

7 September 2020

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

CITRONEN MINE PLAN OPTIMISATION

Ironbark Zinc Limited (“Ironbark”, “the Company” or “IBG”) is pleased to provide an update on the recently completed mining review undertaken by leading international Mining Consultancy Mining Plus (**Optimisation Study**) for the Company’s 100% owned Citronen Zinc-Lead Project in Greenland (**Citronen**).

Highlights

- Mining optimisation conducted at USD1.20/lb (USD2,645/t) in current study (vs. USD 1.38lb in 2017)¹
- **3.3Mtpa operation confirmed** as the optimum scale¹
- **An additional 90,000t of Zn metal delivered in first 6 years** vs. prior plan
- **Initial 14yr mine life confirmed** from a combined Underground and Open Pit Operation¹
- Introduction of **design flexibility to accommodate extensions to mine life** in the event of a continuing rising Zn price (see Sensitivity Analysis on p.4 below)
- Integration of progressive ore pillar recovery using tailings as backfill into mining method
- **Improved safety and operating practices** arising from the adoption of a twin decline design
- All mining costs, both capex and opex, have been derived from first principles using current technologies and resource pricing
- Concentrate **offtake agreements with major IBG shareholders Glencore Pls and Trafigura** persist such that 70% of the Zinc concentrate to be produced from Citronen is committed.

1. Refer to ASX release dated 12 September 2017, “Citronen Feasibility Study Update”, for full details of the underlying assumptions underpinning the Citronen Feasibility Study. The Company confirms that all material assumptions underpinning production targets or forecast financial information derived from a production target continue to apply and have not materially changed.

Ironbark Managing Director Michael Jardine commented:

“This study represents the first instalment of several reviews currently being undertaken to ensure that the Feasibility Study for the Citronen Zinc Project is completely refreshed by taking advantage of the many changes in technologies, standards and pricing that have occurred since the original study work was completed in 2012.

These initial findings, focussed on the mining operations, demonstrate the wisdom of this approach and serve to reinforce the magnitude of the opportunity that the Citronen ore deposit represents. These mining study results further de-risk the project by the adoption of updated mining practices, an optimised new mine plan and more efficient production schedule.

Against the backdrop of the current trend in rising Zinc prices, the mining study results confirm that Citronen represents an outstanding project development opportunity. Globally, it is now being positioned to be one of the next major zinc projects for investment with its long mine life, substantial further exploration upside, a granted mining licence in a very stable jurisdiction and continued support from the two largest base metal traders in the world, Glencore and Trafigura.

The Ironbark Board remains committed to its strategy of completing the refresh of all key elements of the previous feasibility study work ahead of pursuing a project investment decision. To this end, work is currently underway on updating the metallurgical flowsheet, logistics, project execution, communications and power generation. Notwithstanding the

difficulties posed by advancing this work during the current Covid-19 pandemic, it is expected that all study streams will be finalised by the first quarter of 2021.

Ironbark remains fully funded through to the completion of this program and management continues to undertake preparatory discussions with a number of potential counterparties in order to facilitate the future development step.

In conjunction with the Citronen work stream, management is also reviewing opportunities to re-engage in domestic exploration. This scope includes exploration opportunities within the current Ironbark portfolio, as well as, potential acquisitions. The Board and Management will only pursue exploration programs that offer realistic opportunities for near term success.”

Cautionary Statement

Please note that Production Targets within this announcement are based on a proportion of inferred resources. There is low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised. The estimated mineral resources underpinning the production targets were released to the ASX on 12th March 2020.

Overview

Process

In early 2020, the Ironbark Board committed to undertake a comprehensive revision of the Feasibility Study for the Citronen Project 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 to update the Citronen development plan, 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

Assisted by teams in Melbourne and Canada, where Mining Plus has personnel with significant Arctic mining experience, the study ran from February to August 2020. The timeline for completion was unavoidably extended due to the outbreak of the Covid-19 pandemic and its impact on personnel and work practices.

Results

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 Zn 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.

