

Corporate

 Current price **0.16p**

 Sector **Mining**

 Code **ROCK.L**

 Listing **AIM**

Share Performance



% Change	1m	3m	12m
— ROCK.L	+48.8	+52.4	N/A

Source: Thomson Reuters, Allenby Capital

Share Data

 Market Cap (£m) **6.3**

 Shares in issue (m) **3,937.6**

 52 weeks (p) **High** **Low**
0.36 **0.10**

 Financial year end **31 December**

Source: Company Data, Allenby Capital

Key Shareholders

 Rostra Holdings **12.19%**

 TPM Middle East Dubai **7.92%**

 The Wonderful Group **7.82%**

 Directors & Management **7.28%**

Source: Company Data, Allenby Capital

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Rockfire Resources plc (ROCK.L)

Four Strategic Metals

Rockfire Resources plc (ROCK.L) is capturing investors' attention as several industry developments have spurred interest in its Molaoi Zinc-Germanium Project. In early December (03.12.24), the Chinese Government officially announced a ban on the export of germanium to the US. Germanium is used in electronic computer/phone chips, has important military applications, and has been designated a critical mineral by the US, UK, Australia, India and the EU. This was followed by increased press coverage of the UK's Critical Minerals Intelligence Centre adding zinc to the UK's critical minerals list at the end of November. Zinc is essential for galvanising steel protecting against rusting and is also an important additive in many day-to-day applications such as soap, shampoo, paint, toothpaste, cosmetics and pharmaceuticals. Zinc is also included on the US, Canadian and Korean critical mineral lists. Rockfire recently raised £1.0m via a Placing and Retail Offer that will be used to continue the development of its Molaoi zinc/silver/lead/germanium project.

- **Four Strategic Metals:** Rockfire Resources' portfolio of projects now gives it a resource base in four strategic metals, zinc-germanium at Molaoi, located in Greece, and copper-molybdenum at the Copperhead Project, located in Australia.
- **Molaoi Zinc-Germanium Project:** Molaoi contains a JORC 2012 compliant mineral resource estimate of 15.0 million tonnes (Mt) at an average grade of 9.96% zinc equivalent (ZnEq), with contained ZnEq of 1,500 kilo tonnes (Kt). In addition, a non-compliant resource estimate of 4.8Mt at an average grade of 21.9 gramme per tonne (g/t) germanium, with contained germanium of 105,700 kilogrammes (kg) has also been published.
- **Copperhead Copper-Molybdenum Project:** The Copperhead Project contains a JORC 2012 compliant mineral resource estimate of 65.0Mt at an average grade of 0.19% copper equivalent (CuEq), with 80Kt of copper and 9.4Kt of molybdenum.
- **Chinese Dominate Germanium Market:** China is estimated to account for 59.2% of refined germanium production.
- **Declining Zinc Production:** Global zinc production has declined for three years, and this trend is anticipated to continue until 2030.
- **Rising Germanium and Zinc Prices:** Germanium prices have risen 94% this year. The zinc price has risen 20% this year.
- **Room to Expand:** The ZnEq resource estimate at Molaoi comes from a 2km section of a 7km corridor of mapped zinc occurrences. A regional portable X-ray fluorescence (pXRF) survey is underway to refine targets ahead of additional drilling.

Year End: December

(£'000)	2019	2020	2021	2022	2023
EBITDA	(540)	(546)	(740)	(725)	(1,785)
NET (DEBT)/CASH	763	1,351	1,473	532	425

Source: Company; Allenby Capital. Allenby Capital acts as Nomad & Broker to Rockfire Resources plc (ROCK.L).

