

# Explorer Quarterly Cash Update

Ten-year anniversary special:

Explorers to producers - three stories of successful  
transitions into production

Ten-year  
Anniversary  
Special

## Foreword

Every quarter since June 2013, BDO has analysed the financial health of the Australian exploration sector based on cash flow data from Appendix 5B reports lodged with the Australian Securities Exchange (ASX) by listed exploration companies. The June quarter of 2023 marks the 10th year anniversary of our analysis of this data.

One of the most rewarding parts of having compiled the cash flow data of explorers over the last decade is being able to witness companies making that journey from exploration to development and finally to production.

Unknown to some, the requirement to lodge an Appendix 5B (or quarterly cash flow statement) under Chapter 5 of the ASX Listing Rules is only mandatory for companies in the exploration phase. As such, once an exploration company is reclassified as a producing entity, it transitions naturally out of our quarterly dataset. Several companies in our 10-year dataset have managed to take this step, and it is interesting to look back on how the movements in their cash flows have corresponded to each phase of their journey to production.

The life cycle of exploration companies varies across different commodity types and is largely dependent on external market factors, operating conditions and commodity prices at the time, meaning no one journey is the same. Sometimes, an explorer is acquired by a larger player the moment they hit a valuable resource discovery. Occasionally, an explorer tries to move into the development phase on their own but encounters various obstacles, such as funding or approvals to mine, which draws out the process to reach first production. But ever so often, an exploration company manages to stay the course and surmount the obstacles to eventually fulfil the proverbial journey of exploration to production.

In this month's 10-year anniversary special feature, we explore the stories of three mining companies, Pilbara Minerals Ltd, Capricorn Metals Ltd and Image Resources NL, and their journey to production. We have analysed the historical cash flow data for these companies over the last 10 years to identify key insights and trends. Each of these companies has its own unique paths to production, and although they differ across commodity focus, all three of them are based in Western Australia.



**Sherif Andrawes**  
Partner and BDO's Global and  
National Head of Natural Resources  
Corporate Finance

[sherif.andrawes@bdo.com.au](mailto:sherif.andrawes@bdo.com.au)

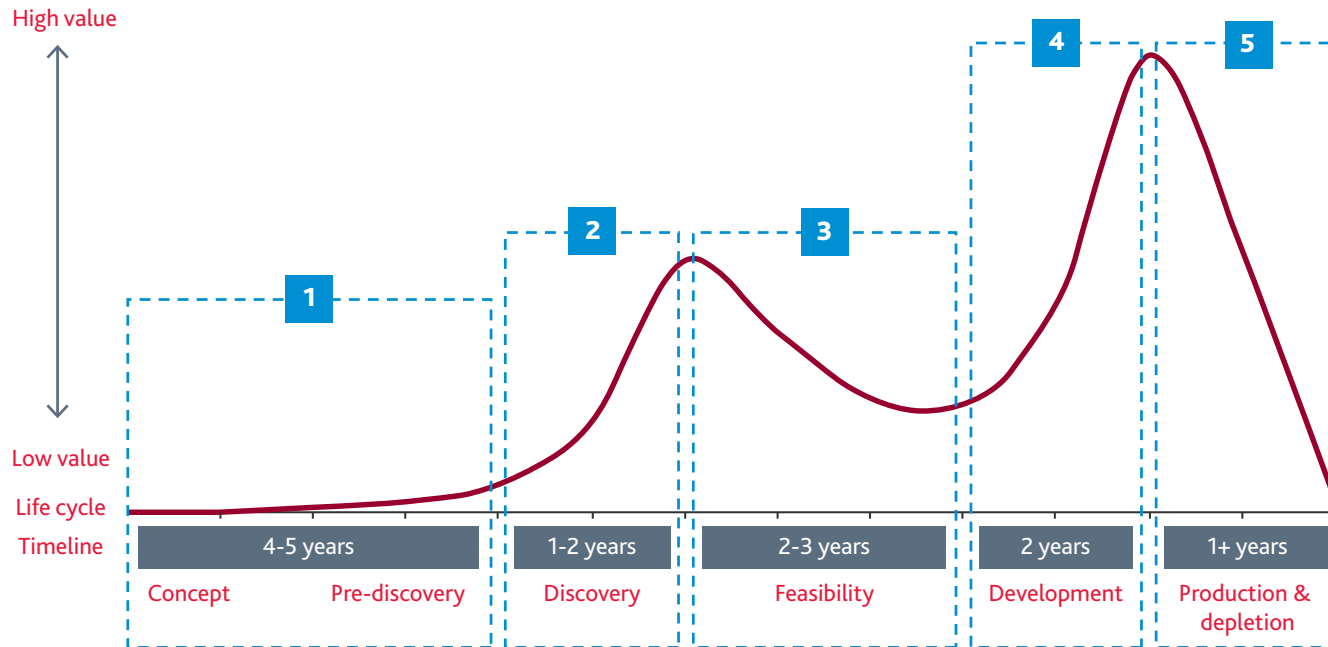
Direct +61 8 6382 4763

Mobile +61 412 902 444



# Introduction to the Lasso Curve

Back in 1990, Canadian-born Pierre Lasso de authored a book entitled *The Gold Book: The Complete Investment Guide to Precious Metals*, which hypothesised how the value of mineral exploration companies followed the various phases of the mining life cycle. He developed the Lasso de Curve, which aimed to provide diagrammatical insights to each of the stages of the mining life cycle and the potential value creation at each phase. These key stages are:



As we analyse the case studies of Pilbara Minerals, Capricorn Metals and Image Resources, we consider their respective journeys to production in relation to the various stages outlined in the Lasso de Curve.

We also consider broadly how closely the various stages follow the value creation curve and the cash investment needed to progress each stage.

1

**The concept and pre-discovery phase** - initial exploration to determine the ore bodies and mineral potential before communicating results to capital markets. At pre-discovery, investor speculation of a positive discovery gives rise to a potential increase in value.

2

**The discovery phase** - rewards early speculators when exploration reveals the presence and extent of minerals beneath the surface, warranting further study to assess mining feasibility. Speculative investors tend to exit here as a new set of risks arise going forward.

3

**The feasibility phase** - once the presence of minerals has been established, studies are conducted to demonstrate the deposit's potential to become profitable. Positive results from feasibility studies lower the economic uncertainty and risk to an acceptable level for institutional investors.

4

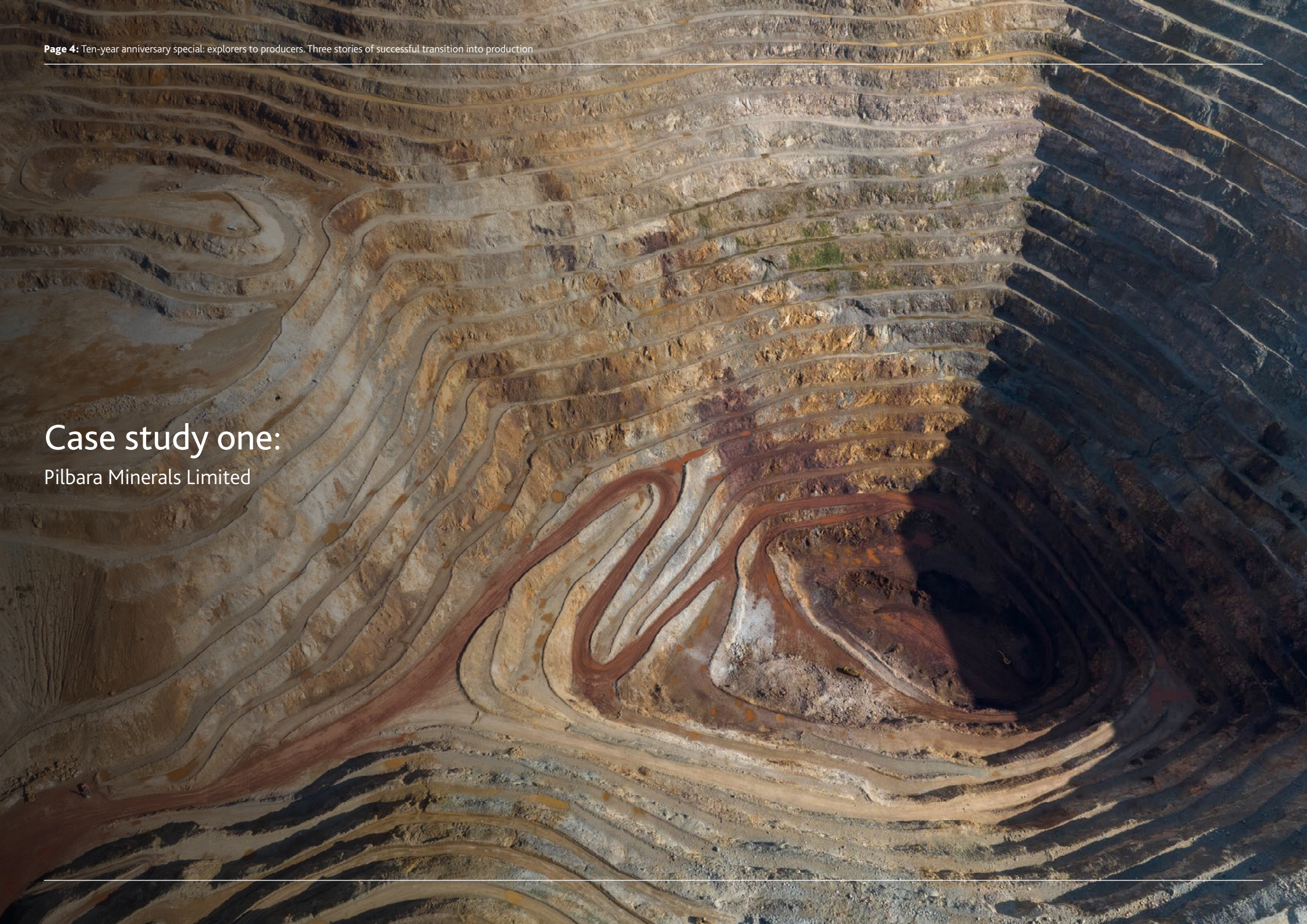
**The development phase** - requires a production plan for the mine. Companies seek funding and capital expertise to transform the ore body to production. This is the first stage in which revenue becomes apparent from mining activities.

