30th May 2023

Sector: Mining

Gold & copper exploration in Australia

Market data

Markets	LSE – AIM
Ticker	EEE
Price (p/sh)	1.83
12m High (p/sh)	2.85
12m Low (p/sh)	0.77
Ordinary shares (m)	427.3
Mkt Cap (£m)	7.8

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 project, also in WA.

www.empiremetals.co.uk

Board & key management

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Maiden drilling at Pitfield outlines giant hydrothermal system

The maiden RC drill programme at Empire's Pitfield project in Western Australia has confirmed the presence of a potentially giant-scale hydrothermal mineral system. Assays returned anomalous copper values but more intriguingly, the results appear to have outlined an extensive new titanium discovery. The mineral-rich system has been defined over a 40km by 8km area and Empire is planning further exploration work to define new drill targets.

- **Background.** Empire commenced the 21 hole, 3,206m reverse circulation (RC) drill programme in March with the aim of testing geophysical anomalies identified in the prior dipole-dipole induced polarisation (DD-IP) survey. The holes were drilled to an average depth of 150m. Extensive, highly chargeable-highly resistive zones identified by the survey were targeted with drilling focused on the Mt Scratch prospect area where high-grade copper-silver rock samples were also identified at surface. Empire is targeting the discovery of "giant" SSC deposits at Pitfield, an area which has favourable geology, historical copper mines and many of the hallmarks of other SSC deposits globally.

- **Large-scale system confirmed.** Drilling has confirmed the presence of a large-scale hydrothermal mineral system over a staggering 40km by 8km area. This system is hosted by sedimentary rocks which display extensive evidence of intense alteration by hydrothermal fluids. Empire believes that these fluids are responsible for the significant enrichment of both copper (Cu) and titanium (Ti) in the host rocks. The scale of these pervasively altered sandstone-siltstone rocks is also indicated by a very large magnetic anomaly related to magnetite alteration. Identification of this hydrothermal alteration and potentially mineralised system is encouraging with the size potential demonstrated by the fact that holes were drilled from between hundreds of metres apart, to tens of kilometres apart (see Fig 1, next page). E.g. 18 holes were in the Mt Scratch area and the remaining 3 holes were drilled across a 30km distance to the south. Only 2% of this giant system has been drilled to date highlighting the exciting discovery potential of this prospect area.

