

17 May 2023



## Gold, Lithium and Base Metal Targets Identified from Soil Sampling at Jungar Flats, WA

Successful auger drilling program outlines multi-commodity targets

- 35km strike of greenstone tested by auger sampling using the UltraFine+™ soils technique
- Gold anomalism identified on the interpreted Big Bell Shear, the major gold mineralisation controlling structure within the region
- Aircore drilling to commence once the current 20,000m program is completed at Laverton South
- A gravity survey is also planned for the recently acquired Beebyn tenements, which form part of the 60km long contiguous Jungar Flats Project

West Australian-based explorer E79 Gold Mines Limited (**ASX: E79**) ('E79 Gold' or 'the Company') is pleased to advise that it has identified numerous anomalies prospective for gold, lithium and base metal mineralisation at its Jungar Flats Gold Project in the Murchison Region of Western Australia.

The targets were outlined by a recent successful shallow auger drilling program using the CSIRO-developed UltraFine+™ analytical technique.

**E79 Gold CEO, Ned Summerhayes, said:** *"The UltraFine+™ soil auger results demonstrate the enormous potential of the Jungar Flats project, with anomalies defined for a range of commodities including gold, base metals and lithium.*

*"The gold and base metal anomalies sit along a greenstone unit where historic drilling had demonstrated gold mineralisation at depth, while the lithium anomaly sits in an area of interpreted granite.*

### ASX Code: E79

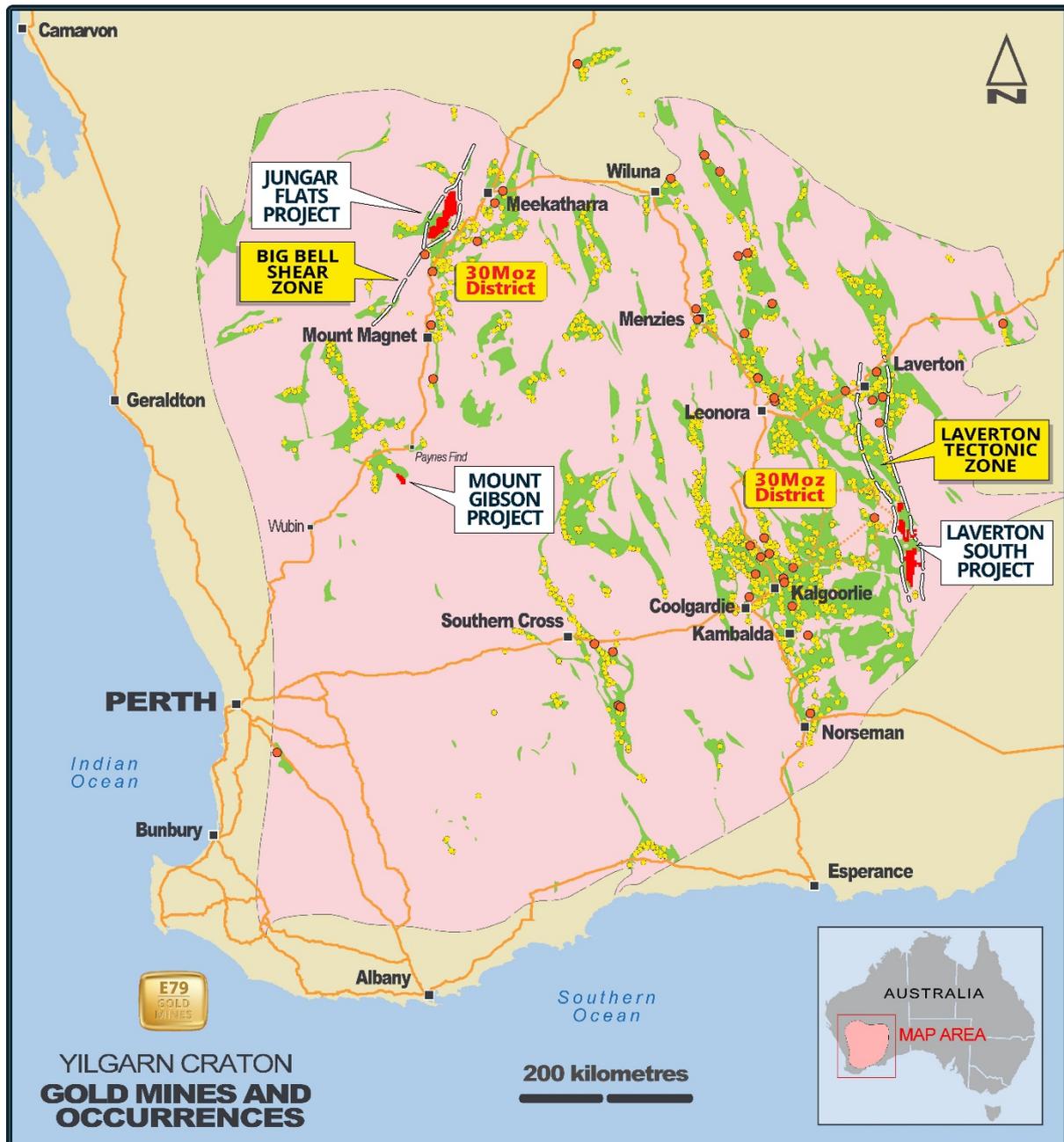
Shares on issue: 66M  
Market capitalisation: 6.4M  
Cash: \$4.49M (31 March 2023)  
ABN 34 124 782 038

