

Friday 16 December 2022  
Australian Securities Exchange Limited  
Level 40, Central Park,  
152-158 St Georges Terrace  
PERTH WA 6000

## **Fiery Creek Field Program Underway; High Grade Copper found at surface**

Ironbark Zinc Limited (“Ironbark”, “the Company”, or “IBG”) is pleased to update the market regarding the commencement of field work at its 100% owned Fiery Creek Cu-Au Project in NSW.

### **Highlights**

- Project successfully accessed in early December for field reconnaissance trip; first field work at Project since 2013.
- Significant readings taken with a portable XRF include:
  - **FCW4 – 7.1% Cu** (Nb: pXRF on base metals program only, not Au)
  - **FCW9 – 4.5% Cu**, 1.2% Zn
  - **FCW5 – 3.4% Cu**
- With site access now established, specialist survey firm Narla Environmental has been booked in for a Flora, Fauna & Heritage Survey commencing 2<sup>nd</sup> half of January
- Upon completion of the survey reporting, Ironbark intends on applying for permission to drill the Project

IBG Managing Director Michael Jardine commented:

*“The Fiery Creek Copper-Gold Project is a little-known part of our portfolio but is now seeing new investment for the first time in many years. It has huge potential with eight kilometres of strike, over 600 hundred historic workings, and extremely high-grade gold and high-grade copper in the historic database. There are obvious drill targets below the old workings, and to close off the known strike, and we look forward to delivering more results in 2023.”*