5

**The production and depletion phase** - final stages involving processing the ore and generating revenue. Investment analysts often re-rate the project, and investors are tasked with the decision to exit or wait for potential increases in revenues and dividends. The value of the mine decreases as the mineral reserve depletes.

## Case study one:

Pilbara Minerals Limited



## Pilbara Minerals Limited

Perhaps one of the more well-known success stories of WA mining, Pilbara Minerals, started its journey to production with the acquisition of five tenements at Pilgangoora from Global Advanced Metals Wodgina Pty Ltd in May 2014. These tenements were collectively known as the Pilgangoora Project ('Pilgangoora'), which would later become Pilbara Minerals' flagship asset\*.

Pilbara Minerals' maiden drilling program at Pilgangoora spanned from November to December 2014, with results indicating a substantial upgrade in its tantalum-lithium resource, and later led to an updated Joint Ore Reserve Committee ('JORC') 2012 Mineral Resource Estimate ('MRE') in March 2015.

The resource was further substantiated through subsequent drill programs until November 2015, when the company issued a preliminary \$12 million share placement to fund drilling and feasibility work to progress the development of the project.

The Pre-Feasibility Study ('PFS') was completed in March 2016, confirming Pilgangoora's global significance for lithium concentrate. Investor sentiment was strong, as evidenced by a heavily oversubscribed placement and fully underwritten Share Purchase Plan, raising a combined \$95.7 million in equity. A Definitive Feasibility Study ('DFS') followed in September 2016, affirming the feasibility of commencing development at Pilgangoora in the fourth quarter of that year.

Long lead time activities commenced during November 2016, though it was not until June of the following year that the board approved major site works, underpinned by the receipt of a \$132.3 million bond facility, which comprised a cornerstone investment by Clean Energy Finance Corporation ('CEFC'). Funding was also supported by the completion of a heavily oversubscribed \$80 million Share Placement in May 2017.

The transformation from explorer to producer first occurred in June 2018 when Pilgangoora's first shipment of Direct Shipping Ore ('DSO') was sent to China. A further milestone was the company's maiden shipment of spodumene concentrate bound for North Asia in October that year.

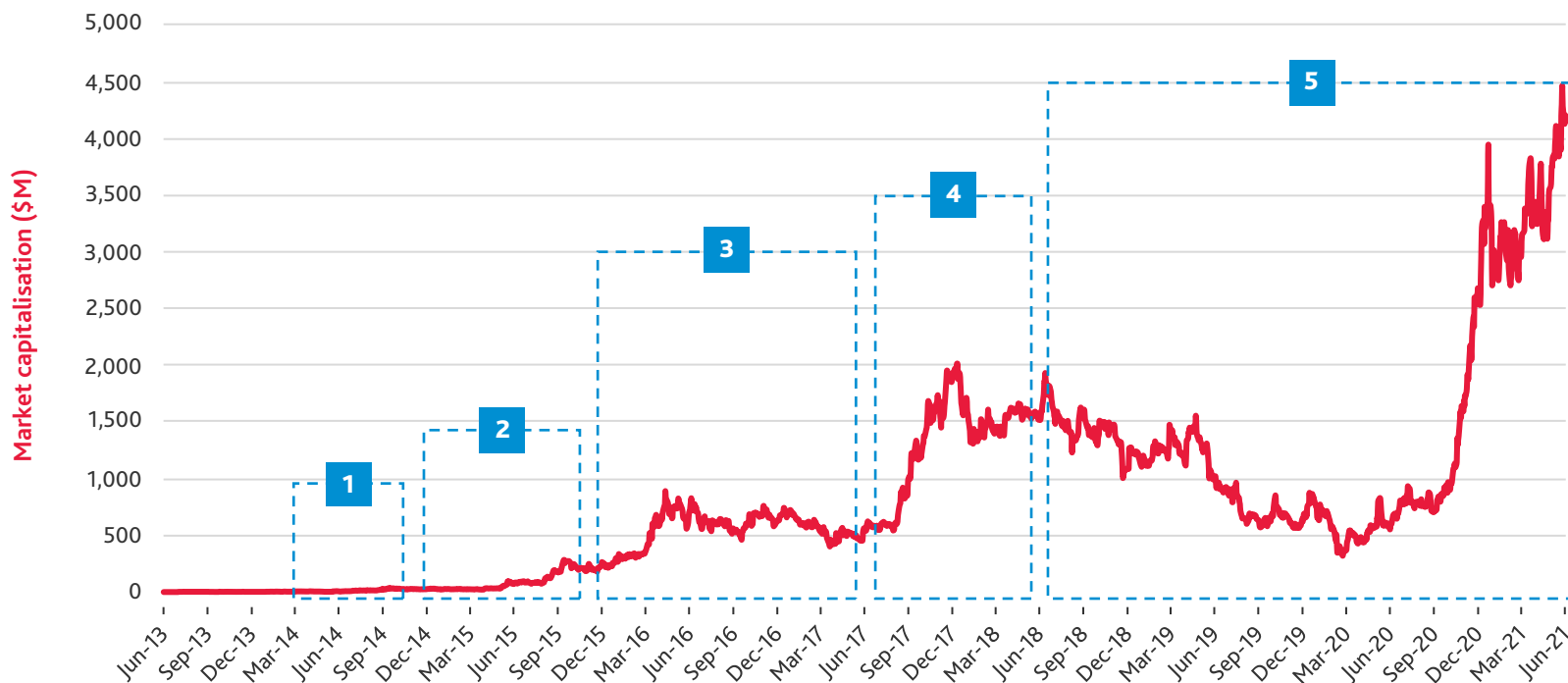
An interesting development in the Pilbara Minerals story was the commencement of their Stage 2 expansion in January 2019, following board approval in November 2018. However, in the second half of 2019, external market conditions caused the global market for lithium raw materials to slow, which impacted both spodumene exports from WA and spodumene prices. Consequently, Pilbara Minerals curtailed the mining and processing capacity at Pilgangoora, ultimately reducing equity value.

Pilbara Minerals' meteoric rise in value since September 2020 has been boosted by the culmination of extrinsic factors such as the bounce back of market demand and the continual shore-up of resources, including the purchase of Altura Lithium Operations in January 2021.

*\*At the time of acquisition, Pilbara Minerals was also in a 50-50 joint venture with Valdrew Nominees Pty Ltd for the Tabba Tabba Lithium-Tantalum Project.*



### Pilbara Minerals market capitalisation



**1 Concept:** Acquisition of Pilgangoora May-14

**2 Discovery:** Commencement of drilling in Nov-14 and updated MRE in Mar-15

**3 Feasibility:** Capital raise to fund PFS and DFS Nov-15

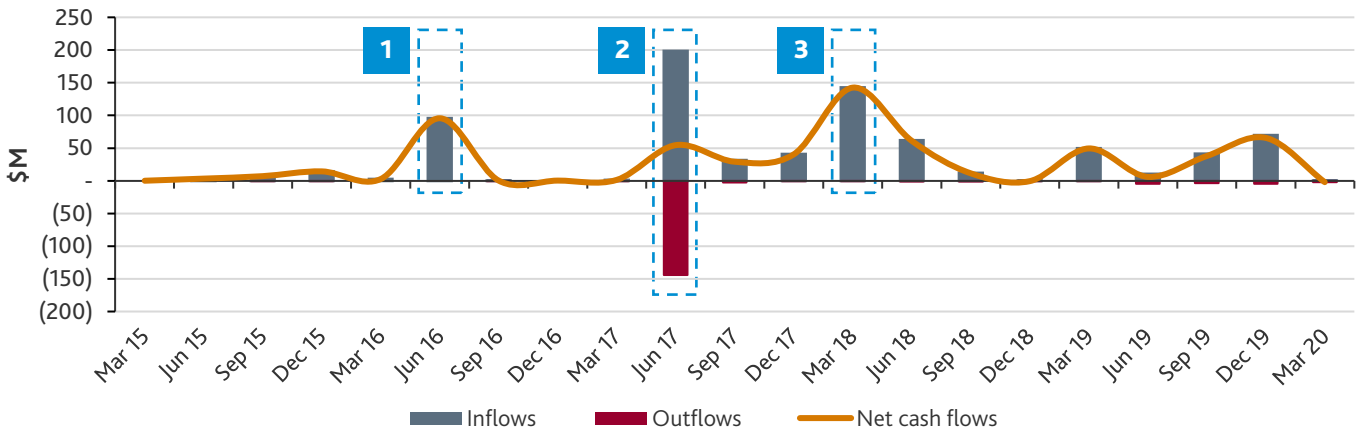
**4 Development:** Construction of Pilgangoora project in Jun-17 following receipt of funding