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*“The high-priority gold anomaly reflects a coherent anomaly within greenstones extending for over 800m, and, importantly, within a magnetic low, indicating possible magnetite destruction.*

*“Magnetite destruction can indicate the flow of hydrothermal, metal-bearing fluids interacting with previously magnetic country rock. The next stage of exploration will be to ground-truth the anomalies ahead of aircore drill testing, after appropriate heritage surveys have taken place.”*



**Figure 1:** Yilgarn Craton Greenstones showing Project locations

## Murchison Project

### Jungar Flats

**(E51/1975, E51/1803, E51/1848, E20/0926, E51/2122) 100%,  
(E51/1681) 100% of Mineral Rights (excluding iron ore and ferrous minerals)**

The Jungar Flats Project, in the North Murchison region, is located 70km west of Meekatharra and 45km north-northeast of the 2.8Moz Big Bell gold deposit<sup>1</sup>. The Project tenure covers an area of 541km<sup>2</sup>, and contains approximately 90km of strike of the highly prospective Big Bell Shear and associated greenstones.

The recent auger sampling program followed a previously reported pilot program<sup>2</sup> and targeted 35km of prospective greenstone, the size and scale of which was refined by the Company's previous gravity survey, with 2,883 auger samples taken at an average depth of 0.5m.

The samples were analysed using UltraFine+™, an analytical technique developed by the CSIRO which has the ability to identify the geology-related geochemistry under the hard cap – an impermeable indurated layer beneath the surface that is common in the region and renders traditional soil sample geochemistry ineffective.

The results show a range of anomalies for gold, base metals and lithium. The highest priority gold target is an 800m-long coherent gold anomaly within the greenstone sequence.

This target is also a coincident lithium anomaly. Adding to the robustness of this target is the presence of the elevated pathfinder elements of W, Ag, As, Cu and Bi, and, additionally, that the anomaly sits within a magnetic low in the regional magnetics. This potentially indicates the destruction of magnetite, which can be caused by the interaction of gold bearing fluids and iron-rich layers in the greenstone.

The UltraFine+™ soil survey additionally identified (other than the high-priority gold target), another medium-priority gold target within the greenstone and a further six lower-priority gold targets. All gold targets sit on or proximal to the postulated positions of the regionally significant Big Bell Shear. The high-priority and medium-priority gold targets have not been drill tested, however limited drilling nearby demonstrates the presence of gold mineralisation/anomalism at depth<sup>3</sup>.

