

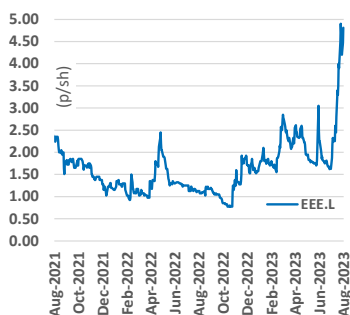
2<sup>nd</sup> August 2023

### Sector: Mining

Gold, copper & titanium exploration in Australia

### Market data

Markets	LSE – AIM
Ticker	EEE
Price (p/sh)	4.81
12m High (p/sh)	4.90
12m Low (p/sh)	0.77
Ordinary shares (m)	489.9
Mkt Cap (£m)	23.5



Source: Alpha

### Description

Empire has a portfolio of natural resource projects in Australia and Austria. The company's main focus is on the high-grade Eclipse and Gindalbie gold projects in Western Australia and the Pitfield copper-gold and titanium project, also in WA. [www.empiremetals.co.uk](http://www.empiremetals.co.uk)

### Board & key management

Non-Exec Chairman	Neil O'Brien
MD	Shaun Bunn
FD	Greg Kuenzel
NEO	Peter Damouni

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## Empire Metals Limited

### Flying high: big titanium exploration push at Pitfield

Empire has just completed an airborne gravity survey at its Pitfield project in Western Australia. The geophysical survey was flown to refine the model and geological understanding in the vicinity of Empire's recent titanium mineralisation discovery at Pitfield. The new gravity data will be processed and used in combination with previously collated exploration data to explore the scale of this large titanium mineralised system and to define high-priority drill targets for the next fully-funded round of drilling at this rapidly evolving exploration play.

► **Background.** The gravity survey follows hot on the heels of the maiden 21 hole, 3,206m reverse circulation (RC) drill programme completed at Pitfield in April. The programme was designed to test induced polarisation (IP) geophysical anomalies to identify potential copper mineralisation. Instead, the drill results demonstrated the presence of a large scale titanium discovery. A subsequent review of historical geochemical data revealed that the high-grade titanium footprint extends over almost the entire 40km length of an associated airborne magnetic anomaly at Pitfield. Most recently, petrographic and mineralogical studies confirmed that ilmenite ( $\text{FeTiO}_3$ ) was the dominant titanium oxide mineral, which along with haematite is considered highly beneficial from a potential economic perspective. Ilmenite is the most important economic source of titanium, accounting for over 85% of the feedstock for the titanium market.  $\text{TiO}_2$  demand is dominated by the paints & coatings, plastics and paper industries, high growth sectors.

► **Gravity survey details.** XCalibur Multiphysics Group ('Xcaliber') was contracted by Empire to conduct a Falcon fixed-wing airborne gravity gradiometer (AGG) survey at Pitfield which was flown between 17<sup>th</sup> and 21<sup>st</sup> July. The survey was flown over the entire 40km length of the previously identified magnetic anomaly and consisted of 1,749 line-km at a spacing of 325m.



Source: XCalibur/Empire

► **Rationale.** Falcon is a low-noise, high sensitivity airborne system which is ideally suited for rapid and accurate acquisition of gravity data. A gravity survey measures variations in the earth's gravitational field due to changes in the subsurface density of rock formations, which in turn is determined by mineralogy and porosity. Consequently, gravity surveys provide a wealth of data on subsurface geology and structure and therefore will help Empire build a detailed geological model of the Yandanooka Basin which hosts Empire's titanium discovery. The primary aim will be to delineate higher density zones which could be related to iron-titanium mineralisation or other features which could provide a vector to mineralisation. The iron-titanium mineralisation identified to date at Pitfield has a higher density than the surrounding unaltered sediments. The survey was flown over the entire 40km by 8km area of the magnetic anomaly and should provide critical high-resolution data on scale and depth in order to assist in target selection for the next round of drilling. Gravity is a cost-effective way to hone in on target areas and fast-track the exploration process.