**5 Production:** First shipment of DSO Jun-18 Stage 2 expansion commences Jan-19

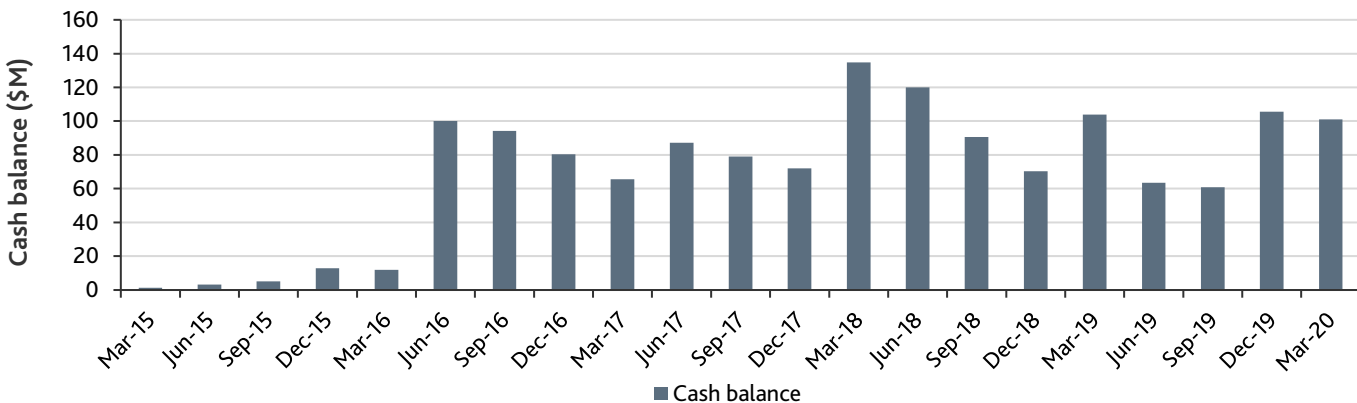
# Financing cash flows

The three largest financing inflows for Pilbara Minerals occurred at three distinct stages. The first being the \$100m to strengthen its balance sheet and advance development, the second for its mine and processing plant construction in 2017 and the third for commissioning costs in March 2018.

## Financing cash flows (\$M)



## Cash balance (\$M)



1

Taking advantage of strong market conditions, rapidly increasing demand and a confirmed PFS, Pilbara Minerals raised a total of \$100 million via a capital placement (\$85 million) and Share Purchase Plan (\$15 million) to strengthen their balance sheet and advance the project into production.

2

Through a cornerstone investment from CEFC of a \$132.3 million bond facility and an \$80 million share placement, the company was able to commence major works at the Pilgangoora project.

Note a nil net cash movement from the bond facility as the bond proceeds were deposited into a bond escrow account pursuant to the terms and conditions of the bond.

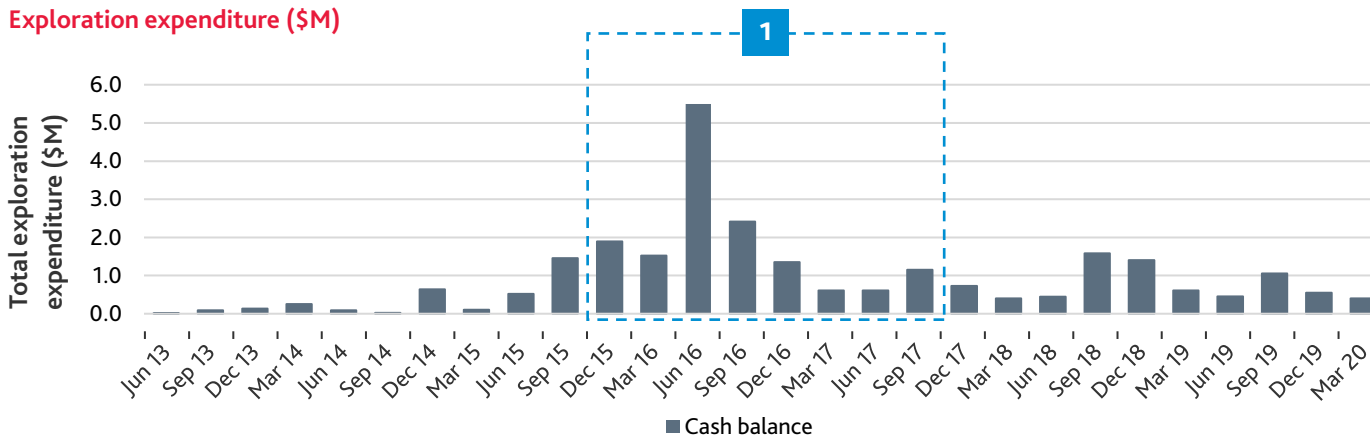
3

Pilbara Minerals received a cash injection of \$63.1 million after their first draw down of the CEFC secured bond upon meeting all specified conditions in the project. All proceeds were applied to project construction and plant commissioning.

# Operating cash flows

Following the completion of the PFS in March 2016, Pilbara Minerals spent \$5.5 million on exploration within the June 2016 quarter to determine commercial feasibility and shore up its resource.

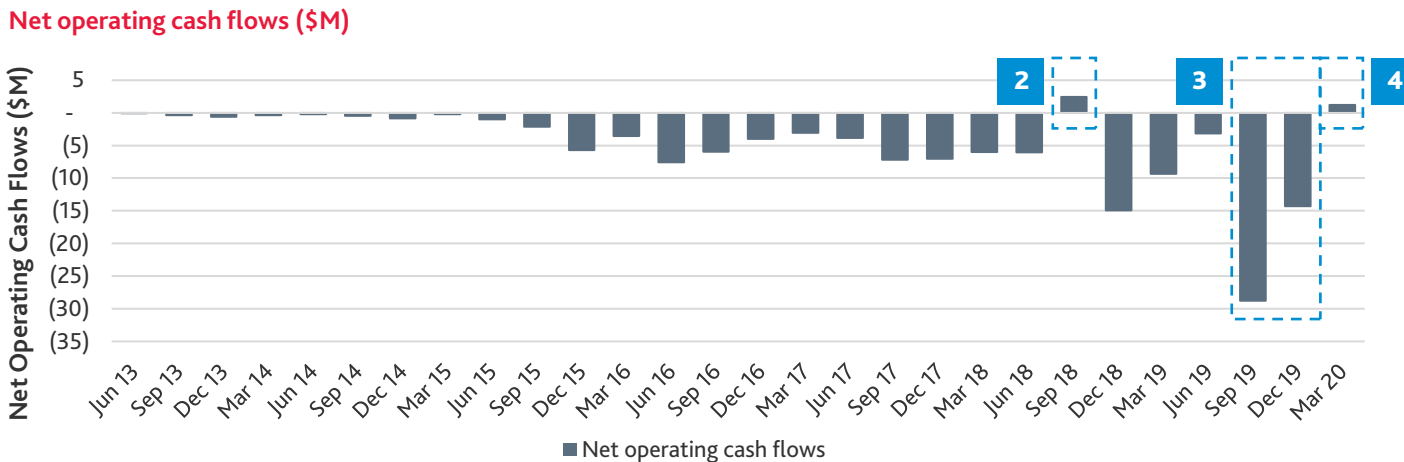
## Exploration expenditure (\$M)



**1** Pilbara Minerals increased exploration expenditure in September 2015 to further substantiate the resource before feasibility work later that year. A spike in exploration is attributable to completing the PFS and drilling to determine commercial and technical feasibility.

Following first production in June 2018 (net operating cash inflows reflected in September 2018 quarter), the Company expanded into Stage 2, entering its second quarter of net operating inflows in March 2020, before transitioning out of our data set.