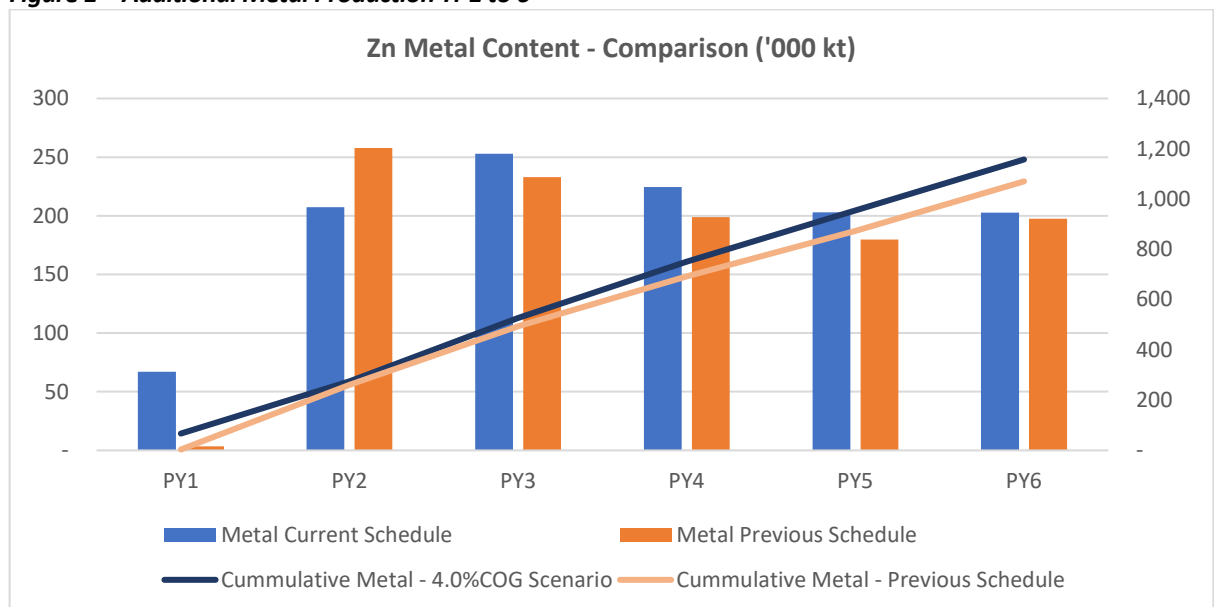
Production

The study reaffirmed that the ore body supports a 3.3Mtpa throughput rate, mined from a combined Underground and Open Pit operation. To further decrease risk and to embrace the highest possible standards of safety, underground access to the main orebodies is now proposed to be via twin declines. While increasing initial development costs, this approach has substantially improved subsequent mining productivity and considerably enhanced safety standards. The Cut and Fill mining method was optimised to follow the contours of the orebody mineralisation more closely to increase metal recovery and reduce mining dilution.

These changes have materially improved metal recovery in the first 6 years of run rate production, with an additional 90,000 tonnes of Zn metal being extracted over that time.

Please see Fig 1 below for details of this on an annual basis:

Figure 1 – Additional Metal Production Yr 1 to 6



Additionally, the merits of a smaller 1Mtpa operation were also explored in the Study but the trade-off between fixed costs to establish the site vs. overall metal recovery (and lower operating costs once built) determined that the larger run rate was more appropriate for the Project.

Cut-Off Grade Assumptions

Both higher and lower Cut Off Grade (COG) (5.3% Zn and 4.0% Zn respectively) cases were examined in detail in the study, in conjunction with multiple alternative mining scenarios. The same Zn price of USD 1.20/lb was applied to both the higher grade and lower grade scenarios.

The 4.0% COG chosen in the final design was selected because it delivered 30% more revenue into the underground mine and reduced underground capital and total costs per tonne by 29% and 10% respectively. The Discovery Open Pit also comes into the schedule at the lower COG, after underground mining is complete.