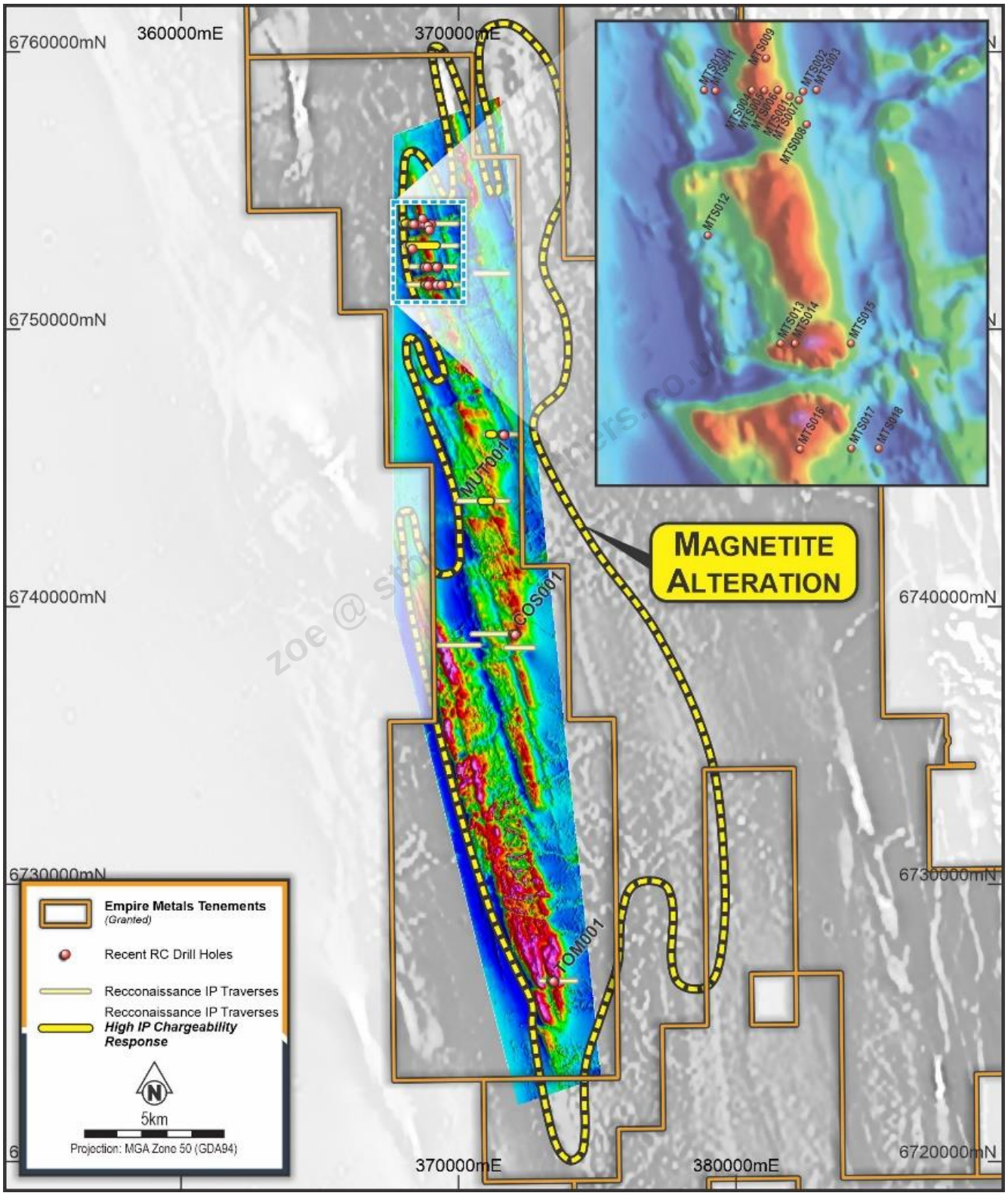
- **New titanium discovery.** 60% of the drill results from this programme were found to be anomalous in copper (+100ppb Cu), averaging 131ppm Cu and peaking at 605ppm Cu, highly significant given that this peak grade is 25x higher than typical background copper-in-soil levels. However, the real win from this programme is the discovery of new, laterally extensive and high-grade zones of titanium mineralisation. Titanium rich mineralisation (between 4% and 10% TiO_2) was identified in all but one of 21 holes drilled, from very shallow depths, starting at or very near the surface. Thus, the DD-IP anomalies have now shown to be associated with very high levels of titanium oxide. Empire reports that around a quarter of the holes drilled were still within titanium mineralisation when the holes were terminated at target depth, indicating the potential for titanium mineralisation to continue deeper. Although we wait for further work to assess the economic implications for this titanium mineralisation, the scale of the discovery means it could have global significance. E.g. Neometals' PFS-stage Barrambie project in Western Australia has a resource of 280Mt at 9.18% TiO_2 and 0.44% V_2O_5. It's early days for Pitfield, but an interesting development none the less.

- **Evolving theory.** Empire's analysis indicates that the hydrothermal mineral system is especially endowed with metals typically associated with a mafic rock source, such as copper, titanium and vanadium, but also notable for zinc and nickel locally. The DD-IP anomalies have been shown to be coincident with titanium-rich minerals and alteration of iron minerals. Empire postulates that higher grade copper anomalism appears to be associated with discrete structures, which may have acted as migration pathways for the copper rich mineralising fluids that were superimposed upon the primary iron-titanium mineralisation. The theory is that these fluids may have precipitated significant concentrations of copper elsewhere and further exploration work is planned to vector towards these possible copper-rich parts of the system and delineate any further regional metal zonation.