## Net operating cash flows (\$M)



**2** Pilbara Minerals entered its first quarter of net operating inflows following first production in June 2018.

**3** Following slow market conditions, Pilbara Minerals shifted focus to plant optimisation leading to an increase in production payments and hence net operating cash outflows

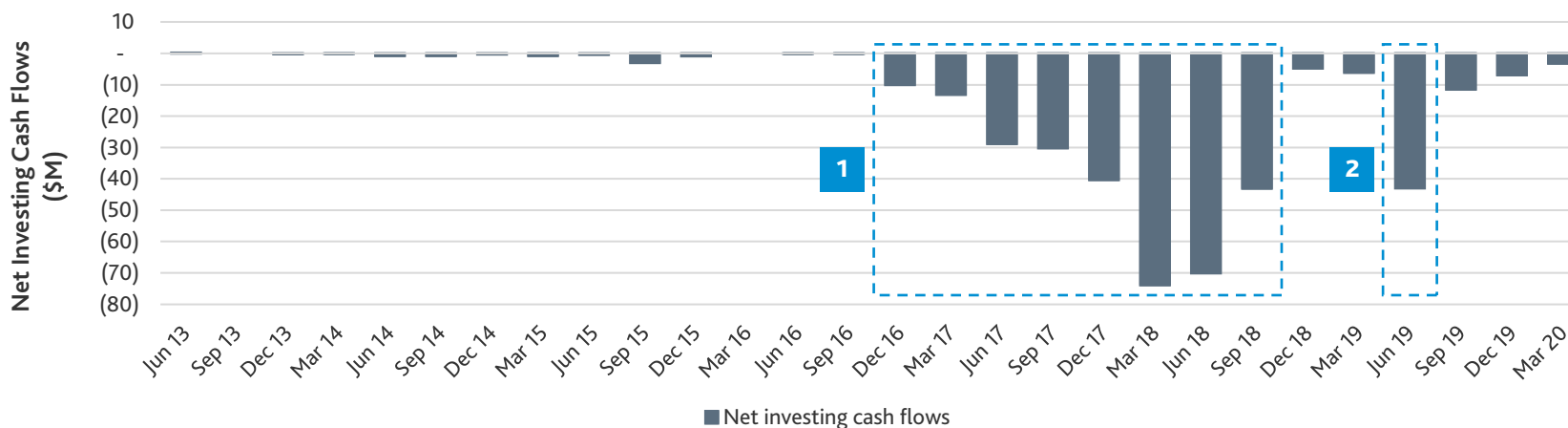
**4** Stage 2 production achieved and Pilbara Minerals transits out of the Explorer dataset.



## Investing cash flows

Pilbara Minerals steadily increased investing outflows to develop Stage 1 of the Pilgangoora project and later in June 2019 the expansion of Stage 1 and development of Stage 2.

### Net investing cash flows (\$M)

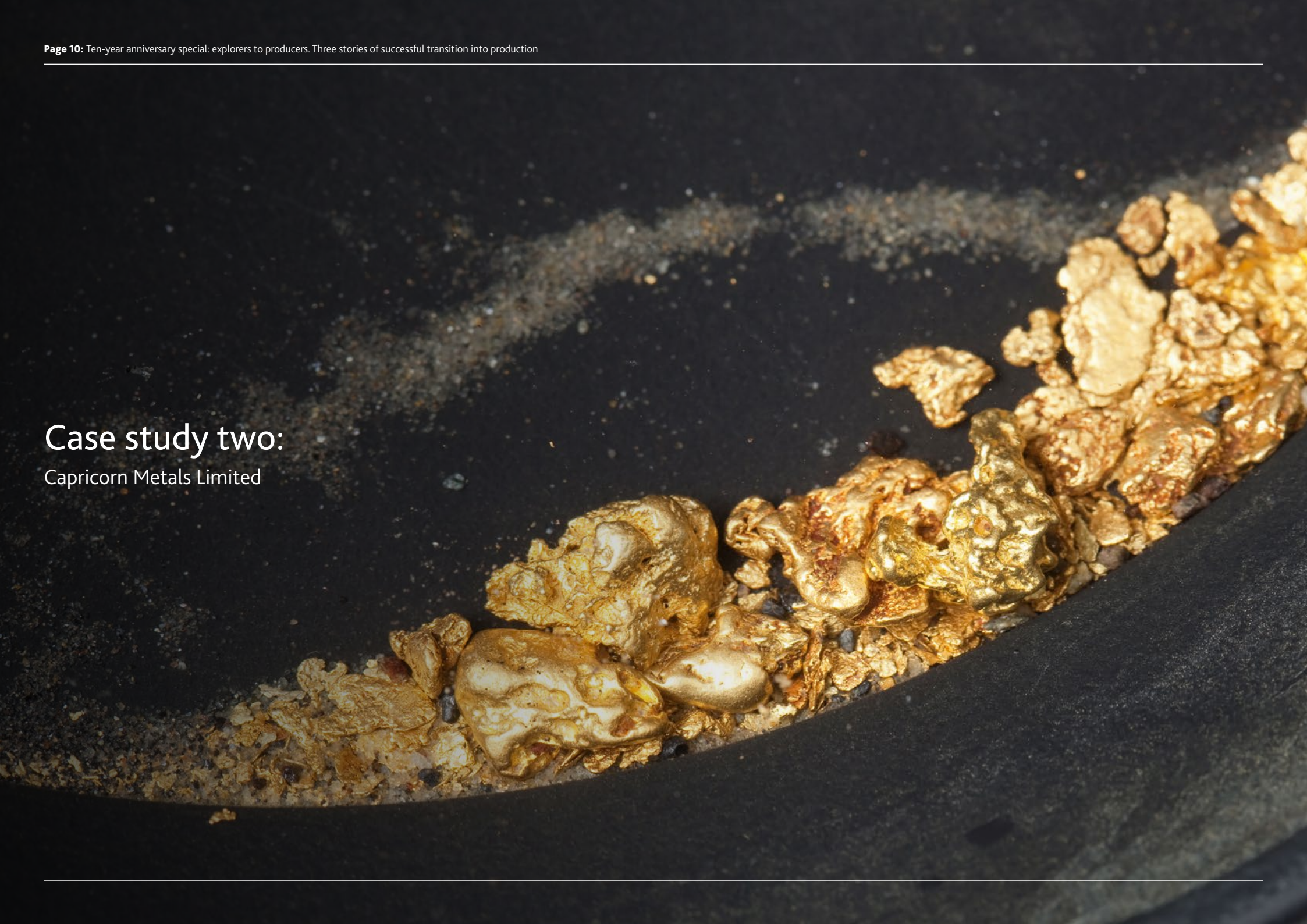


**1** Initial site development occurred in November 2016 following the completion of the DFS and confirmed feasibility. Though the major increase became apparent from the June 2017 quarter onwards, relating to the commencement of major site works following board approval.

**2** The second spike in investing activities followed commercial production and is attributable to further ramp-up costs as well as the development of the Stage 2 expansion.

## Case study two:

Capricorn Metals Limited



## Capricorn Metals Limited

Our second case study investigates the journey of Capricorn Metals, which has successfully transitioned from explorer to producer since its strategic shift to gold in 2016. The company's gold journey began with the acquisition of Greenmount Resources Pty Ltd in February 2016 and, with this, gained ownership of the Karlawinda Gold Project ('Karlawinda') in the Pilbara region.

Capricorn Metals commenced a maiden Reverse Circulation ('RC') drilling programme at Karlawinda in March 2016, which continued through to May 2016. The drilling programme results indicated a 40% increase in resources at Karlawinda's Bibra Gold Deposit and gave rise to an updated JORC MRE and scoping study completed in July 2016. This paved the way for the commencement of a full DFS in July 2016.

Commercial and technical feasibility was confirmed in October 2017, and the board approved the start of development activities contingent on suitable financing arrangements.

In December 2018, Capricorn Metals secured project finance facilities totalling \$107 million from Macquarie Bank to fund the majority of construction costs for Karlawinda. Further equity raises during July 2019 and August 2019 of \$18.3 million and \$65 million, respectively, were used to expedite development plans of the project.

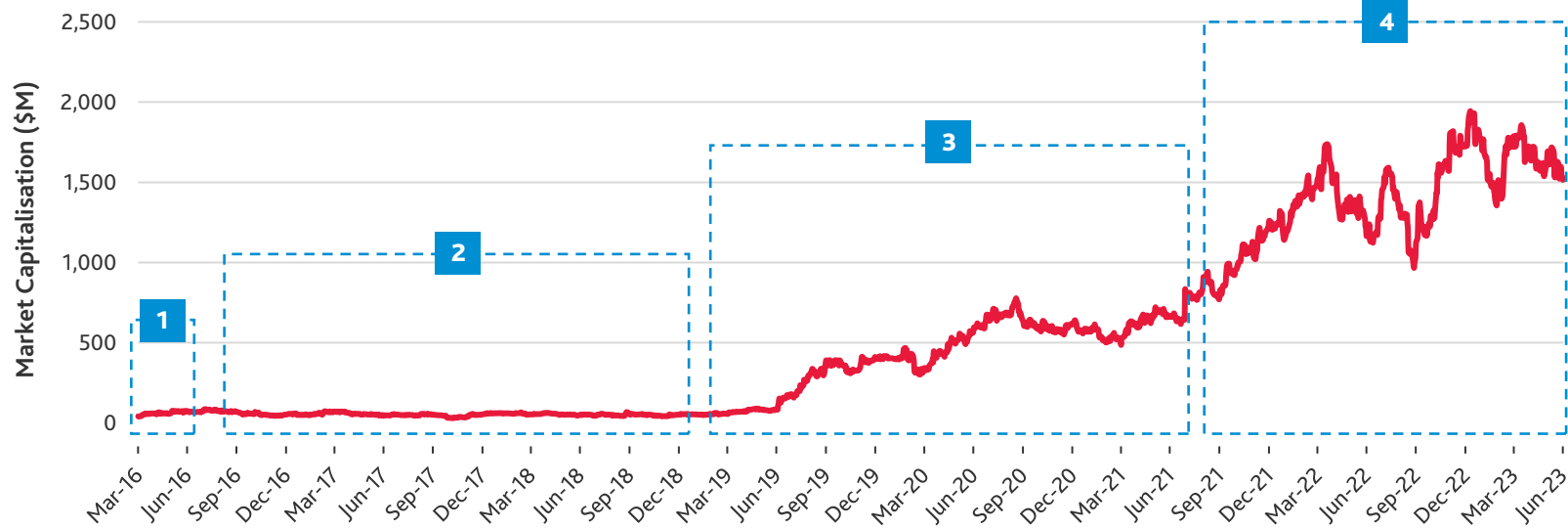
Following the onset of pre-production activities in the June 2020 quarter, the next major milestone for Capricorn Metals was the commencement of its commissioning and processing phase in June 2021, with the company transitioning to steady state operations by September 2021.

