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31 January 2019

Company Announcements

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

# QUARTERLY ACTIVITIES REPORT PERIOD ENDING 31 DECEMBER 2018

Ironbark Zinc Limited ("Ironbark, the Company") (ASX: IBG) hereby provides a report on its activities for the period ending 31 December 2018. During this reporting period the Company maintained focus towards developing the world class Citronen zinc project (Citronen). The zinc price remains strong and with a granted Mining Permit over one of the largest zinc deposits in the world and current Feasibility Study –the current resource stands at 70.8Mt @ 5.7% zinc + lead using a 3.5% zinc cut-off (Measured 25Mt, Indicated 26.5Mt and Inferred 19.3Mt) which compares favourably against a global average underground primary zinc mine head grade of 4.9% zinc (S&P Global, October 2018). This places the Citronen project as a globally significant, open ended in terms of actual size, unmined asset that is uniquely well-placed moving forward to achieve long life and large-scale production.

The Company is now working hard to secure finance in order to develop the large scale Citronen zinc project.

Ironbark reports on the following activities during the Quarter:

- Metso Memorandum of Understanding
- Financing Update
- Board Nominee resignation and update
- Captains Flat Project Update
- Citronen Project Expansion
- Capital Raising
- Zinc Market Update

# Memorandum of Understanding with Metso Sweden AB

Ironbark announced that it entered into a Memorandum of Understanding with Metso Sweden AB ("Metso").

The agreement provides a framework to negotiate a commercial agreement regarding services and equipment to be provided to Ironbark by Metso. This Memorandum of Understanding seeks to:





- Provide a platform to negotiate a commercial and binding agreement regarding services and equipment to be provided by Metso to Ironbark for the Citronen Zinc Project.
- 2) Enable Metso to commence engineering tasks which shall precede the completion of detailed engineering of processing equipment, including the provision of technical specifications for specific third party supplied equipment. The completion of the design works, and manufacture of the key process equipment is contingent upon the parties entering into a commercially binding agreement to design, manufacture and supply the Citronen processing plant.

Ironbark is also in discussions with other highly regarded groups regarding the supply of all components for the Citronen Facility. These companies have the potential to significantly assist with the overall project financing.

Metso have collaborated with Ironbark for several years and were instrumental in the preparation of the Process Flow Sheet for the Citronen Feasibility Study. The two groups have maintained open communication during this time. A Metso technical representative visited the project site in August 2018.

Metso is a world-leading industrial company offering equipment and services for the sustainable processing and flow of natural resources in the mining, aggregates, recycling and process industries. Metso's unique knowledge and innovative solutions, Metso helps its customers improve their operational efficiency, reduce risks and increase profitability. Metso is listed on the Nasdaq Helsinki in Finland and had sales of about EUR 2.7 billion in 2017. Metso employs over 12,000 people in more than 50 countries.

The future commercial agreement will, inter alia, contain and address the following matters:

- Scope of Metso's supply of services and equipment;
- Price for Metso's supply of services and equipment and payment terms, including a lump sum cost for remaining engineering works and project management scope;
- Delivery terms;
- Provision of Process Guarantee;
- Metso compliance with Greenlandic Government requirements and guidelines as applicable.

Ironbark is moving towards building on the long running relationship with Metso and the Citronen zinc project. Metso is exceptionally well regarded internationally and has direct experience with operations which are very similar in commodity/grade/scale to the Citronen project. Metso is also located in Scandinavia and therefore is well positioned to comply and assist with the training and employment obligations that Ironbark is operating under in Greenland.

### **Financing Update**

During the reporting period Ironbark continued work on the project financing with the appointed financial advisors, Cutfield Freeman & Co., engaged to assist Ironbark structure the financing for the Citronen zinc project.





Following on from the series of site visits held last quarter to the Citronen proposed mine site, attended by several groups of high calibre potential investors, private equity groups, bankers, equipment suppliers and mining operators to review the project site, the due diligence process continued.

Ironbark reports that it continues with meaningful progress towards financing and has managed to field significant interest towards building the syndicated financing solution for the Citronen base metal project and advance the financing of one of the largest global zinc mines.

The package is being arranged with the assistance of Cutfield Freeman & Co. and remains ongoing however Ironbark intends to make an announcement in relation to a lead appointment shortly.

