

26 October 2020

Company Announcements

Australian Securities Exchange Limited  
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PERTH WA 6000

## QUARTERLY ACTIVITIES REPORT PERIOD ENDING 30 SEPTEMBER 2020

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Ironbark Zinc Limited ("**Ironbark**", "**the Company**" or "**IBG**") (ASX: IBG) hereby provides a report on its activities for the quarter ending 30 September 2020.

### Highlights

#### *Citronen*

- Mine Plan Optimisation completed
- Maiden Ore reserve defined
- Phase 1 of Metallurgical review completed
- Shipping plan updated

#### *New South Wales*

- Renewal of Fiery Creek Cu-Au Project in NSW successful; preparatory work underway to better understand exploration potential and identify drill targets
- Conversations remain ongoing with JV partner Glencore as to future exploration work at the Captains Flat base metals Project

### Projects - Citronen

#### *Citronen Mining Plus Optimisation Study*

In July 2019, the Company engaged Mining Plus, a leading international Mining Consultancy, to conduct an optimisation study designed to refresh the Citronen mine plan.

The study had two main objectives:

- to determine the viability of removing remnant ore pillars (post freezing of the tailings back-filled voids) independent of throughput rate; and
- to provide a preliminary evaluation of a production schedule for an initial 1Mtpa scenario, targeting an increased head grade in the opening years of production (Years ~1-3).

The optimisation study highlighted several areas where the existing mine plan could be improved, particularly given the long passage of time since the Citronen mine plan was first resolved. Mining methods and techniques have evolved considerably in that time, and the Ironbark Board therefore commissioned a more in-depth review of the existing mine plan in early 2020. This included a comprehensive revision of the Feasibility Study for Citronen to ensure that it reflected the significant advance in technologies and changes in pricing that have occurred since the original study was first completed.

As part of that 2020 program Ironbark engaged Mining Plus to undertake the mine plan optimisation using current technologies and costs, and, to report a maiden JORC Ore Reserve for the project. This work consisted of five key areas:

1. Review and update the cut-off grade assumptions and sensitivity
2. Mine design including sequencing, scheduling and ventilation modelling
3. Mining fleet selection
4. Update the capex and opex estimates and mining cost model
5. Reporting a maiden JORC 2012 compliant Ore Reserve

The Study was completed during the quarter and the final results announced to the market on 7 September 2020, with further supporting information provided on 18 September 2020. The newly optimised Citronen Mine Plan considerably de-risks the mining operation in a number of key areas, as well as significantly improving both the project economics and overall understanding of how the ore body is optimally mined (with respect to future optionality in the event of a rising Zinc price).

Consistent with the Board's intention to further de-risk the project development, several key pricing and production assumptions were adjusted to reflect a more conservative approach. Development rates were altered to reflect a more considered production ramp up, twin access declines have now been adopted in the mine plan (with substantial opex, efficiency and safety benefits) and the planning behind the proposed Cut & Fill mining method was resolved in greater detail than in previous studies. The goal of optimising high-grade pillar recovery by using frozen backfill was also explored in depth and continues to form part of the mine plan. Refer to the ASX announcements referenced above for full details.

In conjunction with the finalisation of the mining study, work continues on updating the processing, logistics, communications and project execution elements of the project to ensure that these embrace the latest in technical and related developments.

#### *Maiden Ore Reserve*

On 14 September 2020 the Company announced the maiden JORC 2012 compliant Ore Reserve for the underground deposit at Citronen of 21.3Mt @ 6.3% Zn equivalent containing 1.3Mt of Zn metal and 0.1mt of Pb metal.

This was another major step in de-risking the Citronen investment proposition given the much greater confidence level implied in moving to an Ore Reserve. It also further distances Ironbark from its developer peers and satisfies a pre-condition very likely to be encountered by Ironbark when it moves into a more active project finance process in 2021.

For further details please refer to the ASX announcements on 14 & 18 September 2020.

## *Metallurgical Review*

On 10 September 2020 the Company announced the completion of Phase I of a Metallurgical Review of the historic test work and process flowsheet for Citronen. The review was undertaken by Mineralis Consulting in Brisbane, one of the world's pre-eminent consultants in the metallurgical processing of Sedimentary Exhalative (Sedex) Zinc-Lead ore bodies. This work continues the current 2020 refresh of the Citronen Feasibility Study.

