

ASX Announcement

22 July 2024

# Mallina West Gold Project Exploration Update

## Highlights

- Kalamazoo's recently completed detailed targeting studies have identified several "Hemi-style" intrusion-related gold targets within its Mallina West Gold Project, Pilbara WA
- These studies included the recent collection of detailed gravity surveys in addition to 3D magnetic and gravity modeling across two high priority prospect areas
- At the Wattle Plains Prospect geophysical modelling has identified a close spatial correlation with Kalamazoo's previous high-grade gold intersection of 1m @ 10.35 g/t Au from 99-100m (KAMRC0016)<sup>1</sup> which is open in all directions
- Kalamazoo's utilisation of structural and surface geochemistry targeting with 3D aeromagnetic and gravity data modelling is proving effective in identifying Hemi-style gold mineralised targets
- Exploration activities are ongoing, focused on advancing high-priority targets towards drill-testing

## Kalamazoo's CEO Dr Luke Mortimer said today,

"Located along the same major shear zone structure as De Grey Mining's nearby world-class 10Moz Hemi gold discovery, our Mallina West Gold Project is considered highly prospective for similar style gold mineralisation. Kalamazoo's recent gravity surveys, combined with existing aeromagnetic and surface geochemistry data, have delivered several high priority Hemi-style drill targets. Importantly, one of these targets is coincident with Kalamazoo's recent RC drillhole which reported an open end-of-hole high-grade intercept of **1m @ 10.35 g/t Au (**KAMRC0016). Kalamazoo is extremely encouraged by these results and is planning ongoing exploration activities on these targets".

**Kalamazoo Resources Limited (ASX: KZR) ("Kalamazoo" or "the Company")** is pleased to advise that the results from two recently completed gravity surveys at the Mallina West Gold Project ("Mallina West"), Pilbara WA, have revealed several intrusion-related gold targets for follow-up drill testing. These detailed gravity surveys were designed to further delineate highly prospective Hemi-style gold targets previously identified from existing soil geochemistry, aeromagnetic and drill hole data.

Kalamazoo Resources Ltd ACN: 150 026 850 | ASX: KZR Head Office Unit 3, 328 Reserve Road, Cheltenham 3192, Victoria WA Office 16 Douro Place, West Perth 6005, Western Australia

Phone 1300 782 988 | Fax +61 8 6500 1225 admin@kzr.com.au | kzr.com.au



<sup>&</sup>lt;sup>1</sup> ASX: KZR 16 November 2022



The Mallina West Gold Project (E47/2983, E47/4489, E47/4490 and E47/4491) covers 118km<sup>2</sup>. The area has been identified for intrusion-related and other styles of gold mineralisation associated with the Wohler Shear Zone, a prospective splay of the Tabba Tabba, Mallina, Withnell and Berghaus Shear Zone complex (Figure 1). The Pilbara region has seen a renewed focus on gold exploration due to the recent world-class 10Moz Hemi Project gold discovery by De Grey Mining Limited (**ASX: DEG**) ("De Grey") that has highlighted the economic potential of these gold mineralised intrusions<sup>2</sup>. Kalamazoo's Mallina West Gold project is also located 15km from De Grey's highly prospective intrusion style Toweranna prospect.



Figure 1: Mallina West Gold Project Tenement Location Map

Kalamazoo initially identified five high priority prospect areas at the Mallina West Gold Project based on its soil geochemistry surveys as well as existing aeromagnetic data<sup>3</sup>. In 2022 Kalamazoo completed a maiden reconnaissance reverse circulation ("RC") drilling program at the Wattle Plains, Hockey, and a portion of its "Intrusion Target Area" Prospects consisted of 23 x RC drill holes (2,434m) before it was halted early due to unseasonal rain and flooding (Figure 2)<sup>4</sup>.