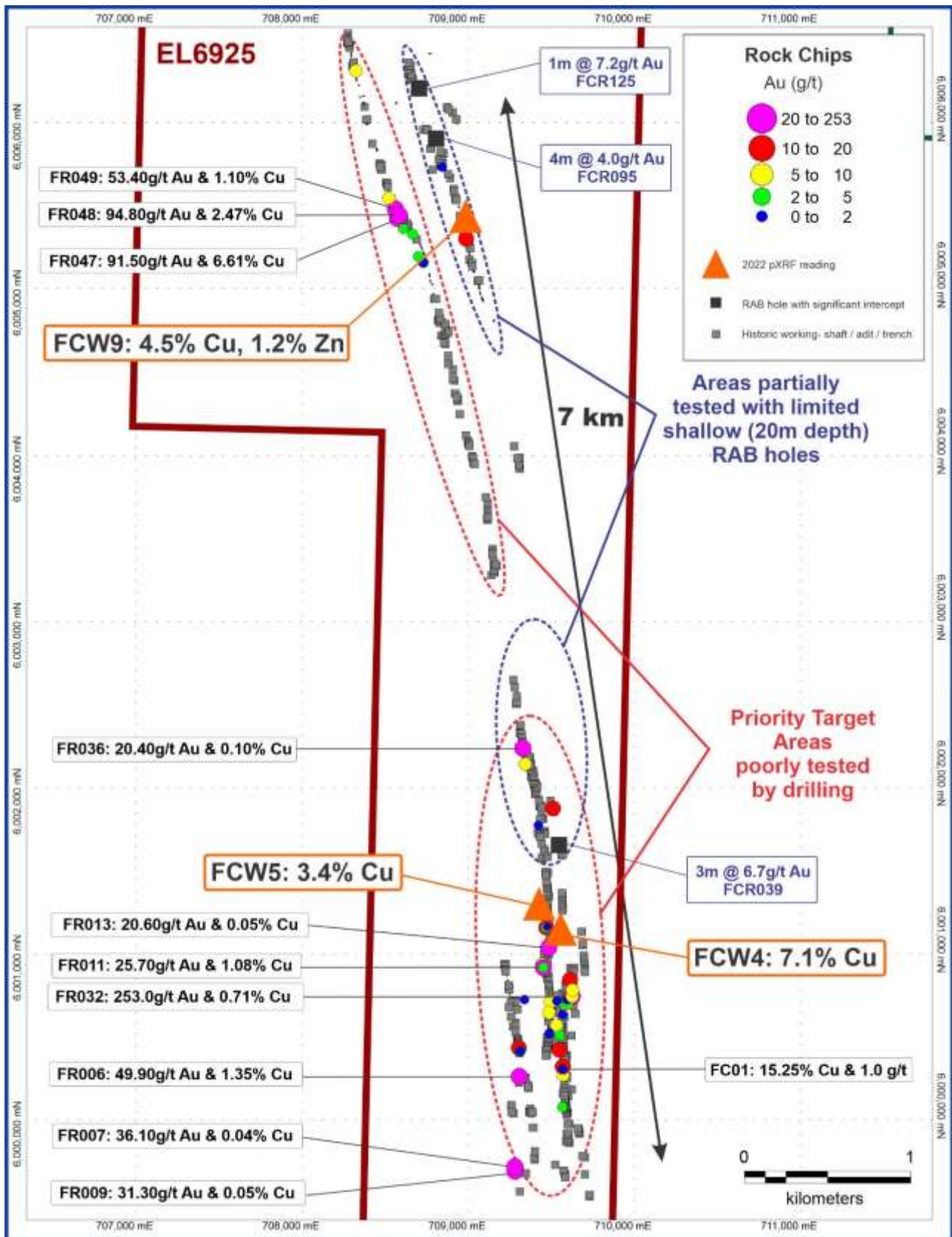


Figure 1: Plan view of the central area of the Fiery Creek workings showing historic drill intercepts, previous Ironbark rock chip samples and recent pXRF copper readings in orange highlight boxes. *Previous results released 1/5/2013*

### **Discussion of 2022 Exploration Results**

The field reconnaissance visit was carried out with the aim of re-establishing site access to the Fiery Creek Project area after several years of very inclement weather in the region (fires and more recently floods). The visit was successful with a new route being established into the area that can be accessed by field personnel in the future.

Whilst in the project area, several historic workings were visited and a portable X-ray fluorescence (pXRF) machine used to take readings from mullock dumps. The pXRF was not able to take gold readings, only base metal readings. The mineralisation comprised quartz veins and pods in and around the workings that were hosted in interbedded, strongly cleaved and locally folded and crenulated siltstones and sandstones. Quartz veins occasionally contained coloured Fe-oxide minerals with rare boxwork (likely after pyrite) textures, and in one case, weathered arsenopyrite blebs. A summary of the sites visited are presented in Table 1.

**Table 1: Locations visited during December 2022 reconnaissance trip.**

<b>SITE ID</b>	<b>EASTING</b>	<b>NORTHING</b>	<b>COMMENTS</b>	<b>pXRF RESULTS</b>
FCW1	709530	6001965	Adjacent to Rose Valley Perimeter Trail; old drillhole nearby; deep shaft with mullock showing intensely cleaved Sandstone/Siltstone + Quartz Vein hosting limonite	2 readings taken – no anomalous base metals
FCW2	709501	6001899	Collection of shallow pits striking NNW; very minor quartz veining in Sandstone/Siltstone – no obvious oxides or alteration	No reading taken
FCW3	709613	6002058	Small ~NNW-striking trench/costean through very finely cleaved, fine grained and weakly chlorite altered siltstone; no obvious vein quartz/mineralisation	No reading taken
FCW4	709588	6001290	Approx. 100m long, ~NS striking trench and numerous pits/shafts, some shafts up to 10m deep; patchy minor vein quartz, some showing remnant oxide/weathered sulphide	Cu – 71000ppm
FCW5	709583	6001326	Northern continuation of trench line FCW4 (north side of track); three significant vertical shafts (up to 10m deep); again, patchy vein quartz in siltstone/sandstone on mullock heaps, vein quartz hosting blebby weathered sulphide (arsenopyrite)	Cu – 34000ppm
FCW6	708949	6006035	Shallow trench/pit on side of Bridges Trail; Siltstone/Sandstone, mostly unaltered, no discernible vein quartz or oxidation	No reading taken
FCW7	708948	6005934	Shaft/adit complex adjacent to Bridges Trail/Inaloy Trail junction; mostly fine grained, fissile Siltstone + minor Sandstone showing strong bleaching and chlorite +/- sericite clay alteration in places; minimal evidence of vein quartz and associated mineralisation	2 readings taken – no anomalous base metals
FCW8	709021	6005758	Minor workings – one small trench and shallow pits; very weakly altered (clay) Siltstone/Sandstone with trace vein quartz	No reading taken
FCW9	709099	6005495	2 (~10m deep) shafts and a couple of shallower trenches/pits, all in a ~NS strike line straddling both sides of deep gully, total strike length ~80m; strongly cleaved Siltstone hosting patch weak bleaching and clay alteration; very rare vein quartz	Cu – 45000ppm Zn – 12000ppm (taken from purple oxide/sulphate in vein quartz)