A summary of the physical results of both options is presented below:

5.3% COG SCENARIO	
Revenue	Value
Ore tonnes	18.3M
Recovered Zn (t)	1.0M
Zn price US\$/t	2,645
Recovered Pb (t)	49,758
Pb price US\$/t	2,094

4.0% COG + OP SCENARIO	
Revenue	Value
Ore tonnes	37.7M
Recovered Zn (t)	1.6M
Zn price US\$/t	2,645
Recovered Pb (t)	96,795
Pb price US\$/t	2,094

Mining costs, both Capital and Operating, were rebuilt from first principles as part of the study, with contractor rates applied throughout (potentially lowering the eventual upfront capital expenditure hurdle).

It is anticipated that this analysis will now be extended to determine an owner operator cost model, which the Ironbark Board expects would realise an estimated 5-10% reduction in mining operating costs.

Sensitivity Analysis

The Citronen deposit has been proven to be highly sensitive to a rising Zinc price, and, given the very large in situ Mineral Resource, the operation is favourably positioned to accommodate an extended mine life if the price rises above the currently adopted USD1.20/lb.

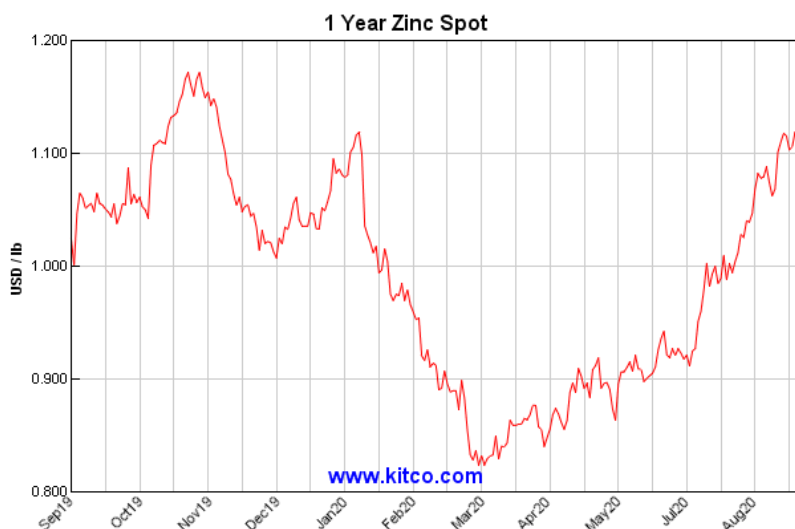
The key sensitivity outputs in terms of additional tonnes include:

			+10%	+20%	+25%
	Price	1.20	1.32	1.44	1.50
5.3% Zn COG	M Tonnes	18.3	21.8	26.0	28.5
4.0% Zn COG	M Tonnes	37.7	43.2	49.7	53.6

Citronen Project and the Zinc Market

The Zn price is currently in a strong post-Covid recovery phase with a combination of supply disruptions and forecast stimulus induced growth promising to drive base metal sentiment higher:

Zinc Price – Last 12 Months (http://www.kitco.com/charts/zinc_historical_large.html#1year)



With its long mine life and scale driven cost advantage over its near-term Zn developer peers, the Ironbark Board anticipates that Citronen will be well positioned to ride out the swings of the Zn price cycle, capturing multiple “booms” over the longer term.

Further Details

This notice is authorised to be issued by the Board.

Please contact Managing Director Mr. Michael Jardine for any further inquiries on either 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 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 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.

The current JORC 2012 compliant resource as released on 25th November 2014 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

JORC Table 1 included in an announcement to the ASX released on 25 November 2014: “Citronen Project Resource Update”. 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.

Cautionary Statements

Please note that Production Targets within this announcement are based on a proportion of inferred resources. There is low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised. The estimated mineral resources underpinning the production targets were released to the ASX on 25th November 2014.

The ASX release dated 12 September 2017, "Citronen Feasibility Study Update", contains full details of the material underlying assumptions underpinning the Citronen Feasibility Study. The Company confirms that all material assumptions underpinning production targets or forecast financial information derived from a production target continue to apply and have not materially changed.