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<sup>1</sup> Refer to Westgold website

<sup>2</sup> Refer to E79 Gold ASX announcement dated 28 July 2022

<sup>3</sup> Refer to E79 Gold ASX announcement dated 28 July 2022

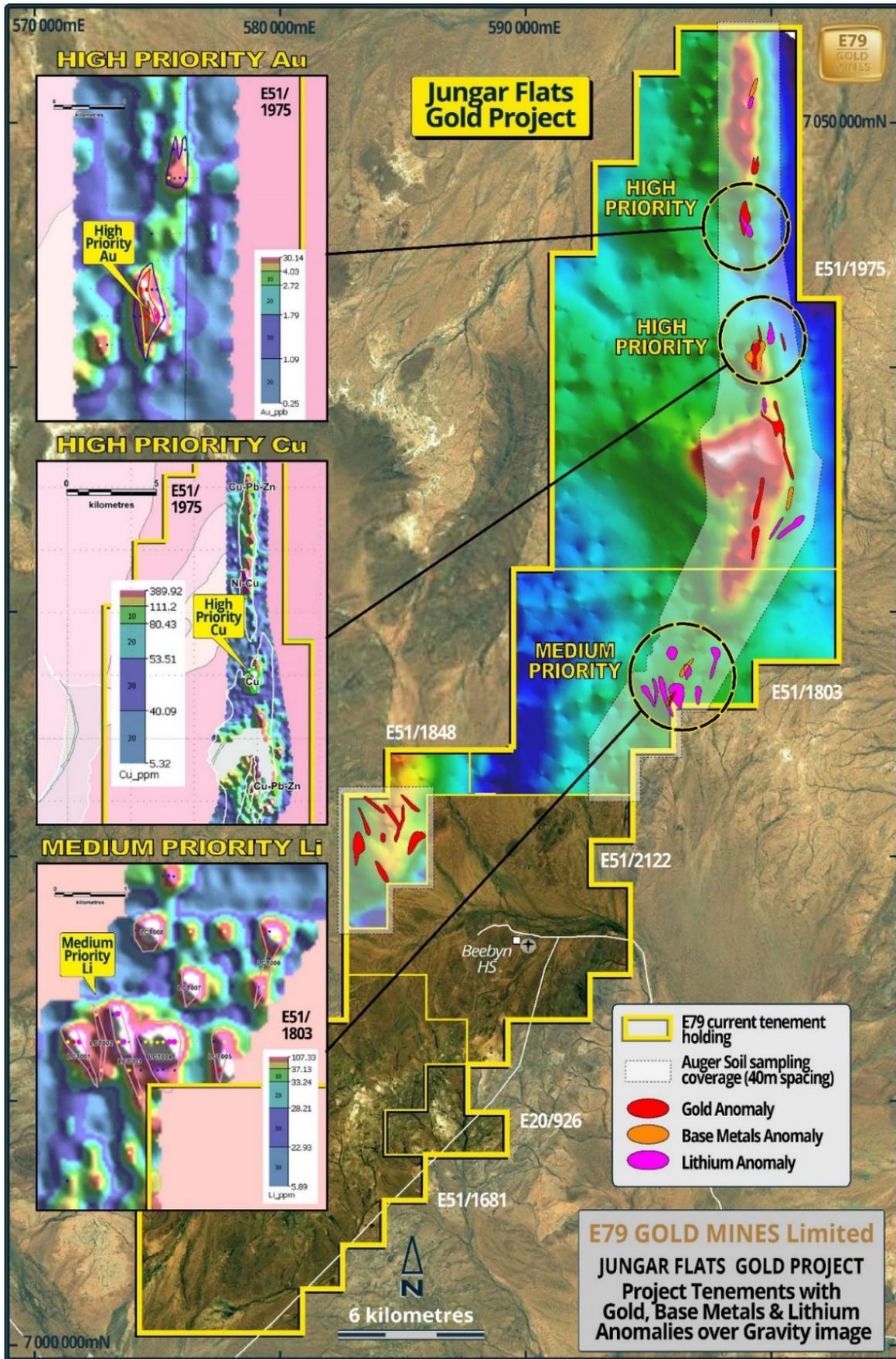


Figure 2: Auger Anomalies, coloured by commodity, at the Jungar Flats Project

In addition to the gold anomalies, there are four medium-priority lithium targets that require ground-truthing to map the size and scale of potential pegmatites which may be responsible for the anomalism. These anomalies sit just outside the postulated 'goldilocks' zone, a zone around fertile granites where the major lithium deposits tend to be located in the Yilgarn Craton. There are a large number of pegmatite occurrences in the Murchison region with exploration companies such as Venus Metals and Golden Mile Resources exploring in the region for lithium.

There are six base metal anomalies identified in the UltraFine+™ soil auger programme that also require ground truthing and potential rock chip sampling. These range from Cu only, Cu plus Ni, to Cu-Pb-Zn. The highest priority Cu anomaly sits within the same greenstone unit, but south of the high priority gold anomaly.