An interesting part of Capricorn Metals' journey was the choice to repel several takeover offers as they worked towards production, one in 2018 by Regis Resources Limited and another in 2019 by Emerald Resources Limited and major shareholder Hawke's Point Holdings. This showed shareholder and Board determination to reach production and generate value, evidenced by the company's success to date.

Despite being a producer, Capricorn Metals continues to be included within our Explorer dataset. The company has continued to fund exploration activities at its newly acquired tenements, such as the Mt Gibson Gold project purchased in July 2021.



### Capricorn Metals' market capitalisation



**1 Discovery\*:** Commencement of drilling in Mar-16

**2 Feasibility:** DFS begins Jul-16

**3 Development:** Funding package confirmed Dec-18

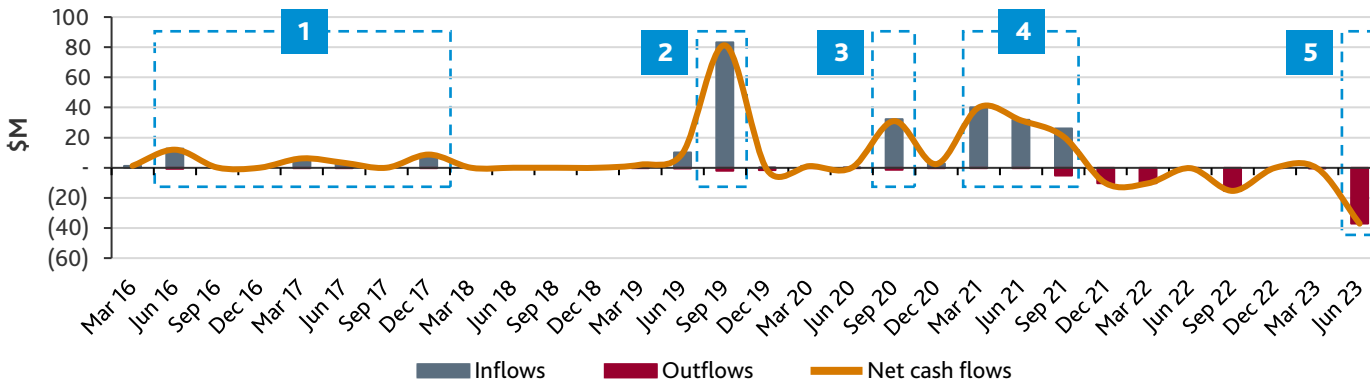
**4 Production:** Karlawinda begins processing Jun-21

\*The acquisition of Greenmount Resources Pty Ltd occurs before our chart's timeline begins. Thus, the first phase corresponding to the Lasso Curve is Discovery.

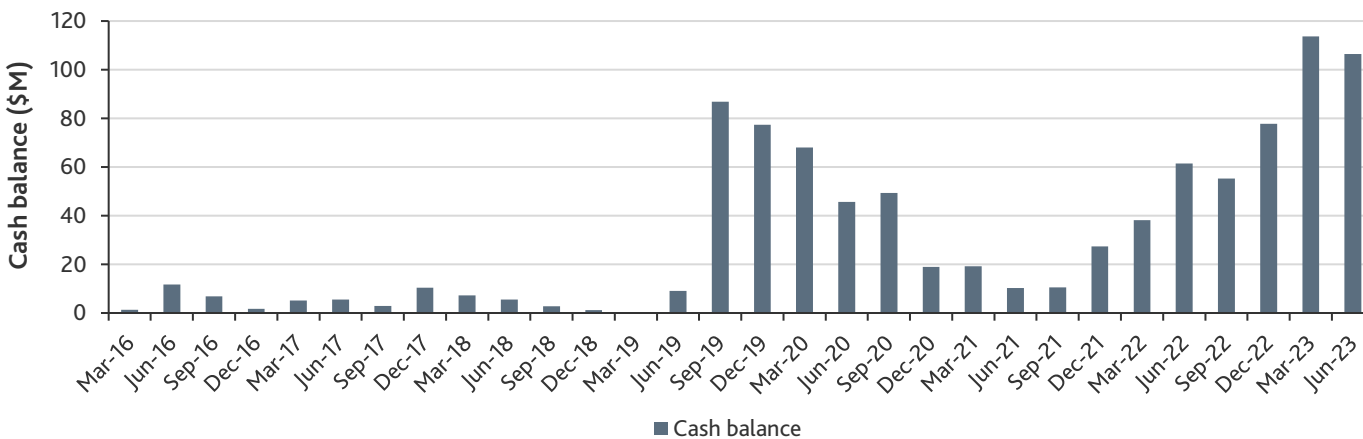
# Financing cash flows

Capricorn Metals underwent three phases of capital raisings prior to transitioning to steady state operations in September 2021. Operations following this accomplishment were primarily internally funded.

Financing cash flows (\$M)



Cash balance (\$M)



**1** Capricorn Metals undertook preliminary capital raisings to establish commercial and technical feasibility for its flagship Karlawinda project

**2** Following board approval, Capricorn Metals raised \$83.3 million via two separate share placements in conjunction with Macquarie Bank's letter of offer to complete the funding requirement for the development of the Karlawinda project.

**3** During the September 2020 quarter, the company completed a \$32.3 million placement aimed to increase process plant capacity and to accelerate exploration activities.

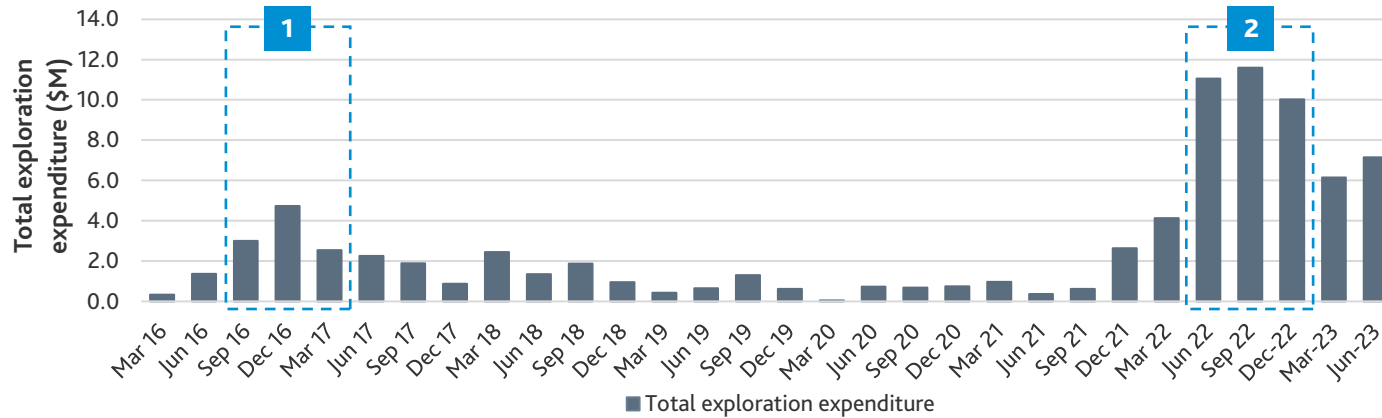
**4** During the March to September 2021 quarters, Capricorn Metals proceeded to draw down the Macquarie Loan facility to fund project development, commissioning and processing activities.

**5** As a result of strong predicted gold prices, Capricorn Metals closed out 51,000 ounces of gold from its hedge book, increasing the company's exposure over the next 15 months. This position resulted in a net outflow of \$36.8 million during the June quarter of 2023.

# Operating cash flows

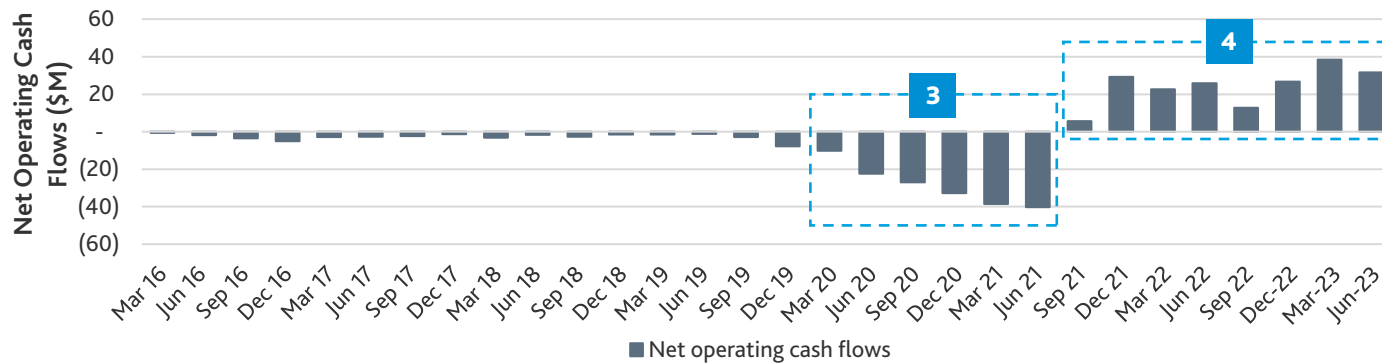
Capricorn Metals engaged in two periods of significant exploration expenditure. The first relating to the initial resource discovery at Karlawinda and the second relating to shoring up of resources at newly acquired tenements.