The indicative financing structure and plan is under consideration however it is likely to be made up, in part, of long-term debt targeting Export Credit Agencies over an extended period, ~10 years, which would provide a positive influence on the financing plan. Private Equity groups also remain interested in forming part of the financing package. This could potentially act as semiequity and should not affect gearing levels (although it does impact debt capacity).

The equity requirement versus the current market capitalisation of ~\$20m remains the largest challenge and Ironbark is also actively seeking a strategic investment / commitment at the project level. Discussions remain incomplete and ongoing. Typical Confidentiality Agreements preclude Ironbark from confirming these parties, the status of any discussion or any terms. In addition, it is likely due to the size of the funding requirement, that the financing will be comprised of several parts provided by several parties.

We have commenced engaging with the engineering and lending groups and will seek contingent commitments – our hope and expectation would be that announcing the component parts of the financing forming a greater package will strengthen Ironbark's share price which would then assist in the equity component.

### **Board Nominee Resignation and Update**

Ironbark provided further disclosure regarding the resignation of David Kelly, a Glencore International AG (**Glencore**) nominee, as a director of the Company. Concurrent with the notification of Mr Kelly's resignation (which was announced to ASX on 8 October 2018), Ironbark received from Glencore a request for Ironbark to appoint a replacement Glencore nominee director.

The Board of Ironbark decided not to appoint a replacement Glencore nominee director and have informed Glencore of that decision.

Glencore has provided a further notice to Ironbark that it:

- considers it has a contractual right to appoint a nominee director to the Ironbark board;
- requests the immediate reinstatement of a nominee director; and
- reserves its rights in relation to the matter.

Ironbark disagrees that Glencore has a contractual right to an ongoing Board position. Glencore has referred the matter to arbitration. Ironbark intends to defend the claim.





### Captains Flat Project Update

Ironbark announced it commenced exploration at the Captains Flat base metals project.

Geophysical group, Gap Geophysics and Southern Geoscience commenced a HeliSAM electromagnetic (EM) survey over the proven large-scale Jerangle Prospect at Captains Flat. This work has been financed in advance jointly by Ironbark and New South Wales Base Metals (NSW BM – a subsidiary of Glencore) on an equal basis which is the same as the ownership. This programme will provide the first large scale modern geophysical survey over the Captains Flat project area (Figure 1).

The Captains Flat project hosts the historic and significant Lake George Mine as well as numerous highly prospective exploration targets.

Ironbark and NSW BM have already enjoyed historic exploration success with significant base metal intercepts returned from the Jerangle Prospect earlier drilling and look forward to continuing their work on this significant and underexplored proven high-grade base metals province. The geophysical survey is hoped to better identify and detail the location, scale and geometry of the identified mineralisation.

### **About the Captains Flat Project**

The Captains Flat Base Metal Project is located 45km south east of Canberra in New South Wales. The Project covers a strike length of 49 kilometres of highly prospective volcanics (Figure 2).

Historic drilling has returned high grade copper and zinc drill intercepts over numerous prospects. Drilling by Ironbark also returned high-grade base metal results that warrant follow-up. Some of the identified targets that warrant follow up include:

### **Lake George Mine**

Historic production from the Captains Flat – Lake George Mine: 4Mt of ore @ 10% Zn, 6% Pb, 0.7% Cu, 1.8g/t Au & 55g/t Ag – this was at one time Australia's second largest producer of lead.

Drilling below mine workings in the 1960's demonstrated excellent potential below historic mining – the deepest drill hole returned: 1.22m @ 12.4% In & 5.4% Pb- with very little follow-up.

### Vanderbilt Hill Prospect

Historic drill intercept: 3.9m @ 10% Zn, 5.3% Pb, 0.1% Cu – very little follow-up drilling.

#### **Anembo Prospect**

Historic drill intercept: 3m @ 6.9% Zn, 5.5% Pb, 21g/t Ag & 2.0 g/t Au.

#### Jerangle Prospect

Historic drill intercepts:

- 2.25m @ 5.2% Cu.
- 29.4m @ 0.5% Cu, 2.2% Zn, 8 g/t Ag including 1.9m @ 4.9% Cu, 6.3% Zn & 17g/t Ag. Ironbark drilling returned 4.4m @ 12.05% Zn.