The drill program intersected several gold anomalous intervals including a significant high-grade intercept at the Wattle Plains Prospect of **1m @ 10.35 g/t Au from 99-100m (KAMRC0016)** (Figure 3). Critically, this high-grade intercept occurs at the end of the final hole of a particular reconnaissance drill traverse and is open in all directions. At the time, the relationship to the magnetic anomaly spatially associated with this drill hole was unknown. Given the reconnaissance nature of this drilling program Kalamazoo considered this result to be highly encouraging and warranted further investigation.

<sup>&</sup>lt;sup>2</sup> ASX: DEG 28 September 2023

<sup>&</sup>lt;sup>3</sup> ASX: KZR 5 November 2020

<sup>&</sup>lt;sup>4</sup> ASX: KZR 9 May 2022





Figure 2: Mallina West gold prospects and gold in soil geochemistry



**Figure 3:** Wattle Plains Prospect – location of gold anomalous RC drill holes on background aeromagnetic (TMI) image. Note the location of the high-grade intersection in KAMRC0016 with respect to a prominent magnetic anomaly.<sup>1</sup>



## Aeromagnetic Data 3D Modelling and Interpretation

In early 2024 the Company commissioned Western Geoscience Ltd to complete 3D magnetic modelling over the Wattle Plains Prospect area to better understand the relationship between the aeromagnetic anomalies and Kalamazoo's previous soil geochemistry and drilling results (Figures 4 and 5). This resulted in 3D magnetic models revealing several interpreted magnetic intrusions that Kalamazoo considers prospective as Hemi-style targets (Figure 4). Importantly, a detailed review of the 3D models with respect to the high-grade KAMRC0016 gold intercept indicated a close spatial association between the gold mineralisation and an interpreted magnetic intrusion (Figure 5).



Figure 4: Wattle Plains Prospect 3D modelled magnetic anomalies with KZR RC drillholes on background aeromagnetic (TMI) image





Figure 5: Wattle Plains Prospect 3D magnetic model cross-section through RC drillholes KAMRC0012-0021 with respect to KAMRC0016 high-grade gold intercept (see Figure 4 for location)

## 2024 Gravity Survey Results

Following on from Kalamazoo's 3D magnetic modelling results, two high priority prospects, "Satirist" and "Wattle Plains", were selected for additional detailed gravity surveying (Figures 6-8). Subsequently, Kalamazoo engaged Atlas Geophysics Pty Ltd in May 2024 to complete detailed gravity surveys conducted on 50m spaced lines with 25m stations across both prospects (3,050 gravity stations; Figure 7 and 8).

The results of these comprehensive gravity surveys, combined with the existing aeromagnetic data, has revealed several encouraging coincident aeromagnetic and gravity anomalies at both prospects (Figures 9 and 10). Kalamazoo has interpreted these coincident aeromagnetic and gravity anomalies to be highly prospective intrusion targets which are the focus of ongoing exploration activities and drill program planning.





Figure 6: Location of KZR's 2024 detailed gravity surveys, the Satirist (southwestern survey) and Wattle Plains (northeastern survey) Prospects, with KZR 2022 RC drill holes on background aeromagnetic (TMI) image



Figure 7: Wattle Plains Prospect - location of KZR's 2024 detailed gravity survey and 2022 RC drillholes on background aeromagnetic (TMI) image





Figure 8: Satirist Prospect - location of KZR's 2024 detailed gravity survey on background aeromagnetic (TMI) image



**Figure 9**: Wattle Plains Prospect: Image of coincident and discrete gravity (colour overlay; detrended 1<sup>st</sup> Order Bouguer image) and aeromagnetic (underlying greyscale; RTP image) anomalies. Note location of high-grade KAMRC0016 gold drill hole intercept.





**Figure 10**: Satirist Prospect: Image of coincident and discrete gravity (colour overlay; detrended 1st Order Bouguer image) and aeromagnetic (underlying greyscale; RTP image) anomalies. Note in addition to the Satirist Prospect three new geophysical targets have been identified.

