 120m, with one hole (BRD022) drilled to 236.9m with an HQ diamond core tail. Refer to **Figure 11**. Due to the width of the intersection in BRD022, the diamond tail for BRD023 has been deferred pending completion of an IP survey.

BRD022 was drilled as a step-out approximately 50m NNW from hole BRD019 drilled by Eastern Metals in 2022 (12.5m 10.8% Pb+Zn+Cu, 17g/t Ag, 0.5 g/t Au).<sup>6</sup>

Geological logging of BRD022 revealed patchy, semi-massive sulphides including pyrite, sphalerite and minor galena from 163-165.5m. It was also noted that the basal Preston Formation sedimentary breccia unit was narrower in BRD022 than in BRD019.

<sup>&</sup>lt;sup>6</sup> Eastern Metals Ltd (ASX: EMS) Announcement 26 April 2022 "High Grade Zinc Zone Discovered at Browns Reef"

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Significant intercepts for BRD022 include:

- 4m @ 1.1% Zn from 154m, including:
  - 0.5m @ 4.7% Zn from 154.5m
- 2.4m @ 0.6g/t Au, 5g/t Ag, 1.9% Pb, 3.7% Zn from 163.6m, including:
  - 0.5m @ 0.58g/t Au, 9g/t Ag, 3.7% Pb, 4.7% Zn from 164m
  - 0.5m @ 1.47g/t Au, 3.6g/t Ag, 1% Pb, 0.7% Zn from 164.5m
  - 0.7m @ 0.37g/t Au, 4.6g/t Ag, 1.9% Pb, 0.5% Zn from 165m
- 1.8m @ 3.4% Zn from 187.7m

A narrow, mineralised zone was intersected from 163.6 to 166m in BRD022, with visible pyrite, galena and sphalerite. Refer to **Figures 15 and 16**. Two other mineral-rich zones were intersected from 154 and 187.7m downhole.

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**Figure 12:** BRD022 main mineralised intersection between 163.6-166m down-hole. Intercepts included 2.4m @ 0.6g/t Au, 5g/t Ag, 1.9% Pb and 3.7% Zn including 0.5m @ 1.47g/t Au, 3.6g/t Ag, 1% Pb and 0.7% Zn from 164.5m.



**Figure 13:** BRD022, 164.5-164.7m showing strong silica alteration in the Preston Formation with 0.5m @ 1.47g/t Au, 3.6g/t Ag, 1% Pb and 0.7% Zn from 164.5m.

Thinning of the sedimentary breccia unit noted in BRD022 may be a consequence of syndepositional faulting with an inferred NE trending fault, which may have also impacted the mineralisation process. Refer to **Figure 10**.

Constraint of the higher-grade mineralised Evergreen zone between NE-SW fault offsets of the principal NNW Woorara Fault and the Browns Reef mineralised trend, would be consistent with development of dilational zones, where the thickness of the sedimentary breccias provides evidence that these faults are growth faults developed during sedimentation. More speculatively, the faults may have acted as conduits for mineralising fluid flow.

Results from recent soil geochemical data<sup>7</sup> suggest that thicker, more developed zones are more localised, raising the probability that another factor is involved, such as cross fracturing and the potential for fault-related dilation zones.

Geological mapping combined with soil geochemistry suggests that the main Pb geochemical anomaly at Windmill Dam has a sinistral (left lateral) offset. Similar cross-cutting structures with

<sup>&</sup>lt;sup>7</sup> Eastern Metals Ltd (ASX:EMS) ASX Announcement 3 June 2024, 'New High-Priority Targets Identified at Browns Reef, NSW'.

spatially related dilational broadening of soil anomalies are suspected to be present at several other locations including Kelpie Hill (refer to **Figure 10**).

Also of note in WDRCDD001 is phyllic (silica-sericite) alteration with associated Zn-Pb-Cu-[Ag-Au] sulphide mineralisation in Ordovician Clements Formation sandstone and shale. The sulphide mineralisation at Browns Reef has historically been considered to be confined to the Devonian aged Preston Formation and not impacting the underlying Ordovician Clements Formation. Strong, locally constrained breccia and vein sulphide mineralisation and associated sericite-silica alteration within Clements Formation in WDRCDD001 suggest there may be an unidentified intrusive cross-cutting the Ordovician stratigraphy, perhaps utilising fault structures within the area as conduits.