Figure 1: HeliSAM EM Survey commenced.



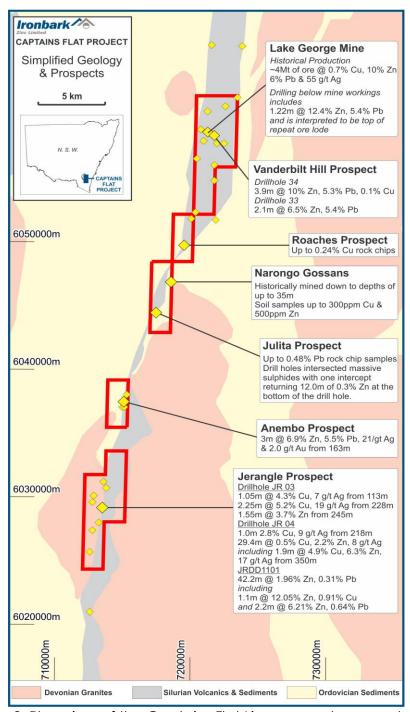


Figure 2: Plan view of the Captains Flat Licence and prospects.



### Citronen Project Expansion

Ironbark expanded the project region held under licence application to dominate the district (Figure 3). The Licence was granted subsequent to the quarter, on 1st January 2019.

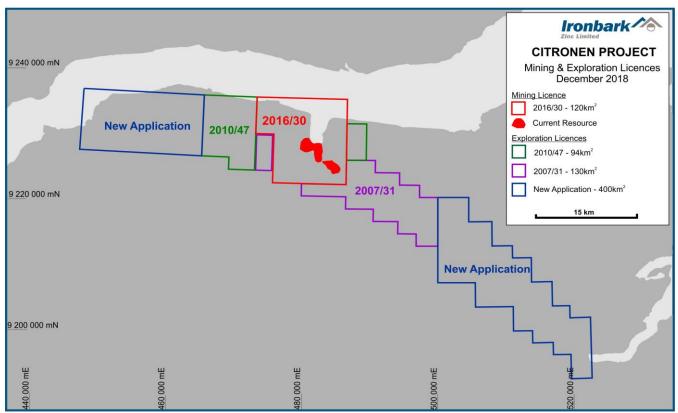


Figure 3: Citronen Expanded Licence Application.

The Citronen project remains open ended at depth (repeat lodes), laterally and on strike. Mineralised outcropping gossans identified in the far North West ("The Western Gossans") occur over an extensive region overlying the interpreted source fault that follows the trend of the licence. This new licence application covers the identified areas that are considered prospective and the trend of the Western Gossans (Figure 4).



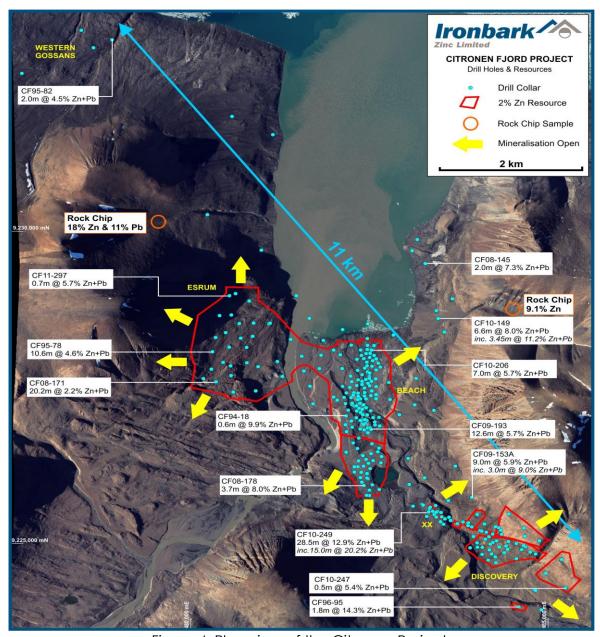


Figure 4: Plan view of the Citronen Project.

### Capital Raising

Ironbark announced it completed a book build for a placement to institutional and sophisticated professional investors to raise to \$2 million at an issue price of \$0.028 per share ("Placement").

The Placement included the issue of 71,428,571 new shares, pursuant to the Company's capacity under ASX Listing Rules 7.1. Settlement of the Placement occurred on Wednesday, 28 November 2018.