## Next Steps

Whilst still at an early stage, Kalamazoo's methodology of utilising structural and surface geochemistry targeting combined with aeromagnetic and gravity data modelling is proving effective in identifying intrusion gold mineralised targets. To further develop and advance these newly identified high priority exploration targets, Kalamazoo continues to progress the Mallina West Gold Project by undertaking the following activities:

- Advancing important Native Title and Cultural Heritage agreements
- Ongoing surface geological mapping and surface sampling
- Ongoing target generation exercises
- Drill program designs and requisite permitting

#### For further information, please contact:

Luke Mortimer CEO luke.mortimer@kzr.com.au **Ben Creagh** 

Media & Investor Relations (Australia) benc@nwrcommunications.com.au

#### **Previously Released ASX Material References**

For further details relating to information in this announcement please refer to the following ASX announcements:

ASX: KZR 5 November 2020 ASX: KZR 16 November 2022 ASX: KZR 9 May 2022 ASX: DEG 28 Sept 2023

#### About Kalamazoo Resources Limited

Kalamazoo Resources Limited (ASX: KZR) is an ASX-listed exploration company with a portfolio of high-quality gold and base metals projects in the Central Victorian Goldfields, the Pilbara and the Murchison, WA. In the Pilbara, De Grey Mining have taken an option to purchase Kalamazoo's 100% owned Ashburton Gold Project for \$30 million. Also, in the Pilbara the company is exploring its 100% owned Mallina West project which is located along strike of and within the same structural corridor as De Grey's +10 million ounce Hemi gold discovery. In the Central Victorian Goldfields Kalamazoo is exploring its 100% owned Castlemaine Goldfield Project (historical production of ~5.6Moz Au), the South Muckleford Gold Project south of the Maldon Goldfield (historical production of ~2Moz), the Myrtle Gold Project, the Tarnagulla Gold Project and the Mt Piper Gold Project near the world class Fosterville gold mine in Victoria. Kalamazoo has become the first junior gold explorer operating in Australia to be certified carbon neutral for its business operations under the Federal Government's Climate Active Program, with projected 2024 emissions fully offset achieved with a verified environmental reforestation program in Western Australia.

#### **Competent Persons Statement**

The information in this release in relation to the exploration data for the Western Australian Mallina West Project is based on information compiled by Dr Luke Mortimer, a competent person who is a Member of the Australian Institute of Geoscientists. Dr Mortimer is an employee engaged as the Chief Executive Officer for the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity 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, Mineral Resources and Ore Reserves'. Dr Mortimer consents to the inclusion in this document of the matters based on his information in the form and context in which it appears.

The Company confirms that it is not aware of any further new information or data that materially affects the information included in the original market announcements by Kalamazoo Resources Limited referenced in this report and in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. To the extent disclosed above, the Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

#### Forward Looking Statements

Statements regarding Kalamazoo's plans with respect to its mineral properties and programs are forward-looking statements. There can be no assurance that Kalamazoo's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that Kalamazoo will be able to confirm the presence of additional mineral resources/reserves, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of Kalamazoo's mineral properties. The performance of Kalamazoo may be influenced by several factors which are outside the control of the Company and its Directors, staff, and contractors.



## JORC Code, 2012 Edition | Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

| Criteria                 | JORC Code explanation   | Commentary   |
|--------------------------|---|--|
| Sampling<br>techniques   | <ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul> | <ul> <li>Gravity surveys were performed by Atlas Geophysics Pty Ltd using a Scintrex CG-6 Autograv gravity meter. Location data were acquired concurrently using a CHCi70+ GNSS Rover Receiver and CHCi70+ GNSS Base Receiver.</li> <li>The gravity meter used for the survey had been recently calibrated on the Guildford Cemetery – Helena Valley Primary School calibration range (2010990117 - 2010990217) in Western Australia. The calibration process validated the gravity meter's scale factor to ensure reduction of the survey data produces correct Observed Gravity data from measured dial reading values.</li> </ul> |
| a                        | • Aspects of the determination of mineralisation that are Material to the Public Report.  | • One new GNSS/gravity control station, 202407300001 "North of Wattle Creek" was used to control all field observations throughout the project.  |
| r persor                 | • In cases where 'industry standard' work has been done this<br>would be relatively simple (eg 'reverse circulation drilling was<br>used to obtain 1 m samples from which 3 kg was pulverised to<br>produce a 30 g charge for fire assay'). In other cases more<br>explanation may be required, such as where there is coarse gold<br>that has inherent sampling problems. Unusual commodities or<br>mineralisation types (eg submarine nodules) may warrant<br>disclosure of detailed information.     | <ul> <li>3,050 gravity stations were acquired across two local grids using 50m x 25m regular and angled grid configurations. Atlas Geophysics Pty Ltd completed the acquisition of the dataset with one crew utilising foot-borne gravity methods.</li> <li>Acquisition for the projects commenced on 29 May 2024 and finished on 12 June 2024.</li> </ul>   |
| Drilling<br>Lechniques   | • Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).   | • No new drilling in this report.  |
| Drill sample<br>recovery | <ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure</li> </ul>  | • No new drilling in this report.  |