# **ARUNTA PROJECT, NT**

The Arunta Project, which is located in the Northern Territory east of the Stuart Highway between Alice Springs and Tennant Creek near the township of Barrow Creek, comprises two groups of tenements, 'Neutral Junction' in the north and 'Adnera Hill' to the south.

The Company's core focus within the Arunta Project is the Home of Bullion deposit (EL23186), which hosts a 3.1 million tonne resource grading 2.9% CuEq<sup>8</sup>, Mulbangas and Prospect D. The locations of these tenements are shown in **Figure 14**.

<sup>&</sup>lt;sup>8</sup> Refer to the Mineral Resources Holdings table on page 30 and Appendix A on page 31 of this report for further details.







# Home of Bullion (EL23186)

An updated Mineral Resource estimate (3.1 million tonnes, 2.9% CuEq) for the Home of Bullion copper deposit was released by the Company in the March 2023 Quarter<sup>9</sup>.

During the December 2024 Quarter, a ground-based geophysical IP survey was completed at the Arunta Project, with the survey successfully outlining three new geophysical anomalies directly along strike to the north-west and south-east from the polymetallic (Cu-Zn-Ag-Pb-Au-Co) Home of Bullion deposit.

<sup>&</sup>lt;sup>9</sup> Refer ASX EMS Announcements of 8 March 2023 and 10 March 2023, 'Resource Grows at Home of Bullion Copper Project'.

Two of the three anomalies (Line 18800E and Line 19200E), located 400m and 800m to the northwest of Home of Bullion, show broad conductivity and chargeability anomalies at about 150m below surface and sit on the same magnetic-high ridge as the Home of Bullion Main Lode.

The third anomaly, located about 600m to the south-east (Line 20200E), coincides with the magnetichigh ridge which is considered similar in shape and intensity to the Home of Bullion response and could potentially represent a deep target. Previous electromagnetic (EM) survey results did not show any strong response within this area, suggesting that the source is either too deep, low-grade or is dominated by disseminated rather than massive pyrrhotite or chalcopyrite. There has been no drilling in this area, and it is currently untested.

The IP survey was conducted across EL23186 from 13 September 2024 to 9 October 2024 by Fender Geophysics. The survey was designed along strike from the Home of Bullion deposit to be consistent with the orientation of the Bullion Schist host rock and the structural framework of the known areas of mineralisation.

IP surveying is regularly used in minerals exploration to help define concentrations of sulphide minerals, including VMS-style deposits such as Home of Bullion. An IP survey was proposed as it is sensitive to a wider range of targets than EM and much of the Home of Bullion area has been covered by EM surface surveys.

Initially, the survey was designed as an extensive, low resolution, gradient array IP investigation of the magnetic-high trend between the Home of Bullion prospect and Mulbangas, which lies ~9km to the north-west. Gradient array was proposed to allow greater coverage in a shorter timeframe; however, it was contingent upon a trial line over the Home of Bullion deposit to determine if gradient array would be effective.

The gradient array trial survey was not completed due to land access restrictions on EL28615 and EL32027, so the survey design was modified to be a smaller, targeted, higher resolution survey with 100m pole-dipole IP (PDIP) only within EL23186. However, a gradient array line with 50m station spacing was recorded over Home of Bullion (Line 19600E) to enable future informed decision-making about the wider application of gradient array IP for this type of target and mineralisation.

The trial line of gradient array showed that, while the Home of Bullion deposit was detectable, the weak signal would unlikely be recognisable under significant cover. In contrast, a PDIP line completed over the same line 19600E revealed strong chargeability and resistivity anomalies detectable over the main lode positions (refer to Figure 14), so the remaining survey lines were completed with PDIP. Data quality was considered excellent for the entirety of the survey with very little noise; however, only a slight variation was present, indicating that while anomalies were present, they are weak.

The IP survey is considered to have successfully mapped the known mineralisation as a discrete but relatively weak chargeability high and resistivity low anomaly.