The next stage of exploration will be field-based ground-truthing of these anomalies to identify the next stage of evaluation. Drill programs will then be prioritised on the most robust targets. Subject to heritage surveys, E79 plans to commence drilling in the September Quarter of 2023.

The auger program tested the northern half of the tenement package, the recently acquired southern half<sup>4</sup> will undergo a similar exploration strategy of a gravity survey to identify the greenstones followed by an Auger program to assess the mineral potential and provide future drilling targets. The airborne gravity survey is planned to commence in July.

### **Planned and Recent Activities**

E79 Gold is an active explorer with upcoming activities including:

- **May 2023** Aircore and RC drilling at Laverton South Project
- **May-June 2023** Commence aircore drilling at Lake Yindana
- **August 2023** Commence aircore drilling at Murchison Project

E79 Gold Mines will be presenting at the following events:

- **May 2023** Present at RSS Conference on Gold Coast

Our motto: Money in the ground.

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<sup>4</sup> Refer to E79 Gold ASX announcement 28 September 2022



Yours sincerely,

A handwritten signature in black ink, appearing to read 'Ned Summerhayes'.

**Ned Summerhayes**

**Chief Executive Officer**

*The information in this report that relates to Exploration Results is based on information compiled by Mr Ned Summerhayes, a Competent Person who is a member of the Australian Institute of Geoscientists. Mr Summerhayes is a full-time employee, a shareholder and an option holder of the Company. Mr Summerhayes has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'. Mr Summerhayes consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

Authorised for release by the CEO of E79 Gold Mines Limited.

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## About E79 Gold Mines

E79 Gold has ~944km<sup>2</sup> of prospective ground within its two flagship projects, the Laverton South Project in the world-class Laverton gold district and the Jungar Flats Project in the North Murchison region.

### Laverton South Project

#### Lake Yindana (100%) and Pinjin (100%)

The Laverton South Project, with an area of 346km<sup>2</sup>, covers a southern portion of the Laverton Tectonic Zone ('LTZ') approximately 130km east-northeast of Kalgoorlie, within the major gold producing Archean Yilgarn Craton of Western Australia.

The LTZ is one of the world's richest gold belts with more than 30 million ounces (Moz) in historical production, Ore Reserves and Mineral Resources and hosts numerous prolific producers including Granny Smith (3.7Moz), Sunrise Dam (10.3Moz) and Wallaby (11.8Moz)<sup>5</sup>.

Within the Laverton South Project are two tenement packages, Lake Yindana and Pinjin. These projects sit within 15km north and south of the ~+1Moz Rebecca deposit (Ramelius Resources), while the Pinjin ground straddles the Anglo-Saxon deposits (Hawthorn Resources) and is located 7.5km south of the historic Patricia open pits (OzAurum Resources).

### Murchison Project

#### Jungar Flats

**(E51/1975, E51/1803, E51/1848, E20/0926, E51/2122) 100%,  
(E51/1681) 100% of Mineral Rights (Excluding Iron Rights)**

The Jungar Flats Project, in the North Murchison region, is located 70km west of Meekatharra and 45km north-northeast of the 2.8Moz Big Bell gold deposit.

The Project tenure covers an area of 541km<sup>2</sup>, including a recently pegged tenement and the tenement that E79 Gold has the mineral rights (excluding iron rights).

This area contains approximately 90km of strike of the highly prospective Big Bell Shear and straddles a narrow north-south trending greenstone belt.

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<sup>5</sup> Refer to E79 Gold Mines Prospectus