### Fiery Creek Project Background

The Fiery Creek Gold Project (EL 6925) is located approximately 90km south, south-east of Canberra in New South Wales, approximately 5km along strike of the historic Cowarra Gold Mine that produced 85,000 oz Au (Figure 2). EL6925 is 100% owned by Ironbark Zinc Limited.

The Fiery Creek area was worked between 1887 and 1908 and historical reports state the estimated grade of the ore ranged from 10-15 dwt. Au (15.5 – 23.25 g/t Au). Mining was only carried out in the oxidised zone, reportedly to a maximum depth of 15 metres and was focused on the extraction of gold only. Over 640 individual workings have been mapped along the 8.5km length of workings (Figure 2). Records of the historic mining are scarce, and no confirmed tonnage of ore extracted from the workings has been published.

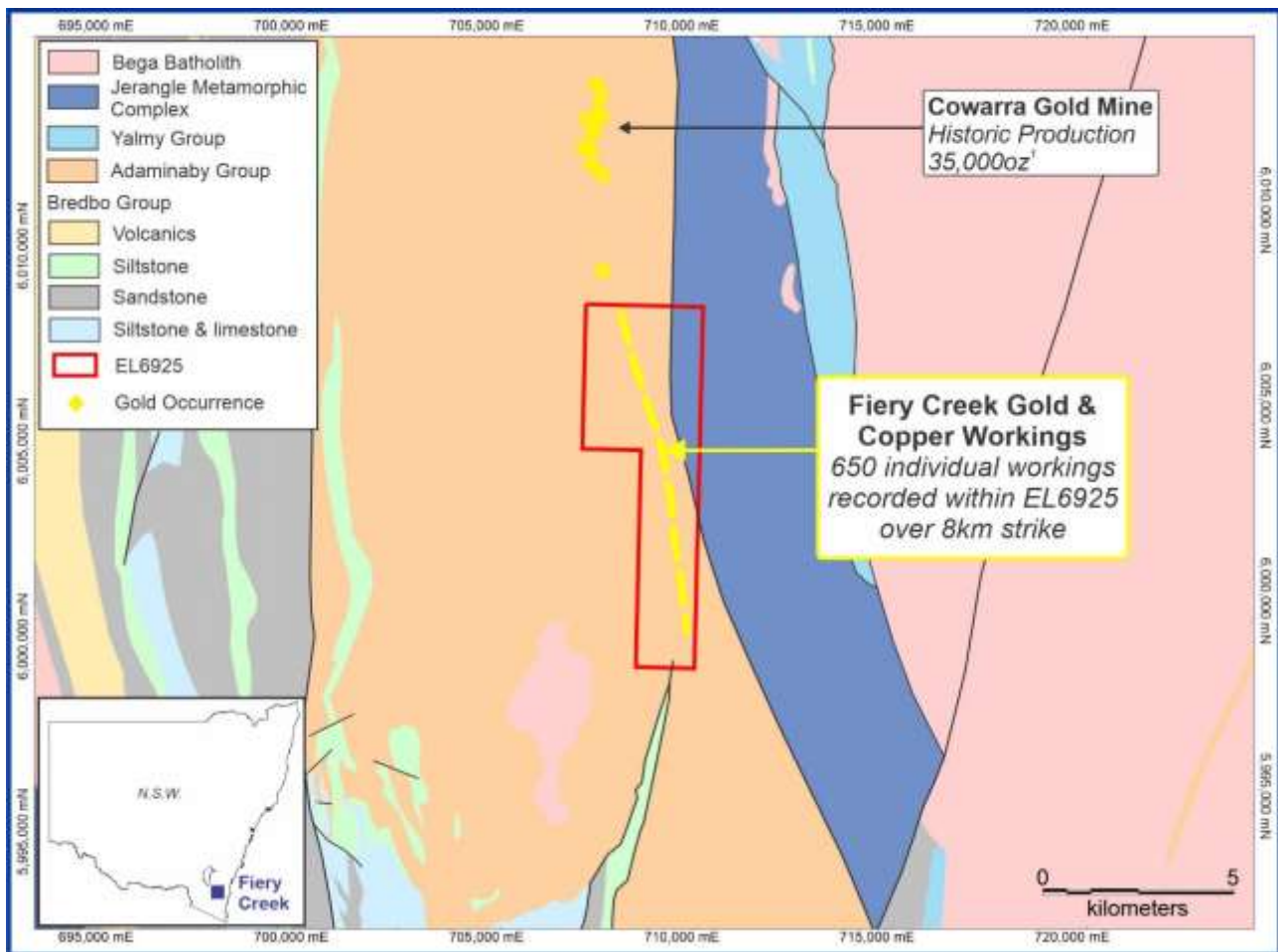


Figure 2: Geology of the Fiery Creek Project showing the line of historic workings within EL6925, located 5 km south of the historic Cowarra Gold Mine (1. Thompson, 1989).

### Geology & Mineralisation

The Fiery Creek prospect consists of an NNW-SSE elongated system of quartz-vein hosted copper and gold mineralisation. The system extends for approximately 11 kilometres to the north and includes the similar Macanally system. Extensive small-scale workings define the strike extent of both sets of workings, which are located along the same regional shear which hosts the Cowarra gold mine, located further to the north.

The NNW-SSE structure is considered to be a shear system hosting mineralisation which is very similar to that at the Cowarra mine. Geological field mapping and logging of limited diamond drill holes has determined that the controls on gold mineralisation at Fiery Creek are similar to those at Cowarra, with an anastomosing shear zone the main controlling structure.

### **Exploration History**

Considering the huge extent of the historic workings, the Fiery Creek Prospect has been relatively underexplored using modern exploration techniques. Horizon Resources N.L. (Horizon) completed soil surveys, rock chip samples, an IP survey, RAB and diamond drilling in the late 1980's and little other work has been conducted besides this.