It has been noted by Mitre Geophysics, the consulting group which processed and analysed the IP data, that the Jervois deposit located to the south-east of Home of Bullion in the same geological Aileron Province (refer to **Figure 14**), shows poor surface EM due to the low conductivity of the mineralisation; Home of Bullion could be similar.

The Home of Bullion Main Lode Upper and South Lode show up clearly in the PDIP survey chargeability and resistivity 2D section (refer to **Figure 15**). These anomalies are by far the highest amplitude responses within the survey, but this does not necessarily indicate lack of prospectivity elsewhere and may be a function of the relatively shallow depth of these lodes.

Resistivity is considered an unlikely diagnostic tool in exploration at Home of Bullion, as there are not sufficient sulphides to significantly influence the ground bulk resistivity.



**Figure 15:** Line 19600E pole-dipole IP chargeability model 2D depth section with nearby drillholes. Red polygons depict Home of Bullion lode wireframes. Source: Mitre Geophysics.

Several moderate chargeability anomalies were identified by Mitre Geophysics with three considered to be worth follow-up (**Figure 16**). The anomaly located to the south-east on Line 20200E is considered the most interesting by Mitre Geophysics (refer to **Figure 15**).

The three IP anomalies correlate well with a structural model prepared by PGN Geoscience (PGN) in July 2013 when Home of Bullion was held by the now unlisted Kidman Resources Ltd. Line 20200E potentially corresponds to the "nose" or hinge zone of a WNW-trending anticlinal structure identified

by PGN in the field (**Figure 17**)<sup>10</sup>. It is also thought that high shear strains during deformation affected the fold limbs causing mineralisation to become thinned, lenticular and pod-like along strike, which may correspond to the anomalies identified along lines 8800E and 19200E, located 800m and 400m respectively to the north-west.



**Figure 16:** Perspective view of pole-dipole IP chargeability model 2D depth sections. Home of Bullion mineralisation shown as red polygons and 2013 magnetics model 0.0075SI iso-surface shown in blue. Priority anomalies circled in red. Source: Mitre Geophysics.

<sup>&</sup>lt;sup>10</sup> Dr J Stewart, PGN Geoscience. Home of Bullion Structural Project, Barrow Creek, NT, July 2013.



**Figure 17:** Plan view of simplified structural interpretation with TMI background image. Source: Adapted from Dr John Stewart, PGN Geoscience 2013.

# South-east Line 20200E Anomaly

The Line 20200E is considered a deep target that coincides with a magnetic-high ridge. This anomaly is located 600m along strike to the south-east and appears similar in size and shape to the Home of Bullion anomaly (Line 19600E). Both exhibit chargeability and conductivity anomalies coincident with magnetic anomalies (**Figure 18**). A high-density zone in the gravity model also coincides with the IP response.

Previous electromagnetic (EM) survey results did not show any strong response within this area, suggesting that the source is either too deep or is dominated by disseminated rather than massive pyrrhotite or chalcopyrite. There has been no drilling in this area, and it is currently untested.



Figure 18: Line 20200E chargeability and resistivity sections with 3D inversion of magnetics. Dots are gravity model. Source: Mitre Geophysics.

### Northwest Line 18800E & Line 19200E Anomalies

Line 18800E and Line 19200E, located 800m and 400m to the north-west of Home of Bullion respectively, show broad conductivity and chargeability anomalies at about 150m below surface. Both anomalies appear to sit on the same magnetic-high ridge as the Home of Bullion Main Lode (Upper and Lower). Refer to **Figure 19**. Previous down-hole EM work partially covers these two anomalies.



Figure 19: Line 18800E and Line 19200E chargeability and resistivity (ohm.m) sections with 3D inversion of magnetics. Dots are gravity model. Source: Mitre Geophysics.

#### Prospect D (EL23186)

In partnership with Independence Group Limited (ASX:IGO), Eastern Metals conducted a soil sampling program over Prospect D, the only known Ni-Cu mineralisation associated with ultramafic and mafic intrusives in the Aileron Province. Refer to **Figure 20**.