# JORC Code, 2012 Edition – Table 1 report template

## Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>• <i>Nature and quality of sampling (e.g., 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.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>In cases where ‘industry standard’ work has been done this would be relatively simple (e.g., ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>• E79 Gold has recently undertaken soil sampling activities within the Jungar Flats Project via Auger sampling</li> <li>• Duplicate and blanks were taken at regular intervals throughout the program</li> <li>• E79 Gold’s recent auger samples were taken from 0.5-1.5m under the surface via an auger drill mounted to the back of a vehicle. Samples were analysed at LabWest laboratories in Perth via the UltraFine+™ soils technique.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>• <i>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., 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).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Holes were drilled to 0.5- to 1.5m depth depending on ground conditions and were taken from a vehicle mounted auger rig</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to</i></li> </ul>	<ul style="list-style-type: none"> <li>• No recovery data was taken</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging	<p><i>preferential loss/gain of fine/coarse material.</i></p> <ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Colour and reactivity to acid were completed for each sample</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All samples were analysed using LabWests' UltraFine technique, whereby the sub 2 micro clay fraction is separated and analysed with the latest microwave technique and ICP-MS or ICP_OES machines.</li> <li>• Samples were digested using an UltraFine+™ Technique followed by analysis of gold by ICPMS with lower detection limit of 0.5ppb Au. 50 multi-elements analysed by ICPMS/ICPOES and include; <ul style="list-style-type: none"> <li>Ag, Al, As, Au, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Hg, Ho, In, K, La, Li, Lu, Mg, Mn, Mo, Nb, Nd, Ni, Pb, Pd, Pr, Pt, Rb, Re, S, Sb, Sc, Se, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, Tm, U, V,</li> </ul> </li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>W, Y, Yb, Zn, Zr</p> <ul style="list-style-type: none"> <li>No external standards were used</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Data is logged onto excel spreadsheets and added to an external database</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other 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 style="list-style-type: none"> <li>Sample locations were recorded with a handheld GPS in MGA94 Zone 50S.</li> <li>RL was also recorded with handheld GPS but accuracy is variable.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Sample spacing is 40m along lines and ~400m between lines.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>Sample lines were completed on an east west pattern, perpendicular to the trend of the main geological units.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Samples were stored on site and taken directly to the laboratory by via a freight company</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews have been undertaken.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Jungar Flats gravity survey was conducted over tenements E51/1975, E51/1803, and E51/1848.</li> <li>• Exploration Lease E51/1975 is granted and held until 2026 and renewable for a further 5 years.</li> <li>• Exploration Lease E51/1803 is granted and held until 2022 and renewable for a further 5 years.</li> <li>• Exploration Lease E51/1848 is granted and held until 2023 and renewable for a further 5 years.</li> </ul> <ul style="list-style-type: none"> <li>• All production is subject to a Western Australian state government Net Smelter Return (“NSR”) royalty of 2.5%.</li> <li>• Registered Aboriginal Site 9859 (Wogala Bore) occurs in E51/1975 and was not impacted by this survey. There are no pastoral compensation agreements over the tenement.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<p>The previous exploration of the project and its immediate area has been sporadic, with the majority of the work focusing on the Big Bell Shear. Exploration has been dominantly for gold with variable contributions from Kennecott Explorations (Australia) Pty Ltd (1969-1972), BHP Gold (1985-1990), Newcrest Operations Limited (1992-1998), and Gascoyne Resources (WA) Pty Ltd (2012-2014). Work conducted by these companies comprised initially surface geochemical sampling, rock chip sampling, geological mapping, geological interpretations from broad-spaced aeromagnetic surveys and followed by regional RAB and aircore drilling.</p>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<p>The Jungar Flats Project is located 70 km west of Meekatharra, in the Murchison Province of the Archean Yilgarn Craton. The project area is considered prospective for orogenic gold mineralisation. Significant historical gold production in the Murchison includes the following mines and mining fields –</p>

Criteria	JORC Code explanation	Commentary
		<p>Meekatharra/Paddys Flat, Bluebird, Big Bell, Cuddingwarra, and Day Dawn/Cue. The Jungar Flats Project area covers the interpreted northern extensions of the Big Bell Shear which is interpreted as an important structural control on the Big Bell gold deposit some 45 km to the southwest.</p>
<p><i>Drill hole Information</i></p>	<ul style="list-style-type: none"> <li>• <i>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:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>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 explain why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no drilling reported.</li> </ul>
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>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.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no drilling reported.</li> </ul>
<p><i>Relationship between mineralisation widths and intercept lengths</i></p>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no drilling reported.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>drill hole angle is known, its nature should be reported.</i></p> <ul style="list-style-type: none"> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</i></li> </ul>	
<i>Diagrams</i>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>Appropriate maps are included within the body of this report.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling reported.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>Relevant geological observations are included in this report.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>Additional geochemical surveys may be carried out in the future in order to assist in the delineation of drilling targets.</li> </ul>