Chinese ban on critical minerals to US

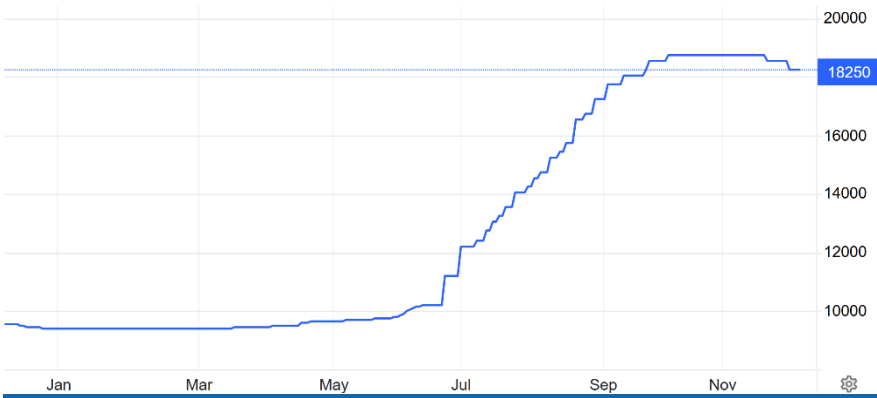
On Tuesday 3rd December 2024, the Chinese Government announced that it had banned the export of the critical minerals gallium, germanium and antimony to the US due to escalating trade tensions between the two countries.

China is estimated to account for 59.2% of refined germanium production, giving the country a tight grip on the market. The banning of germanium exports to the US is likely to have a significant impact on its pricing. Prices had already risen 94.15% to 18,250 CNY/kg (US\$16,276/kg) this year on speculation of a possible export ban (Figure 2).

Chinese customs data show that during October, there were no shipments of germanium to the US despite it being one of the largest markets for the mineral last year (Figure 2).

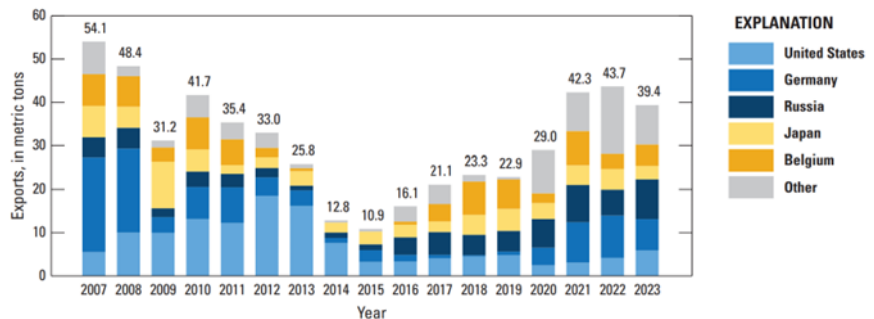
A report by the United States Geological Survey, published in October, suggested that the introduction of export controls on germanium and gallium by China it could cause between US\$1.7bn and US\$9.0bn decrease in US GDP, if disrupted simultaneously.

Figure 1: Germanium Ingot 500hm (CNY/Kg)



Source: <https://tradingeconomics.com/commodity/germanium>

Figure 2: China's exports of germanium metal



Source: <https://pubs.usgs.gov/of/2024/1057/ofr20241057.pdf>

Germanium's strategic mineral status

Germanium has been listed as a critical metal by the US, UK, Australia, India and the EU.

The UK's Critical Minerals Intelligence Centre point out that of all 34 critical metals, germanium has the second-highest global supply risk score, and that trade issues will only exacerbate this problem. The Centre also ranks germanium as the fourth most critical mineral to the UK, overall.

Germanium's uses have been defined as 30% in optical fibre, 20% in infrared, 20% as a polymerisation catalyst, 15% in solar PV with others accounting for 15%.

Molaoi germanium potential

At the Molaoi Project, located in Greece Rockfire has defined an internal, non-code-compliant assessment of 4.8Mt at an expected average grade of 21.9g/t germanium.

A compliant resource for the germanium has yet to be established at Molaoi as before 2021 the drill core was not analysed for germanium, it is only since Rockfire has taken ownership of the project that the germanium potential has been recognised. Additional drilling is expected to see germanium feed into future resource upgrades.

Initial metallurgical studies by Rockfire, have shown that germanium can be recovered into a zinc concentrate at grades of up to 117g/t, though much more metallurgical work is required.