## Exploration expenditure (\$M)



Operating cash flows were consistently negative until September 2021 when Capricorn Metals first reached steady state operations.

## Net operating cash flows (\$M)



1

To prove commercial and technical feasibility and further substantiate its mineral resource during the DFS, Capricorn Metals engaged in two major drill programmes from the September 2016 to March 2017 quarters. Results from the programme reinforced mineralisation in all directions and encouraged Board approval of the DFS.

2

The spike in exploration expenditure relating to major drill campaigns implemented at Karlawinda and Mt Gibson.

3

Interestingly, Capricorn Metals elected to record its project development expenses as operating cash flows as opposed to investing cash flows, which corresponded to net outflows, that increased significantly as the company prepared Karlawinda for processing during the June 2021 quarter.

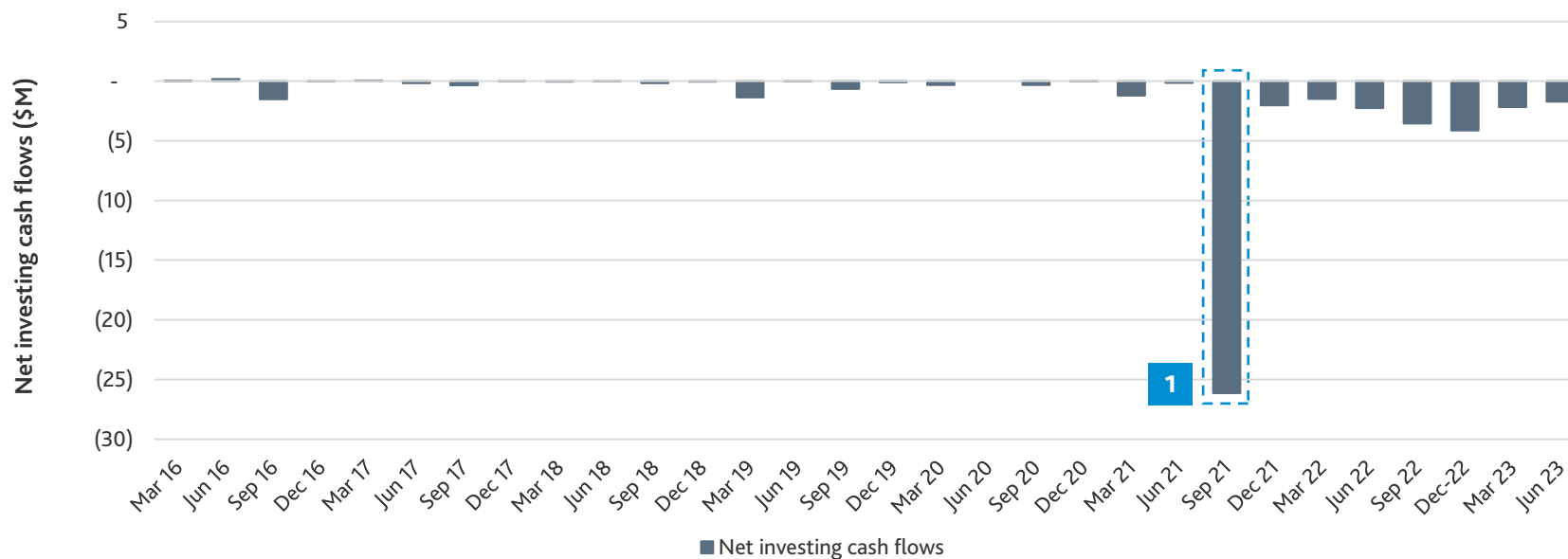
4

Following the completion of commissioning and the optimisation of processing plant equipment, Capricorn Metals' operating cash flows were positive quarter on quarter as it entered steady state operations in September 2021 and beyond.

## Investing cash flows

The major investing cash outflow during September 2021 refers to the acquisition of the Mt Gibson project.

### Net investing cash flows (\$M)



1

During the September 2021 quarter, Capricorn Metals acquired the Mt Gibson gold project and received approval for 14 of the 23 licenses for exploration. The total consideration for the acquisition was \$39.6 million, which comprised \$25.6 million in cash and \$14.0 million through shares.

## Case study three:

Image Resources NL





## Image Resources NL

Image Resources is a prominent mineral sands mining company operating primarily in the North Perth Basin. The company acquired its now flagship Boonanarring project ('Boonanarring') from Iluka Resources Limited in April 2011.

Following positive drill results in March 2012, Image Resources immediately commenced technical and environmental studies to fast-track the development of Boonanarring, in parallel with the planned development of its wholly-owned Atlas deposit.

Following the completed base case feasibility study announced in July 2013 for the Boonanarring and Atlas projects, Image Resources continued to explore and expand the resource, simultaneously undergoing several capital raisings via share placements to upgrade the resource. The continuation of outstanding drill results led Image Resources to update their project's JORC ore reserves in April 2017.

Two project milestones achieved were the completion of a Bankable Feasibility Study ('BFS') in May 2017 and the finalisation of project funding in May 2018. Funding for the project comprised a \$50 million loan agreement with Castllake L.P. and a fully subscribed \$25 million equity raise, enabling the commencement of construction of the Boonanarring project in April-May 2018.

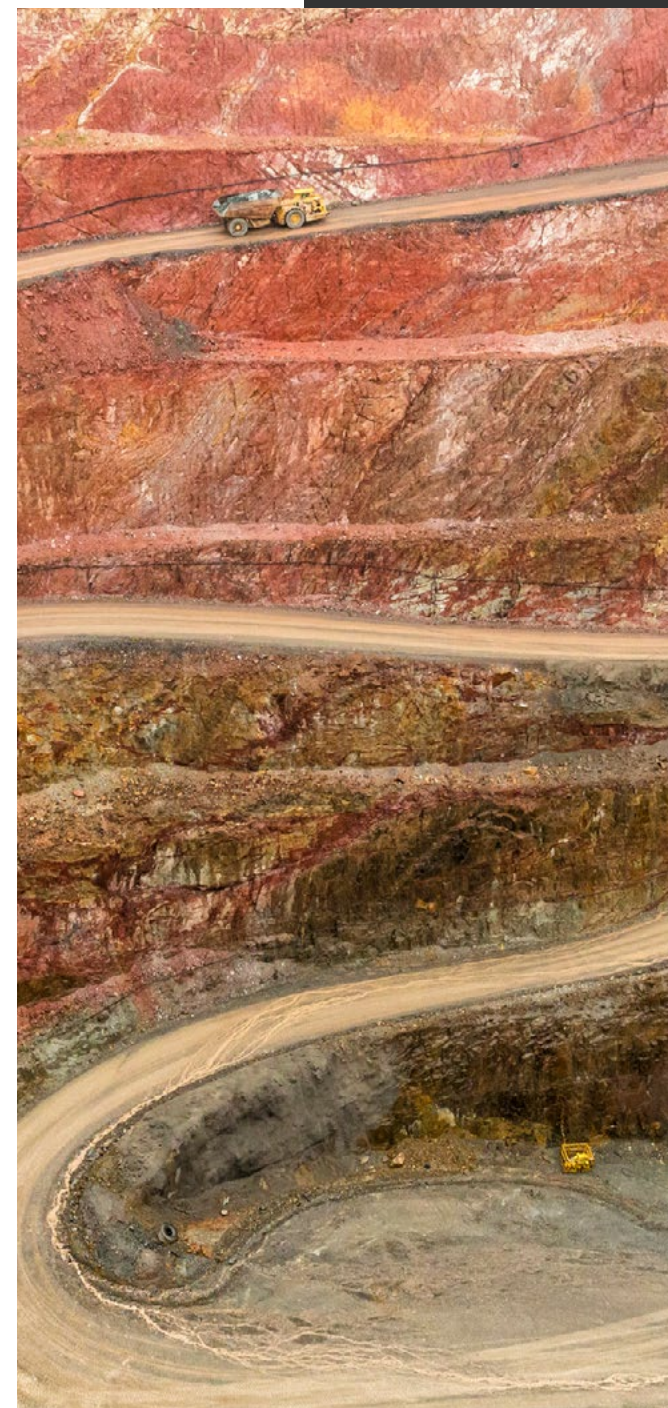
Following a six-month construction period, the project was commissioned in October-November 2018, and the company first transitioned from explorer to producer in January 2019 with the receipt of its first revenue.

Throughout 2019, Image Resources continued to expand and shore up its resources, publishing an updated ore reserve estimate in December 2019.