Horizon drilled nine diamond holes totalling 815m into the southern area of workings in 1988. The holes were targeting anomalies detected from the IP survey, rather than mineralisation directly under the workings. However, several lower-grade mineralised zones were intersected at depths lower than the levels where mining ceased, including;

F001: 1.09m @ 3.6g/t Au from 30.56m  
F006: 2.00m @ 1.7g/t Au from 35.70m  
F009: 0.50m @ 2.4g/t Au from 41.20m

The same year, Horizon also drilled 140 RAB holes (totalling 2,763m) around two of the more geographically accessible areas of the historic workings. The drill holes were between 17 and 21 metres deep and returned several significant results including:

FCR039: 3.0m @ 6.7g/t Au from 6.0m  
*Including 1.0m @ 16.25g/t Au from 6.0m*  
FCR095: 4.0m @ 4.0g/t Au from 16.0m  
FCR125: 1.0m @ 7.2g/t Au from 9.0m

Despite these grades, systematic drill testing underneath the workings has not been completed and presents an exciting exploration opportunity as mineralisation is completely open at depth. Information regarding the historic drilling at Fiery Creek was reported to the ASX 14 October 2020. The Company confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 14 October 2020.

### **Ironbark Exploration**

Previously, Ironbark has focused exploration on the base metal Peakview Prospect within EL6925. Rock chip samples taken during a short reconnaissance trip to the Fiery Creek Workings in early 2013 returned grades of 15.25% copper and 22.7 g/t gold. A second field trip was conducted that involved further rock chip sampling (54 samples taken), geological mapping, shaft mapping and establishing the location of the historic drill collars.

The samples were collected from both the Fiery Creek and Macanally workings – from mullock heaps and from shaft walls. Again, high grade results were returned included peak gold results of 253g/t, 94.8 g/t and 53.4 g/t. Peak copper results include 14.9%, 7.6% and 6.6% (Figure 3). Information regarding the rock chip sampling at Fiery Creek was reported to the ASX 14 October 2020.

A desktop structural review of the project was conducted in November 2020 (ASX 16 November 2020). Highlights of the study included:

- Two major structural features were identified as likely controlling the Au mineralisation, with the Fiery Creek structural setting appearing to be analogous to the Ballarat East deposit in the Victorian Goldfields.