The key findings of the review by Mineralis were that:

- The Citronen orebody sits firmly within the well understood family of Stratiform Sedex Zinc-Lead deposits for which processing risks are well-studied and understood. Such deposits constitute the majority of the world's largest historic and currently operating Zinc mines.
- Previous test work was confirmed to be of high quality.
- Improvements to processing technology (especially flotation) since the original Citronen FS test work was completed offer the opportunity to further optimise metallurgical performance.
- Opportunities to streamline the process flow sheet were identified, in particular the primary comminution and concentrate regrind circuits.

Following on from this review, Mineralis has been engaged to complete a Phase II study focused on:

- Refining the proposed flotation circuit with a focus on the drivers of metallurgical performance.
- Increase focus in circuit on Zinc recovery (vs. Lead).
- Undertake limited new confirmatory metallurgical testwork for any proposed circuit modifications. This will be done with existing core currently stored in Perth, Western Australia
- Update the process design to facilitate preliminary engineering.

This Phase II work is underway at the time of writing with completion expected in the first quarter of 2021.

This will likely coincide with the ongoing work to update the historic Citronen Feasibility Study, with efforts currently focused on updating the engineering, construction and logistics sections of that document.

## *Improving Shipping Conditions*

Subsequent to the quarter, on 21 October 2020, the Company provided an update to the market with respect to recent shipping conditions at Citronen, following the commissioning of a report by Canadian ice shipping specialist Fednav Ice Services.

The highlights of this report were as follows:

- Trend towards significantly improved shipping conditions seen across Arctic region mirrored at Citronen.
- Multiple options exist to manage shipping to and from the Project, from ice breaking bulk carriers to close coupled towing regimes.
- Ironbark is likely to focus on the chartered fleet for its shipping solution, Given the relative surplus of polar class vessels that could be available for charter during the shipping window at Citronen Fjord, when ice conditions are more favourable.

## **Projects - Australia**

### *Fiery Creek*

With the recent tenement renewal application successful at the Company's Fiery Creek Gold project (EL 6925) in New South Wales, and the continued strong upwards movement in the AUD gold price over 2020, during the quarter the Ironbark Board resolved to revisit the copper and gold potential at Fiery Creek with respect to a prospective new exploration program.

A 2020 review of Fiery Creek by Peter Leaman Geological Services has confirmed that mineralisation remains underexplored at depth and exploration along the strike of the workings is incomplete.

Preparatory work commenced during the quarter as follows:

- A consultant Structural Geologist has been engaged to review the existing data and make recommendations regarding drill targeting;
- Further assessment of the permitting process to enable drilling with SCA areas of EL6925; and
- Consideration of the funding pathway for any planned exploration, including IBG sole funding or a JV/ farm in structure with prospective Gold partners.

For further details of the project please refer to the ASX announcement released 14 October 2020.

## **Corporate**

The Company's cash balance, as at 30 September 2020, was AUD \$1.87m.

## **Administration**

The Company implemented a significant reduction in business overheads in late 2019 and the Company continues to exercise cost control given the current capital market volatility.

## **Market & Strategy Update**

Base metal prices, including Zinc, saw further strength in the September quarter as economic growth returned to some major metal markets in the quarter (most notably China). This trend may be further underpinned by mooted Covid-19 induced fiscal stimulus in large developed markets including the US, UK, EU and Japan.

Mineral exploration companies and producers continue to dominate equity market performance in Australia with ongoing uncertainty still weighing on perceived "risk on" developer sentiment. Material funding for new developments (especially ex gold) remains challenging; although there are some early signs that capital markets are beginning to pay attention to quality projects in safe investment jurisdictions.

As part of the process of building out a portfolio of opportunities to complement Citronen and IBGs existing NSW gold & base metal projects, the Ironbark Board invested significant time in identifying new projects in the September quarter, and continues to do so. The market will be informed in due course if any of these new project discussions prove fruitful.

## **Further Inquiries**

Contact and person who authorised the announcement:

Managing Director Michael Jardine on +61 424 615 047 or [mjardine@ironbark.gl](mailto:mjardine@ironbark.gl) for any further inquiries.

## ABOUT IRONBARK

Ironbark is listed on the Australian Securities Exchange and is seeking to become a base metal mining house. Ironbark seeks to build shareholder value through exploration and development of its projects and also seeks to actively expand the project base controlled by Ironbark through acquisition. The management and board of Ironbark have extensive technical and corporate experience in the minerals sector.

The wholly owned Citronen base metal project currently hosts in excess of 13.1 Billion pounds of zinc (Zn) and lead (Pb). For full details refer to ASX announcement 25 November 2014 – Citronen Project Resource Update – JORC 2012 compliant resource. Ironbark is not aware of any new information or data that materially affects the information included in this ASX release, and Ironbark confirms that, to the best of its knowledge, all material assumptions and technical parameters underpinning the resource estimates in this release continue to apply and have not materially changed.