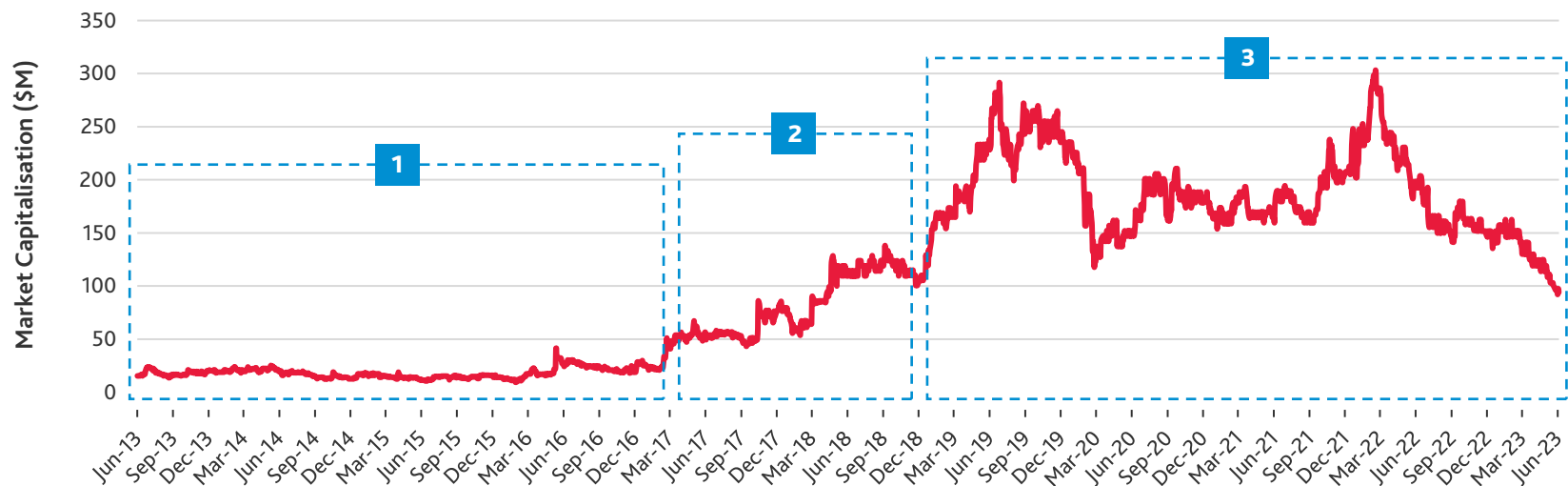
A testament to ongoing success occurred when the company repaid its outstanding debt ahead of schedule in February 2021 and later paid an inaugural dividend of \$0.02 per share in April 2021, after only two years as an active mining company in 2019 and 2020.

Since February 2021, Image Resources has implemented a multi-pronged growth strategy with the objective of achieving strong economic performance from its flagship project, progressing feasibility studies of nearby projects and investigating opportunities outside the current mineral sands portfolio.

The company's most recent major acquisitions were the Eneabba tenements and McCalls project from Sheffield Resources Limited in November 2021 and March 2022, respectively.



### Image Resources' market capitalisation



**1 Feasibility\***: Base Case feasibility study commenced Mar-12 and BFS completed in May-17

**2 Development**: Funding secured and subsequent commencement of construction in Apr-18 and May-18

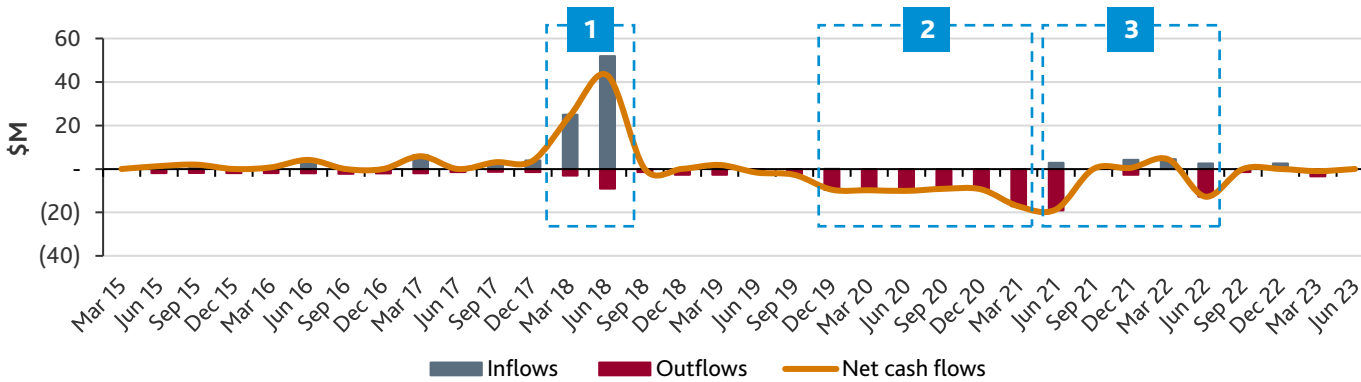
**3 Production**: Receipt of first revenue Jan-19

\*The charts timeline begins with the commencement of the base case feasibility study. Thus, the first phase corresponding to the Lasso Curve is feasibility.

# Financing cash flows

Image Resources funded its flagship Boonanarring project via a \$25 million equity raise and a \$50 million loan agreement with Castlelake. Subsequent success allowed the company to pay annual dividends beginning in April 2021.

## Financing cash flows (\$M)



1

Funding for the construction and commissioning of Image Resources' flagship Boonanarring project was sourced via a \$25 million equity raise and a \$50 million loan agreement with Castlelake L.P.

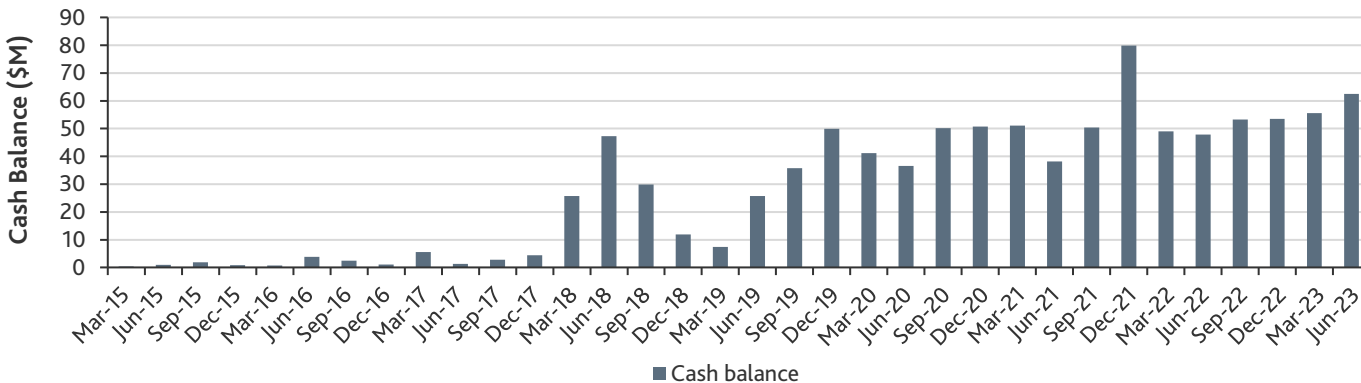
2

As per the Loan Note Subscription Agreement, Image repaid the loan amount in quarterly instalments starting on the 18th month following drawdown.

3

Image paid an inaugural dividend of \$19.0 million in April 2021. Ongoing success allowed the company to pay a second annual dividend of \$12.8 million the following April.

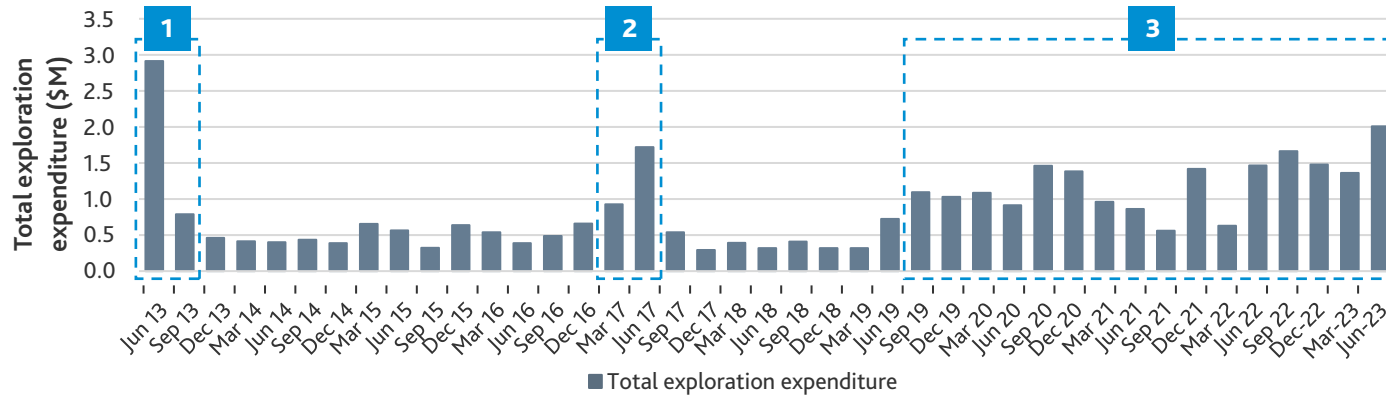
## Cash balance (\$M)



# Operating cash flows

Early exploration expenditure reflects the company's efforts in resource definition prior to the base case feasibility study and also following the BFS. More recent expenditure relates to extension drilling and external opportunities.