- Principal Component Analysis (PCA) was conducted on historic soil survey data comprising of arsenic, copper, lead and zinc assays. The highest arsenic and copper grades occur closest to the historic workings and may assist with drill target identification.
- Historic field work by Horizon Resources was confirmed as high quality. Further structural mapping is required however to determine fold plunges across the property with a view to determining the longrange mineralisation continuities.
- Five initial high priority drill targets were identified from this preliminary review. All are proximal to historic workings (and coincide with high arsenic values) but are either undrilled or have only seen shallow (~20m) drilling to date.

Ironbark considers there is a high potential to locate economic grade mineralisation in the Fiery Creek – Macanally area, as to date there has been limited drill testing of the lodes below the historically mined material. The extent of the workings indicates there is a good probability that sufficient tonnes to be of interest are present at the prospect.



**Figure 3: TOP- Photograph of one of the many historic workings at the Fiery Creek Prospect. LOWER LEFT- Sample FR044: a malachite and azurite mineralised schist containing 7.56% copper and 3.07 g/t gold. LOWER RIGHT- Sample FR032: oxidised mullock sample from the Fiery Creek workings containing 253g/t gold**

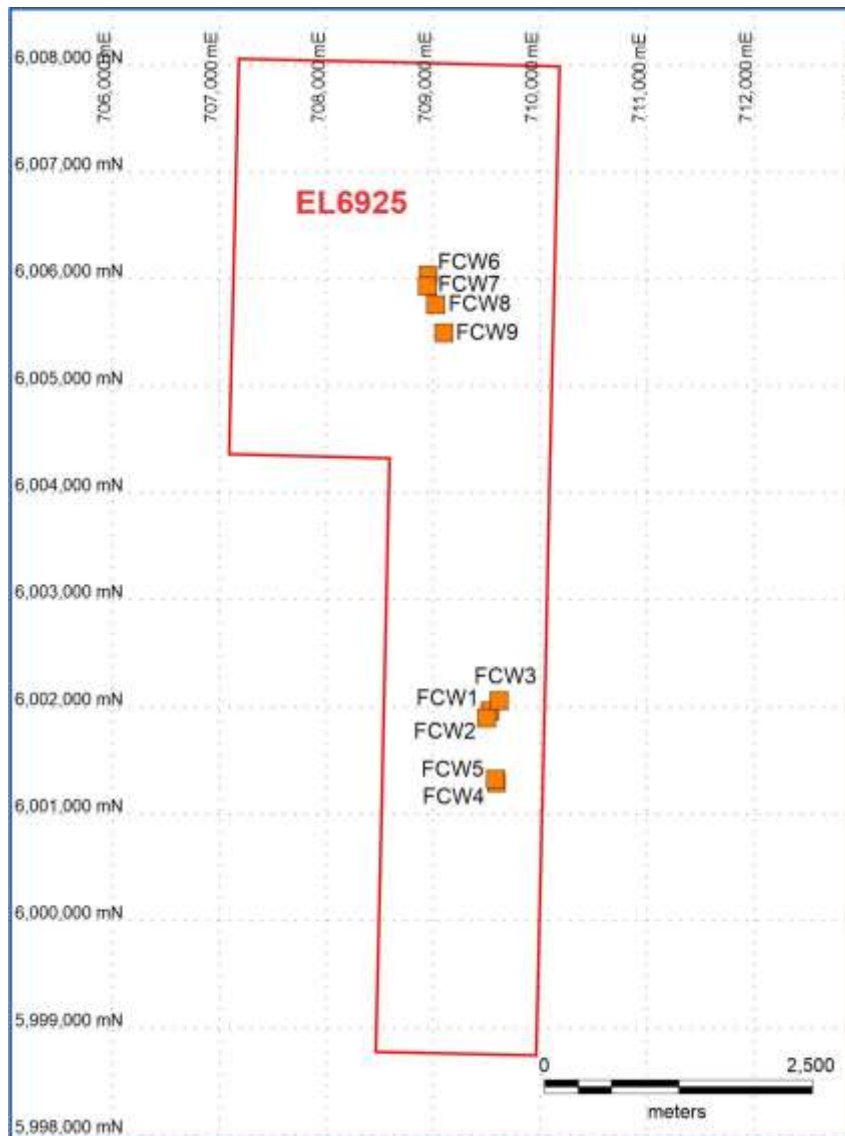


Figure 4: Locations of site visited during the December field trip.