- **Next steps.** Further mapping, geophysics and geochemical sampling is being planned to identify new drill targets and provide vectors towards the more copper rich parts of the system. **Encouraging initial results from Empire which demonstrate the scale potential at Pitfield and the potential for multiple types of mineralisation.**

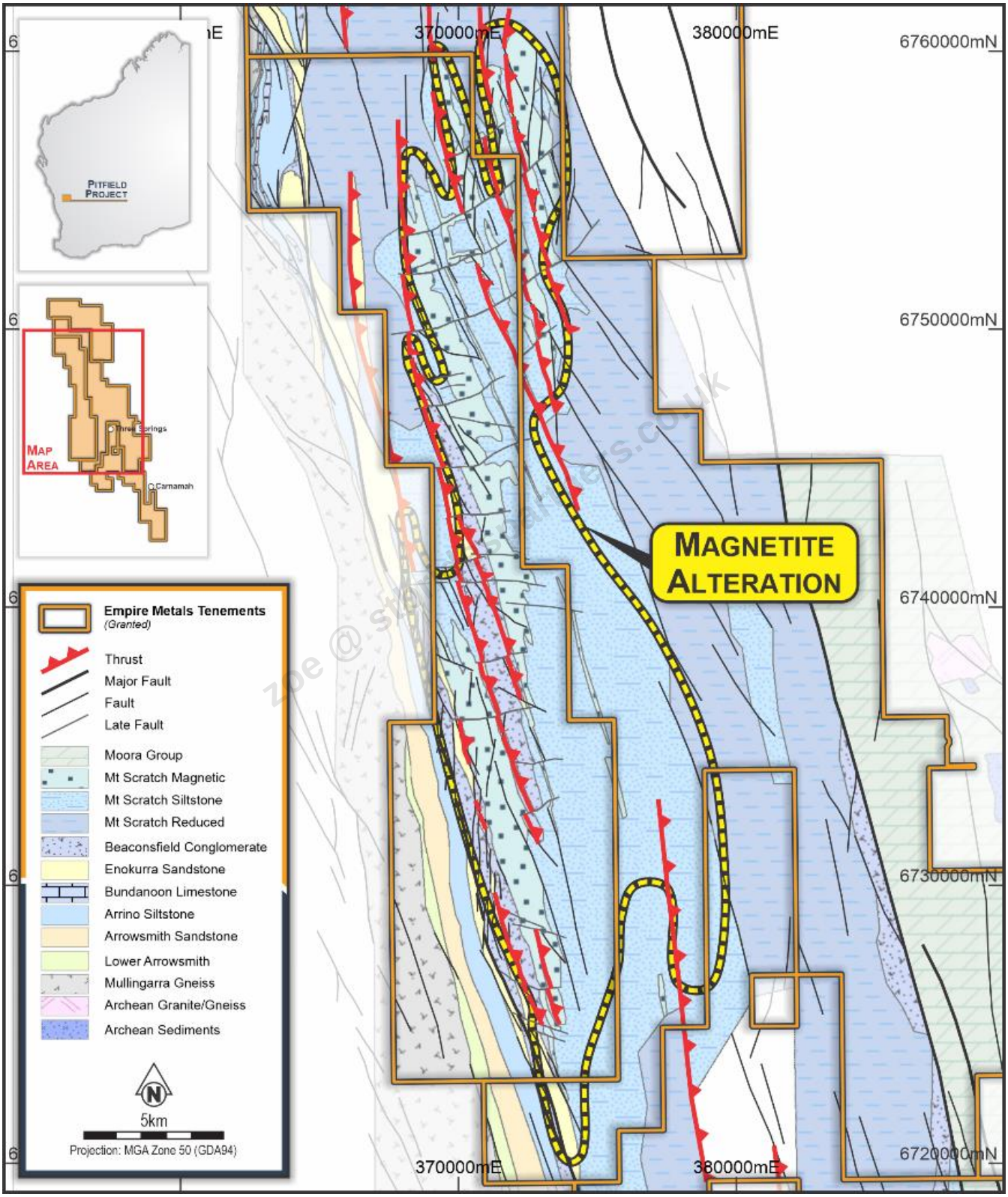
Figure 1 - Drill Hole Locations within E70/5465 (background magnetic intensity image)

Note the distance between the 18 holes in the northern portion of the tenement area and the 3 remaining holes drilled up to 30km to the south. The results from these holes indicate the potential scale of the system at Pitfield.



Source: Empire Metals Limited

Figure 2 - Geological mapping with locally important structures – note the outline of the magnetic anomaly (magnetite alteration) signifying the extent of this massive and intense alteration of the sedimentary beds



Source: Empire Metals Limited

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