|   | <ul> <li>representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>  |   |
|---|--|---|
|   | <ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>   | • No new drilling in this report.   |
| Sub-sampling<br>techniques and<br>sample<br>preparation | <ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul> | No new drilling in this report.   |
| Quality of assay<br>data and<br>laboratory tests        | <ul> <li>The nature, quality and appropriateness of the assaying and<br/>laboratory procedures used and whether the technique is<br/>considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments,<br/>etc, the parameters used in determining the analysis including<br/>instrument make and model, reading times, calibrations factors</li> </ul>  | <ul> <li>Refer to Sampling Techniques for instrument make and model.</li> <li>Gravity control was established at station 202407300001 via an ABABA tie to<br/>Australian Fundamental Gravity Network (AFGN) control station 1967920326<br/>"Airport Admin carport - Port Hedland". Standard deviation of the tie loops is<br/>0.005mGal.</li> </ul> |



| al use only                                 | <ul> <li>applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards,<br/>blanks, duplicates, external laboratory checks) and whether<br/>acceptable levels of accuracy (ie lack of bias) and precision have<br/>been established.</li> </ul>   | <ul> <li>GNSS control was established at 202407300001 by submitting three 10-hour sessions of static data to Geoscience Australia's AUSPOS processing system, where possible, producing first-order geodetic coordinates. These coordinates are accurate to better than 10mm for the x, y, and z observables.</li> <li>Data were acquired in single shifts of up to 12 hours duration, with each shift consisting of a single loop controlled by observations at the gravity control station. Each loop contained a minimum of two repeated readings so that an interlocking network of closed loops was formed. A total of 96 repeat readings representing 3.15% of the survey were acquired for quality control purposes.</li> <li>The acquired GNSS raw data were processed using Novatel Waypoint GrafNav v9.00 post-processing software. GrafNav was used to transform the GNSS-derived WGS84 coordinates to GDA94 coordinates for each gravity station location. MGA coordinates were then derived by projecting the GDA94 geodetic coordinates with a Universal Transverse Mercator (UTM) transform using the appropriate zone.</li> </ul> |
|---|--|---|
| Verification of<br>sampling and<br>assaying | <ul> <li>The verification of significant intersections by either independent<br/>or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data<br/>verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>            | • The acquired GNSS raw data were processed daily using Novatel Waypoint<br>GrafNav v9.00 post-processing software.   |
| Location of data<br>points                  | <ul> <li>Accuracy and quality of surveys used to locate drill holes (collar<br/>and down-hole surveys), trenches, mine workings and other<br/>locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>  | <ul> <li>GNSS surveyed coordinates are accurate to better than 10mm for the x, y, and z observables.</li> <li>Location data was recorded in GDA94 zone 50.</li> </ul>   |
| Data spacing<br>and distribution            | <ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul> | • The gravity survey grid spacing is considered adequate for the magnetic anomalies targeted.   |
| Orientation of<br>data in relation          | • Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.   | • The gravity survey grids long axes were oriented parallel to the general geological strike of the host basement lithologies whilst the orientation of the targeted intrusions is unknown.   |