Zinc added to UK's critical minerals list

The UK's Critical Minerals Intelligence Centre has added zinc to the UK's critical minerals list emphasising the strategic importance of Rockfire's Molaoi Project. Zinc has also been defined as a critical mineral by the US, Canada and South Korea.

Zinc's importance to the global economy is underlined by its usage, with an estimated total market value of US\$30bn to US\$40bn per year. It is the fourth most used metal in the world after iron, aluminium and copper.

Zinc uses

Zinc is dominantly used for galvanising to protect steel from rusting, extending the life of steel used in everything from national infrastructure projects, and transportation networks to construction materials.

Zinc is also expected to play an important role in the energy transition, enabling green technologies, such as solar and wind power. It is also being used in zinc-ion batteries that are considered safer than lithium-ion batteries for use in electric vehicles.

Declining supply

The International Lead and Zinc Study Group has pointed out that while demand for zinc is forecast to rise 1.8% to 13.83m tonnes in 2024, zinc production continues to decline for the third consecutive year. Longer-term, a continued decline is expected with supply reaching 12Mt by 2030, as any production increases are forecast to be offset by declines in existing operations.

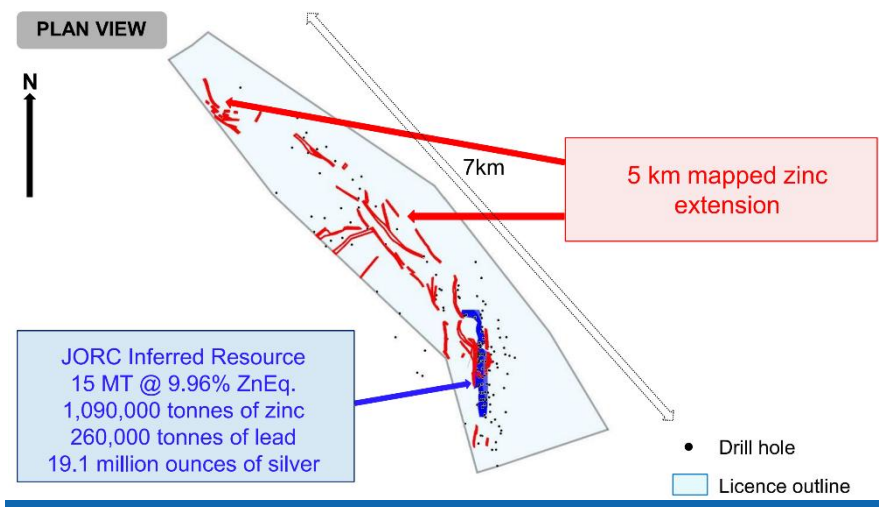
Molaoi zinc potential

At the Molaoi Project, located in Greece, Rockfire recently increased the size of the JORC 2012 compliant mineral resource estimate by 500% to 15.0Mt at an average grade of 9.96% ZnEq, with contained ZnEq of 1,500kt.

This dramatic increase in the scale of the resource base has put Molaoi within the top 20 undeveloped zinc projects globally in terms of both contained ZnEq and ZnEq grades.

Despite this large resource upgrade, Molaoi remains open both along strike and at depth, with 5km of regional mapped zinc occurrences identified to date that have not been drill tested (Figure 3).

Figure 3: Exploration Potential at Molaoi



Source: Rockfire Resources

Rockfire is confident that it can increase the current zinc resource estimate by at least four times its current level and is targeting 40-50Mt at an average grade of 8-9% ZnEq.

This would be a comparable grade to Fireweed Metals' 103Mt (7% ZnEq) Macpass Project located in Canada. Fireweed currently has a market capitalisation of C\$255m (£143m).

Next steps

Rockfire is currently planning a regional pXRF survey across the entire 7km length of the exploration lease at Molaoi.

This systematic survey will allow the company to rapidly and cost-effectively refine existing drill targets and potentially generate new targets. This is likely to be followed by infill drilling to increase the category of its resource base from inferred to indicated. This will also help with the establishment of a compliant germanium resource estimate.

Once the resource category upgrade is completed, Rockfire will complete a scoping study that will provide an early indication of the project's potential economics.

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