## Exploration expenditure (\$M)



1

Image Resources incurred exploration costs of \$2.9 million whilst substantiating and defining its Boonanarring and Atlas projects as part of the base case feasibility study.

2

Following the completion of a BFS in May 2017, Image Resources ramped up its exploration expenditure to grow the Boonanarring and Atlas resource prior to finalising project finance.

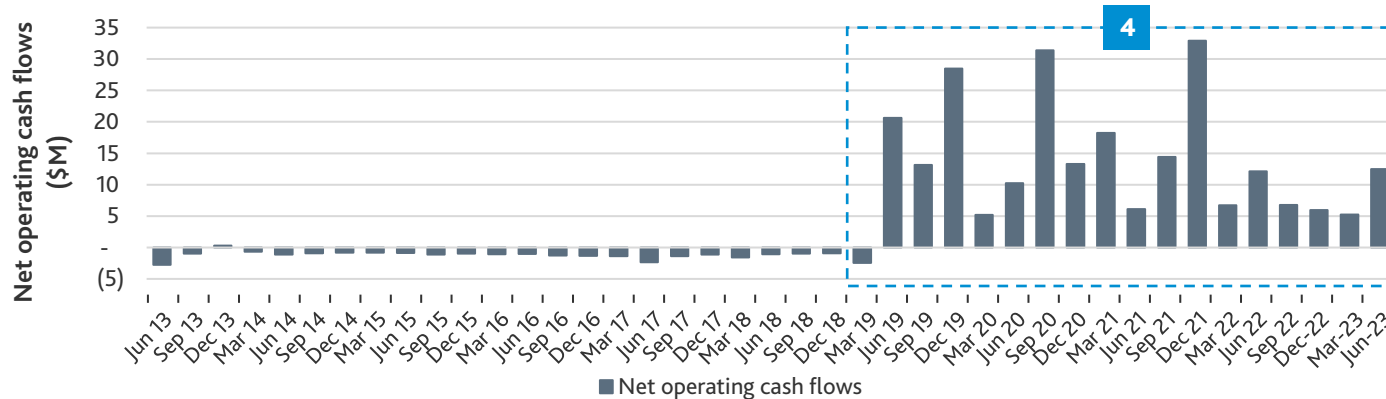
3

The continual shore up of resources and expansion drilling at Boonanarring and the Boonanarring Northwestern extension are reasons for an uplift in exploration expenditure from September 2019 onwards.

Additionally, the acquisition of tenements at Eneabba and McCalls provide further incentive to increase exploration expenditure from November 2021 to present.

Operating cash flows become positive year on year following the first offtake sale in January 2019.

## Net operating cash flows (\$M)



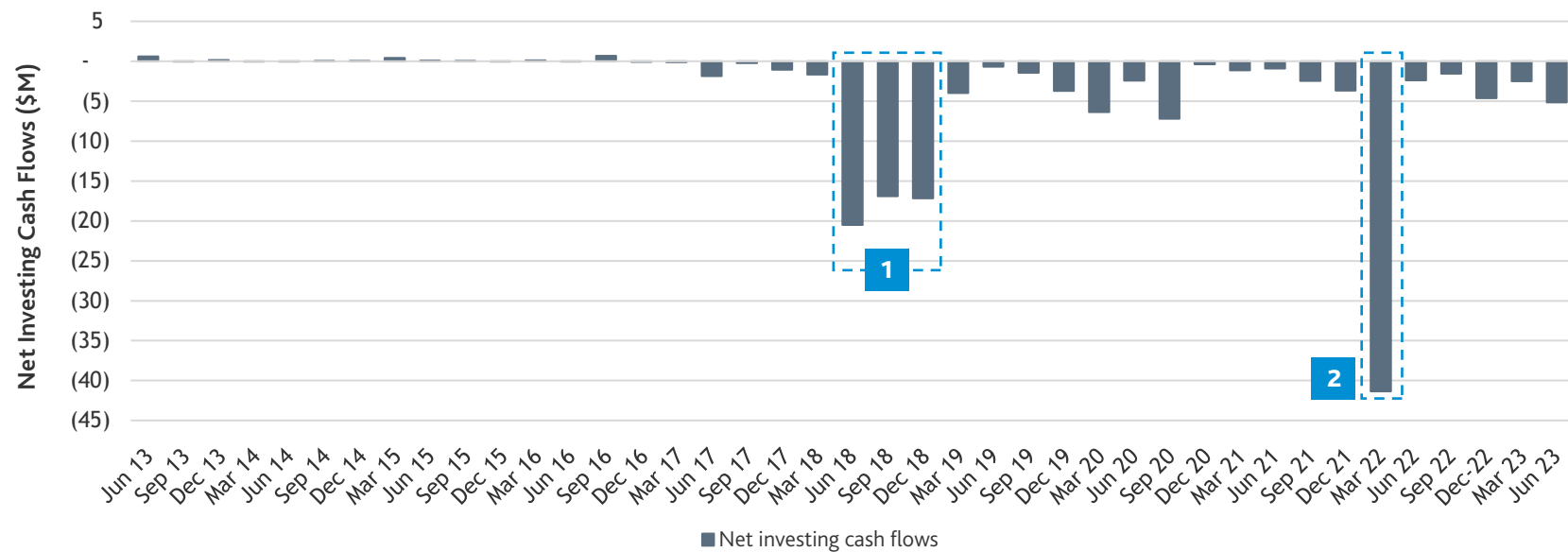
4

Positive operating cash flows were derived starting from January 2019 following the first receipt of revenue from the company's off-take agreements.

# Investing cash flows

## Net investing cash flows (\$M)

Major investing cash outflows were derived from construction of the Boonanarring project in the second half of 2018 as well as the acquisition of tenements from Sheffield Resources Limited in end-2021.



**1** During the three quarters ended December 2018, Image Resources incurred investing cash outflows of roughly \$54 million to construct and commission their flagship project prior to production in January the following year.

**2** Image acquired a package of tenements in the historic Eneabba district as well as acquiring the McCalls project for a total of \$35.1 million. Both acquisitions were made using prior cash reserves.

An additional \$6.2 million was spent on property, plant and equipment for the Atlas and Boonanarring projects.

## CONTACT US

### SHERIF ANDRAWES

Head of Global Natural Resources  
+61 8 6382 4763  
[sherif.andrawes@bdo.com.au](mailto:sherif.andrawes@bdo.com.au)

### ASHTON LOMBARDO

Director, Corporate Finance  
+61 8 6382 4917  
[ashton.lombardo@bdo.com.au](mailto:ashton.lombardo@bdo.com.au)

### DAVID FECHNER

Partner, Tax & Advisory  
+61 8 7421 1413  
[david.fechner@bdo.com.au](mailto:david.fechner@bdo.com.au)

### GARETH FEW

Partner, Audit & Assurance  
+61 2 9240 9744  
[gareth.few@bdo.com.au](mailto:gareth.few@bdo.com.au)

### RICHARD SWABY

Partner, Audit & Assurance  
+61 7 3237 5806  
[richard.swaby@bdo.com.au](mailto:richard.swaby@bdo.com.au)

### ADAM MYERS

Partner, Corporate Finance  
+61 8 6382 4751  
[adam.myers@bdo.com.au](mailto:adam.myers@bdo.com.au)

### CATHERINE DEAN

Partner, Corporate & International Tax  
+61 2 8221 2243  
[catherine.dean@bdo.com.au](mailto:catherine.dean@bdo.com.au)

### DAVID OCELLO

Partner, Tax  
+61 8 6382 4778  
[david.ocello@bdo.com.au](mailto:david.ocello@bdo.com.au)

### JAMES MOONEY

Partner, Audit & Assurance  
+61 3 9603 1796  
[james.mooney@bdo.com.au](mailto:james.mooney@bdo.com.au)

### SCOTT BIRKETT

Partner, Corporate Finance  
+61 7 3237 5837  
[scott.birkett@bdo.com.au](mailto:scott.birkett@bdo.com.au)

## FOR MORE INFORMATION

### Twitter:

[@BDOglobalNR](https://twitter.com/BDOglobalNR)  
[@BDOAustraliaNR](https://twitter.com/BDOAustraliaNR)

### LinkedIn Groups:

[BDO Global Mining](#)  
[BDO Global Energy](#)

This publication has been carefully prepared, but is general commentary only. This publication is not legal or financial advice and should not be relied upon as such. The information in this publication is subject to change at any time and therefore we give no assurance or warranty that the information is current when read. The publication cannot be relied upon to cover any specific situation and you should not act, or refrain from acting, upon the information contained therein without obtaining specific professional advice. Please contact the BDO member firms in Australia to discuss these matters in the context of your particular circumstances.

BDO Australia Ltd and each BDO member firm in Australia, their partners and/or directors, employees and agents do not give any warranty as to the accuracy, reliability or completeness of information contained in this publication nor do they accept or assume any liability or duty of care for any loss arising from any action taken or not taken by anyone in reliance on the information in this publication or for any decision based on it, except in so far as any liability under statute cannot be excluded.

BDO Australia Ltd ABN 77 050 110 275, an Australian company limited by guarantee, is a member of BDO International Ltd, a UK company limited by guarantee, and forms part of the international BDO network of independent member firms.

BDO is the brand name for the BDO network and for each of the BDO member firms.

© 2023 BDO Australia Ltd. All rights reserved.