## JORC Resource

The current JORC 2012 compliant resource for Citronen (see ASX announcement dated 12 March 2020):

**70.8 million tonnes at 5.7% Zn + Pb**

Category	Mt	Zn%	Pb%	Zn+Pb%
Measured	25.0	5.0	0.5	5.5
Indicated	26.5	5.5	0.5	6.0
Inferred	19.3	4.9	0.4	5.4
<b>Total</b>	<b>70.8</b>	<b>5.1</b>	<b>0.5</b>	<b>5.7</b>

JORC Table 1 included in an announcement to the ASX released on 12<sup>th</sup> March 2020: "Citronen Project Resources". Ironbark confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. 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 announcement.

## Ore Reserve

The Citronen Ore Reserve was prepared by independent mining consultancy Mining Plus, in accordance with the JORC Code 2012.

The current JORC 2012 complaint Ore Reserve for Citronen is summarised below:

**21.3 million tonnes @ 6.3% Zn equiv containing 1.3Mt of Zn metal and 0.1mt of Pb metal.**

Category	Tonnes (Mt)	ZnEq Grade (%)	Zn Grade (%)	Pb Grade (%)	ZnEq Metal (Mt)	Zn Metal (Mt)	Pb Metal (Mt)
<b>Proved</b>	7.8	6.3	5.9	0.6	0.5	0.5	0.04
<b>Probable</b>	13.5	6.3	6.0	0.4	0.8	0.8	0.06
<b>Total P&amp;P</b>	<b>21.3</b>	<b>6.3</b>	<b>6.0</b>	<b>0.5</b>	<b>1.3</b>	<b>1.3</b>	<b>0.10</b>

The Ore Reserve is based on Measured and Indicated Resources only and does not include any Inferred Mineral Resources. JORC Table 1 included in an announcement to the ASX released on 14<sup>th</sup> September 2020: "Maiden Ore Reserve defined at Citronen Project" and further information as provided in the ASX announcement dated 18 September 2020. Ironbark confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. 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 announcement.

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***"Ironbark is an emerging leader amongst Australia's mineral resource companies, dedicated to the development of its major base metal mining operation in Greenland – the world class Citronen Project, and the acquisition of quality base metals projects."***

## **Disclosure Statements and Important Information**

### **Forward Looking Statements**

The following information is not intended to guide any investment decisions in Ironbark Zinc Limited. This material contains certain forecasts and forward-looking information, including possible or assumed future performance, costs, production levels or rates, reserves and resources, prices and valuations and industry growth and other trends. Such forecasts and information are not a guarantee of future performance and involve many risks and uncertainties, as well as other factors. Actual results and developments may differ materially from those implied or expressed by these statements and are dependent on a variety of factors. The Company believes that it has a reasonable basis for making the forward looking statements in the announcement, based on the information contained in this and previous ASX announcements.

The Citronen Zinc Project is considered to be at an early development stage and will require further regulatory approvals and securing of finance and there is no certainty that these will occur. Nothing in this material should be construed as either an offer to seek a solicitation or as an offer to buy or sell Ironbark securities. Consideration of the technical and financial factors requires skilled analysis and understanding of their context.

Ironbark is not aware of any new information or data that materially affects the information included in this ASX release, and Ironbark confirms that, to the best of its knowledge, all material assumptions and technical parameters underpinning the estimates in this release continue to apply and have not materially changed.

### **Competent Persons Statement**

The information included in this report that relates to Exploration Results & Mineral Resources is based on information compiled by Ms Elizabeth Clare 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 consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The mining-specific information in this report, which relates to Ore Reserves, is based on information compiled by Mr Andrew Gasmier CP (Mining), who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Gasmier is employed full time by Mining Plus. He 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'. Mr Gasmier consents to the inclusion in the report of the matters based on his 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.

### Schedule of Tenements (as required by ASX Listing Rule 5.3.3)

IRONBARK ZINC LIMITED CONSOLIDATED BASIS				
SCHEDULE OF INTERESTS IN MINING TENEMENTS				
Project	Mining Licence and tenements held	Location of tenements	Beneficial % interest at end of the quarter	Change in the quarter
Captains Flat (Joint Venture with Glencore)	EL6381	New South Wales	50%	-
Fiery Creek	EL6925	New South Wales	100%	-
Citronen	ML 2016/30	Greenland	100%	-