IGO currently hold multiple tenements to the north-west of EL23186 including a potential Ni-Cu sulphide project named Raptor which is 150km to the north-west of EL23186.

A total of 24 soil samples were taken from 20cm depth on two, 50-100m spaced traverses across the Prospect D. Sampling locations were chosen to avoid previous drilling or costean areas which may have been contaminated. Vegetation samples were also taken from Ghost Gums in the costean areas to identify the potential for these to demonstrate elevated Ni levels. Ghost Gums were chosen as they are native to Western Australia and can be taken into the state from the NT.

The aim of the soil and vegetation sampling program conducted at Prospect D was to trial the ability of soil samples to be able to detect patterns of Ni dispersion away from the known magmatic Ni-Cu mineralisation within the same geological province as the IGO Raptor project, and to trial a cost-effective geological sampling method that could be replicated over a large area.



Figure 20: Simplified geology Prospect D and historic drilling results.

# CORPORATE

### **Appointment of Non-Executive Chairman**

During the Quarter, Eastern Metals appointed experienced mining executive, Dr Jason Berton, as the Company's Non-Executive Chairman. Dr Berton's appointment followed the recent retirement of Mr Bob Duffin from the Board.

Dr Berton has been on the Board of Eastern Metals as a Non-Executive Director since before its listing in October 2021, and is a seasoned, well-credentialled corporate director who brings extensive entrepreneurial, corporate and technical skills to the Company. He is currently the Managing Director of PolarX Ltd, where he played a major role in negotiating the acquisition of key tenements in North America, and a former Managing Director of Estrella Resources Ltd. He is also a Non-Executive Director of Lithium Plus Minerals Ltd.

Dr Berton's honours thesis focused on the geology of the Lake Cargelligo area in New South Wales, close to the Company's Cobar Project, and his doctorate was in structural geology. He commenced his career at the Plutonic Gold Mine in Western Australia, before moving to BHP Billiton in South Australia, where he worked on the Olympic Dam Mine expansion project. He has also previously worked with SRK, an international firm of consulting geologists, and spent two years in private equity assessing resource sector investment opportunities.

Eastern Metals would like to acknowledge Bob Duffin for his service and wish him well for the future.

# FINANCIAL OVERVIEW

# **Cash position**

Eastern Metals held cash reserves at the end of the Quarter of approximately \$156,000.

During the Quarter, Eastern Metals' cash expenditure for exploration and evaluation totalled approximately \$698,000. Full details of exploration activity during the Quarter are included in this Quarterly Activities Report. There were no substantive mining production and development activities during the Quarter.

# **Shareholder Information**

As at 31 December 2024, the Company had 561 shareholders and 113,676,245 ordinary fully-paid shares on issue, with the top 20 shareholders holding 48% of the total issued capital.

# Payments to Related Parties of the Entity and their Associates

During the quarter ending 31 December 2024, the aggregate amount of payments to related parties and their associates totalled \$55,000 including GST for directors' fees.

### **Forward-Looking Statements**

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning the Company's planned activities, including mining and exploration programs, 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. In addition, summaries of Exploration Results and estimates of Mineral Resources and Ore Reserves could also be forward looking statements.

Although Eastern Metals 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.

### **Previously Reported Information**

Certain information in this announcement references previously reported announcements. The announcements are available to view on the Company's website (www.easternmetals.com.au) and on the ASX website (www.asx.com.au). Other than the information set out in this announcement, the Company confirms that it is not aware of any new information or data that materially affects the information included in the previous announcements and that all material assumptions and technical parameters underpinning the exploration results continue to apply and have not materially changed.

#### **Authorisation for this Announcement**

This announcement has been authorised for release by the Company's Disclosure Officers in accordance with its Disclosure and Communications Policy which is available on the Company's website, www.easternmetals.com.au.