The funds raised pursuant to the Placement will be used primarily to fund the Citronen Project to advance the financing and development and for general working capital.



#### Zinc Market Update

The zinc price has shown less volatility over the quarter and closed the quarter at a similar price to the beginning of the quarter. The zinc price has, along with other metals, recently started to show some strength with a solid rise of 8% in the month of January (subsequent to the quarter – Figure 5). Despite the ongoing global volatility and trade uncertainty, the growing critical shortage of zinc held in stockpiles has again been pronounced (Figure 6). At the time of writing the zinc price was ~US\$1.21/lb or US\$2,658/t. Since the date of the last quarter until the date of this report, the zinc stockpiles held in the London Metal Exchange (LME) have fallen by nearly 52%, which is significant, especially given the reduction in the preceding quarter. The Shanghai Futures Exchange and LME zinc stockpiles are currently now solidly less than a week's global average consumption. This very tight market bodes well for ongoing zinc market tightness and the zinc price. There remains debate about the projected tightness going forward after the International Lead and Zinc Study Group (ILZSG) revised its supply-demand forecasts in October. The ILZSG amended the global zinc deficit forecast for 2018 to 322,000 tonnes from the previously estimated 263,000. The ILZSG also extended the deficit position to continue in the end of 2019 despite a projected 6.4% increase in mine production.

New mine production forecasts have typically exceeded actual production and this may continue which Chinese production remaining under environmental permitting pressure.



Figure 5: LME Zinc Stockpiles





Figure 6: LME Zinc Prices

Aside from the inevitable depletion of several of the worlds larger zinc mines with little in the way of new discoveries and the ever growing global zinc demand there are other market dynamics at play. China has historically produced almost half of the worlds zinc and generally consumes approximately this amount. Since 2014, the Chinese authorities have taken a strict stance regarding the protection of the environment. Several Chinese miners, particularly the smaller to medium swing producers, have historically had a substantial and negative impact on the environment. The new Chinese focus has resulted in the suspension of a large number of smaller operations. This has had a strong and likely lasting effect on the supply and demand fundamentals surrounding zinc production. Existing operations around the world have expanded where possible, in many cases with production growth considered to be near record levels in 2017 and forecast to be equally strong in 2018. Wood Mackenzie forecast that despite this, the global zinc stocks will remain at critically low levels and have forecast zinc to rise substantially in the first quarter of 2019.

Zinc oxide batteries are now starting to be commercialised and have hit manufacturing costs of below US\$100 kw/h, substantially lower than a typical lithium battery storage solution, see NantEnergy. In addition the zinc oxide batteries have the potential to have a substantially longer cycle life and do not overheat, reducing the risk of fire. NantEnergy claim that over 200,000 people are now dependent on zinc air batteries. While at an early stage, the broader adoption of zinc oxide batteries could result in an unexpected but significant increase in the consumption of zinc.

### **Cash Position**

The Company holds a cash position at the end of the December 2018 quarter of approximately \$2.1 million with no debt.

For further information please visit Ironbark's website <a href="www.ironbark.gl">www.ironbark.gl</a> or contact us:

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### **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.

The current JORC 2012 compliant resource for Citronen:

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	5.3

Using Ordinary Kriging interpolation and reported at a 3.5% Zn cut-off

Including a higher grade resource of:

29.9 million tonnes at 7.1% Zn + Pb

Category	Mt	Zn%	Pb%	Zn+Pb%
Measured	8.9	6.6	0.6	7.2
Indicated	13.7	6.8	0.5	7.3
Inferred	7.3	6.2	0.5	6.6

Using Ordinary Kriging interpolation and reported at a 5.0% Zn cut-off

"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."



## <u>Disclosure Statements and Important Information</u>

### **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 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.

#### **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 Mining Licence Beneficial** % Location of Change in the Project and tenements interest at end of tenements quarter held the quarter Captains Flat (Joint Venture with EL6381 **New South Wales** 50% Glencore) EL6925 100% Fiery Creek **New South Wales** 0% (100%) EL8107 ML2016/30 EL2007/31 100% Citronen Greenland EL2010/47 EL2011/28 EL2007/32 100% Mestersvig Greenland EL2016/22 Washington Land EL2007/33 Greenland 100%