| to geological<br>structure | <ul> <li>If the relationship between the drilling orientation and the<br/>orientation of key mineralised structures is considered to have<br/>introduced a sampling bias, this should be assessed and reported<br/>if material.</li> </ul> |  |
|----------------------------|--|--|
| Sample security            | • The measures taken to ensure sample security.  | <ul> <li>No new drilling or surface samples in this report.</li> <li>The gravity data was processed on a daily basis.</li> </ul> |
| Audits or<br>reviews       | • The results of any audits or reviews of sampling techniques and data.  | • The gravity data was reviewed by an independent consultant geophysicist to determine the validity of the data.                 |
| 2                          |  |  |



## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

| Criteria   | JORC Code explanation   | Commentary  |
|--|---|---|
| Mineral<br>tenement and<br>Jand tenure<br>status | <ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>  | <ul> <li>E47/2983 is 80% owned by Kalamazoo Resources Ltd and is in good standing with no known impediments.</li> <li>The gravity surveys referred to in this announcement are located wholly within E47/2983 which is located on the Mallina Pastoral Station.</li> <li>A minor proportion of E47/2983 consists of known Aboriginal Heritage Places/Sites which require cultural heritage surveys by the relevant Native Title group to be conducted and cleared before any mineral exploration and mining activities can take place.</li> </ul> |
| Exploration<br>done by other<br>parties          | • Acknowledgment and appraisal of exploration by other parties.   | <ul> <li>The project area has been historically explored for both gold mineralisation and pegmatite-hosted lithium-caesium-tantalum mineralisation by numerous previous parties over many years.</li> <li>The reported historical exploration activities and results are described in numerous privately held and publicly available open file (WAMEX) reports.</li> <li>Appraisal of historical exploration records is an ongoing process.</li> </ul>  |
| Geology  | • Deposit type, geological setting and style of mineralisation.   | • The granted tenements of the Mallina West Gold Project cover 118km <sup>2</sup> and are considered prospective for "Hemi-style" Sanukitoid Intrusion hosted gold mineralisation associated with the Wohler Shear Zone, a prospective splay of the Tabba Tabba, Mallina, Withnell and Berghaus Shear Zone complex. Other styles such as Archaean-age shear-zone hosted gold mineralisation is also considered a possibility to occur within the project area.  |
| Drill hole<br>Information                        | <ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly</li> </ul> | • No historical drill hole data from this area is known or was used in this report.   |



|   | explain why this is the case.   |   |
|---|---|---|
| Data<br>aggregation<br>methods  | <ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul> | • No new drilling in this report.   |
| Relationship<br>between<br>mineralisation<br>widths and<br>intercept<br>lengths | <ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>   | • No new drilling in this report.   |
| Diagrams  | <ul> <li>Appropriate maps and sections (with scales) and tabulations of<br/>intercepts should be included for any significant discovery being<br/>reported These should include, but not be limited to a plan view of drill<br/>hole collar locations and appropriate sectional views.</li> </ul>   | • As provided.  |
| Balanced<br>Preporting  | <ul> <li>Where comprehensive reporting of all Exploration Results is not<br/>practicable, representative reporting of both low and high grades<br/>and/or widths should be practiced to avoid misleading reporting of<br/>Exploration Results.</li> </ul>   | • The report is balanced, and all material information has been disclosed.  |
| Other<br>substantive<br>exploration<br>data                                     | <ul> <li>Other exploration data, if meaningful and material, should be reported<br/>including (but not limited to): geological observations; geophysical<br/>survey results; geochemical survey results; bulk samples – size and<br/>method of treatment; metallurgical test results; bulk density,<br/>groundwater, geotechnical and rock characteristics; potential<br/>deleterious or contaminating substances.</li> </ul>   | • There is no other meaningful exploration data to report.  |
| Further work  | <ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>   | • Ongoing target generation and ranking for "Hemi-style" Intrusion hosted gold mineralisation, followed by initial drill program design and permitting. |