#### Contacts

For more information, please contact:

# Ley Kingdom

Chief Executive Officer leykingdom@easternmetals.com.au M: 0407 487 409



# **TENEMENT INTERESTS**

Tenure	Location	Company's Interest	Holder	Status
EL23186	Home of Bullion, Northern Territory	100%	Company	Current
EL28615	Donkey Creek, Northern Territory	100%	Company	Current
EL32027	Barrow Creek, Northern Territory	100%	Company	Current
EL24253	Mount Skinner, Northern Territory	75.14%	Mithril <sup>11</sup>	Current
EL29475	Adnera, Northern Territory	100%	Company	Renewal lodged <sup>12</sup>
EL30797	Ooralingie, Northern Territory	100%	Company	Current
EL31292	Buggy Camp, Northern Territory	100%	Company	Renewal lodged
EL6321	Browns Reef, New South Wales	100%	Company	Current
EL9180	Tara, New South Wales	100%	Company	Current
EL9136	Bothrooney, New South Wales	100%	Company	Current
EL9565	Black Range, New South Wales	100%	Company	Current

Eastern Metals' tenement holding as of 31 December 2024.

There were no tenements acquired during the December Quarter.

The divestment and transfer of EL9190 and EL9194<sup>13</sup> was finalised during the December Quarter.

<sup>&</sup>lt;sup>11</sup> Tenement held by Mithril Resources Limited (ASX: MTH) (Mithril). The 75.14% interest held by Bowgan Minerals Ltd (Bowgan) in the Joint Venture is pursuant to a Joint Venture Agreement dated 26 April 2011 between Mithril Resources Ltd, Mega Hindmarsh Pty Ltd and Bowgan.

<sup>&</sup>lt;sup>12</sup> Renewal applications for EL29475 and EL31292 were lodged with the NT Department of Mining & Energy on 4 December 2024. These licences remain current and in good standing until the application is assessed and approved by the regulator.

<sup>&</sup>lt;sup>13</sup> Eastern Metals Ltd (ASX:EMS) ASX Announcement 24 June 2024, 'Thomson Project Sold for \$200,000 Plus 1.5% NSR'.

# **MINERAL RESOURCES HOLDINGS**

Eastern Metals' resource inventory comprises the Home of Bullion Resource (NT).

# HOME OF BULLION RESOURCE ESTIMATE<sup>14</sup>

Lode	Weathering	Class	Tonnage (kt)	Density	CuEq %	Cu %	Zn %	Ag ppm	Pb %	Au ppm	Со %
Main Upper	Oxide	Indicated	110	2.7	4.0	2.3	1.0	71	2.6	0.37	0.01
Main Upper	Fresh	Indicated	370	3.8	4.7	2.8	4.1	47	1.2	0.28	0.03
Main Lower	Fresh	Inferred	740	4.3	4.5	2.7	2.9	39	1.1	0.43	0.03
South	Oxide	Inferred	120	2.7	2.1	1.4	1.3	19	0.7	0.02	0.01
South	Fresh	Inferred	1,100	3.8	2.5	1.4	1.7	40	1.2	0.05	0.02
South LGFW <sup>15</sup>	Oxide	Inferred	40	2.7	0.8	0.4	0.4	10	0.5	0.01	0.00
South LGFW	Fresh	Inferred	580	3.4	0.9	0.4	0.8	14	0.6	0.01	0.01
		Total	3,100	3.7	2.9	1.7	2.0	35	1.1	0.17	0.02
All	Oxide		270	2.7	2.6	1.6	1.0	39	1.4	0.16	0.01
All	Fresh		2,790	3.9	2.9	1.7	2.2	35	1.1	0.17	0.02
		Total	3,100	3.7	2.9	1.7	2.0	35	1.1	0.17	0.02
All		Indicated	480	3.6	4.6	2.7	3.4	53	1.5	0.3	0.03
All		Inferred	2,580	3.8	2.6	1.5	1.8	32	1.0	0.1	0.02
		Total	3,100	3.7	2.9	1.7	2.0	35	1.1	0.17	0.02

<sup>&</sup>lt;sup>14</sup> See the Company's ASX announcements 8 March 2023 and 10 March 2023 for further details.

<sup>&</sup>lt;sup>15</sup> LGFW means low grade footwall unit.