**Further Details**

This notice is authorised to be issued by the Board. Please contact Managing Director Mr Michael Jardine for any further inquiries at [mjardine@ironbark.gl](mailto:mjardine@ironbark.gl) or +61 424 615 047.

### Competent Persons Statement

The information included in this report that relates to Exploration Results & Mineral Resources is based on and fairly represents information compiled by Ms Elizabeth Laursen (B. ESc Hons (Geol), GradDip App. Fin., MSEG, MAIG), an employee of Ironbark Zinc Limited. Ms Laursen has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are 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. Ms Laursen is a member of the Australian Institute of Geoscientists and Society of Economic Geologists. Ms Laursen consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

### Competent Persons Disclosure

Ms Laursen is an employee of Ironbark Zinc Limited and currently holds securities in the company.

## Fiery Creek – pXRF Sampling December 2022

### JORC Code, 2012 Edition – Table 1 report template

#### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <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> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>All samples were mullock.</li> <li>XRF instrument used was a Niton XL3t Analyser with a base metals program that uses internal calibration.</li> <li>Reading times were 30 seconds.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li>No drilling was conducted.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure 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 style="list-style-type: none"> <li>Samples selected for XRF reading were taken from mullock dumps besides historic workings.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>No drilling was conducted.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>XRF readings were taken from samples from mullock dumps.</li> <li>The XRF technique is appropriate for the reconnaissance exploration being conducted.</li> <li>No sub-sampling was conducted</li> <li>pXRF samples provide a reading of approximately 1cm field of view.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Machine used was a Niton XL3t Analyser with a base metals program that uses internal calibration.</li> <li>Reading times were 30 seconds.</li> <li>No standards or blanks were used.</li> </ul>
<b>Verification of sampling and assaying</b>	<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 has been reviewed internally by the senior geologist.</li> <li>Primary data was handwritten onto a notebook before being transferred to an Excel spreadsheet.</li> <li>There has been no adjustment to the data.</li> </ul>
<b>Location of data points</b>	<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 taken using a hand held Garmin GPS with accuracy of approximately 5m.</li> <li>The Grid System used for all location data points MGA94 Zone 55.</li> </ul>
<b>Data spacing and distribution</b>	<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> </ul>	<ul style="list-style-type: none"> <li>Not applicable to pXRF program.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether sample compositing has been applied.</li> <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>• Only surface samples were taken.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Rock samples were not collected.</li> </ul>
<b>Audits or reviews</b>	<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>• Data has been reviewed internally and by consultants.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• The Fiery Creek Prospect is located within Exploration Licence 6925 in southeastern NSW.</li> <li>• The licence is 100% owned by Ironbark Zinc Limited.</li> <li>• Part of the licence covers the Macanally State Conservation Area which is a designation by the NSW Government that, subject to the appropriate approvals, explicitly allows for minerals exploration.</li> <li>• The Licence expires in October 2024.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>• Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>• The deposit was previously explored by WMC and Horizon Minerals.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>• Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>• The Fiery Creek Project lies within the Molong-South Coast Anticlinorial Zone of the Lachlan Fold Belt in New South Wales. The licence is dominated by Ordovician sediments of the Adaminaby Group, the Silurian Jerangle Metamorphic Complex and Yalmy Group sediments and is bound to the east by Devonian Granites.</li> <li>• The prospect area consists of NNW-SSE elongated system of quartz vein hosted copper and gold mineralisation.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to Table 1.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high</li> </ul>	<ul style="list-style-type: none"> <li>• No weighted average techniques or cut off grades have been used.</li> <li>• No aggregate intercepts have been stated.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>grades) and cut-off grades are usually Material and should be stated.</i></p> <ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>No metal equivalents have been reported.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Only surface samples were taken.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Figure 1 and Figure 4.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All copper readings are reported here. Other elements are included in the pXRF testing but are not considered relevant.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Geological mapping, drilling, soil sampling, and geophysics have been conducted.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>A flora &amp; fauna survey is planned for January 2023, following that Ironbark intends to apply for drilling permission.</li> </ul>