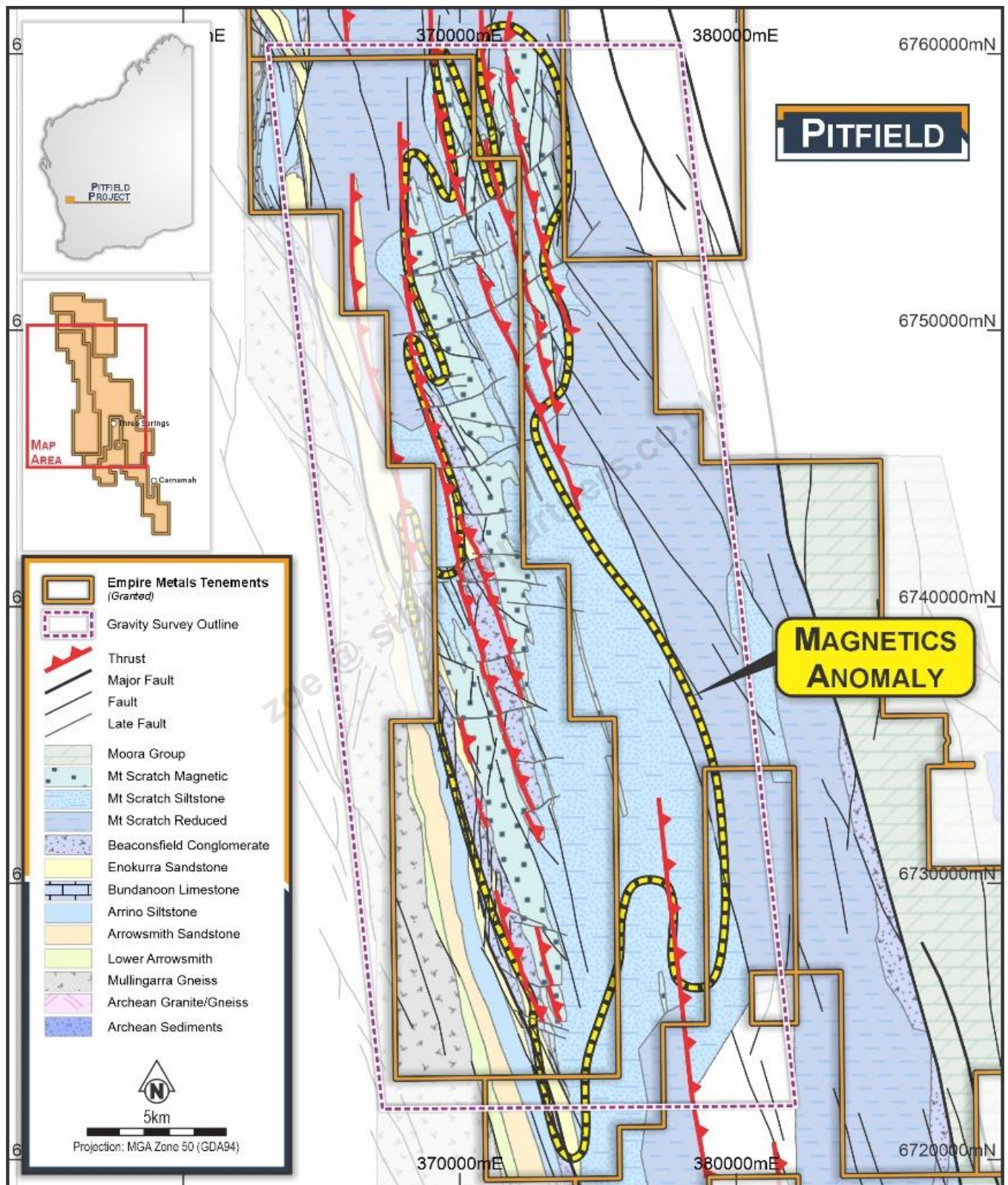
► **Next steps.** Whilst the maiden drill programme had a fairly restricted areal extent surrounding the Mt Scratch area, the next fully-funded programme of diamond and RC drilling will test the entire length of the 40km anomalous zone.

Empire should be commended on maintaining the fast pace of exploration momentum at Pitfield following the recent titanium discovery. The next drill programme could be pivotal in determining the scale and economic potential of one of the most exciting new exploration plays in Western Australia. The recent increase in the company's share price is justified by the clear potential to define a globally important titanium resource in a tier 1 jurisdiction and we see substantial scope for further value accretion as Empire pushes ahead at Pitfield. The best could be yet to come, in our view.

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Figure 1 - Pitfield Project Location showing the 40km regional magnetic anomaly and area flown for the gravity survey (purple dotted line)



Source: Empire Metals Limited

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