# **APPENDIX A**

# MATERIAL FACTORS CONTRIBUTING TO COPPER EQUIVALENT VALUES

Metal	Prices	Units	Recoveries
Cu	8,900	US\$/t	0.9
Zn	3,300	US\$/t	0.6
Ag	26	US\$/troy oz	0.8
Au	1,850	US\$/troy oz	0.8
Pb	2,500	US\$/t	0.6
Со	57,300	US\$/t	0.6

- All lodes have been reported at 0.5% Cu equivalent (CuEq)<sup>6</sup>.
- CuEq, as well as the six estimated elements, are reported. CuEq has been calculated from the block estimates on a block-by-block basis.
- Copper equivalent is calculated as follows:

CuEq = Cu + (Zn\*0.25) + (Ag\*83.49) + (Au\*5904) + (Pb\*0.19) + (Co\*4.29) (all elements in ppm).

- This calculation is based on the following assumed metal prices and recoveries, which were provided by Eastern Metals Ltd.
- A cut-off grade of 0.5% CuEq is consistent with other comparable copper deposits and can be demonstrated to be break even for base processing costs at approximately US\$45/t ore.

Cut-off (%) = processing cost / (recovery \* price [per % unit]. For example, 0.5 = 45 / (0.9\*100).

• It is the Company's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.

# Appendix 5B

# Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity	
Eastern Metals Limited	
ABN	Quarter ended ("current quarter")
29 643 902 943	31 December 2024

Cons	olidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(698)	(1,073)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(121)	(204)
	(e) administration and corporate costs	(92)	(285)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	-	5
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	31	31
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	(880)	(1,526)

2.	Ca	sh flows from investing activities		
2.1	Pay	ments to acquire or for:		
	(a)	entities	-	-
	(b)	tenements	(3)	(3)
	(c)	property, plant and equipment	(7)	(7)
	(d)	exploration & evaluation	-	-
	(e)	investments	-	-
	(f)	other non-current assets	-	-

Cons	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	150	200
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	140	190

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	475
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	(29)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	-	446

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	896	1,046
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(880)	(1,526)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	140	190
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	446

Cons	olidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	156	156

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	156	641
5.2	Call deposits	-	255
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	156	896

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000			
6.1	Aggregate amount of payments to related parties and their associates included in item 1 <sup>1</sup>	55			
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-			
Note: ii explan	Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.				

<sup>&</sup>lt;sup>1</sup> Aggregate amount of payments to related parties and their associates totals \$55,220 including GST, consisting of \$55,000 directors' fees and \$220 reimbursement of expenses. Directors' fees payable at 31 December 2024 totalled \$32,541 (30 September 2024 \$46,750).

7.	<b>Financing facilities</b> Note: the term "facility' includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000	
7.1	Loan facilities	-	-	
7.2	Credit standby arrangements	-	-	
7.3	Other (please specify)	-	-	
7.4	Total financing facilities	-	-	
7.5	Unused financing facilities available at quarter end			
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.			
	Not applicable.			

8.	Estimated cash available for future operating activities	\$A'000	
8.1	Net cash from / (used in) operating activities (item 1.9)	(880)	
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-	
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(880)	
8.4	Cash and cash equivalents at quarter end (item 4.6)		
8.5	Unused finance facilities available at quarter end (item 7.5)		
8.6	Total available funding (item 8.4 + item 8.5)		
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)	0.18	
	Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.		
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions:		
	8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?		
	Answer: No, during the quarter ended 31 December 2024, the Company's cash expenditure on drilling and geophysics totalled \$453,000, which is discretionary expenditure.		
	It is planned that there would be no future discretionary exploration costs until new financing is raised. Future exploration expenditure will be dependent on available funds from finance raised at that time. The Company is presently actively seeking new funding.		
	8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?		

Answer: Yes, the Company is presently engaging with interested parties to raise further cash and fund its operations.

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Yes, the Company expects that its presented engagement with interested parties will result in raising further cash to fund the Company's operations.

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

# **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 31 January 2025

#### Authorised by: Company Disclosure Officers<sup>2</sup> (Name of body or officer authorising release – see note 4)

#### Notes

- 1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
- 2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
- 4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
- 5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.

<sup>&</sup>lt;sup>2</sup> In accordance with its Disclosure and Communications Policy which is available on the Company's website www.easternmetals.com.au