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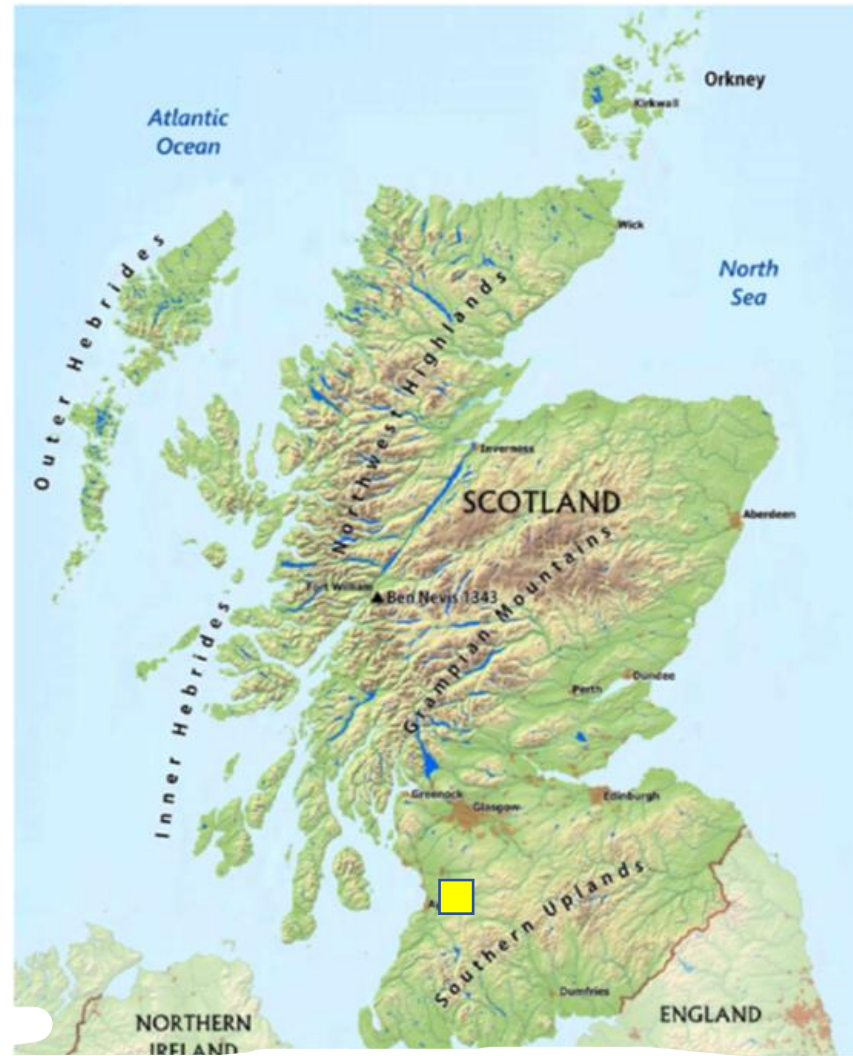
Mauchline Basin Project

Ayrshire, Scotland



Critical Metal Exploration & Mining

Mauchline Project : Ayrshire, Scotland



Local Area

- Rolling countryside with livestock and arable farming as its main land use
- Ayr is the main town adjacent to the study area, Glasgow is 25 miles on the (M)A77 road link
- Ayrshire is rich in mining heritage: Coal, Ironstone, Fireclay, Copper, Lead, Baryte
- Highly developed infrastructure, including paved roads with power and water readily available
- Landowners thus far have been positive towards mineral exploration and potential extraction
- Local authority mineral development plan in place. Agreeable planning conditions.
- Skilled and unskilled local labour pool.



Mauchline Project

ESL holds a Crowns Royal Option to explore for gold and silver, renewed in Jan 2024 until next review in Jan 2026

Target: Exploration for gold along with follow up of reported copper, antimony, graphite occurrences along with historic nickel geochemical anomalies

Current Status: Initial exploration stages – prospecting, geochemical sampling, landowner liaison

Objective: Develop project to discover high probability drill targets



Geology

- In the Midland Valley terrane of Scotland
- Bound by the Southern Upland Fault to the South and the Highland Boundary Fault to the North
- Large deep seated faults along with large splays and abundant faulting
- Carboniferous Coal Measures include coal, fireclay, basalt and sandstone
- Volcanic & intrusive Sequences include: Paleozoic - Devonian, Carboniferous and Permian. Cenozoic – Paleogene
- Sedimentary basin composed of Permian red sandstones, sedimentary breccias, and alkali basalts
- Notable for extensive coal working and significant oxidation depths

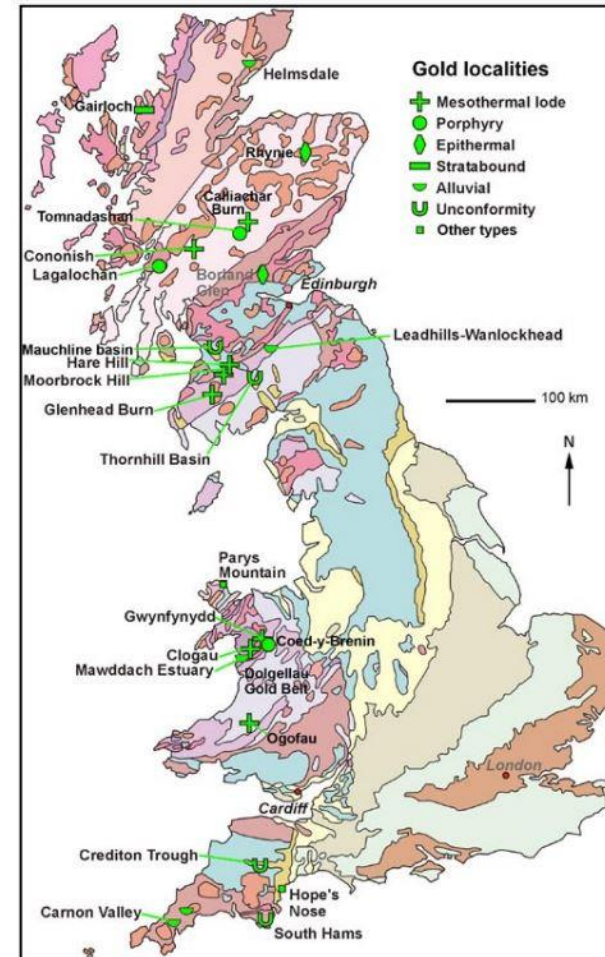


Figure 1. Gold localities in Great Britain; other types include mafic hosted, breccia pipes and volcanogenic massive sulphide deposits (after BGS).



Previous Work in Mauchline area

In the 1970s to 1990s the British Government undertook Mineral Reconnaissance Programmes (**MRP**) across the country in an attempt to attract investment in the search for resources.

One area explored during these times was the Mauchline Basin in Ayrshire Scotland.

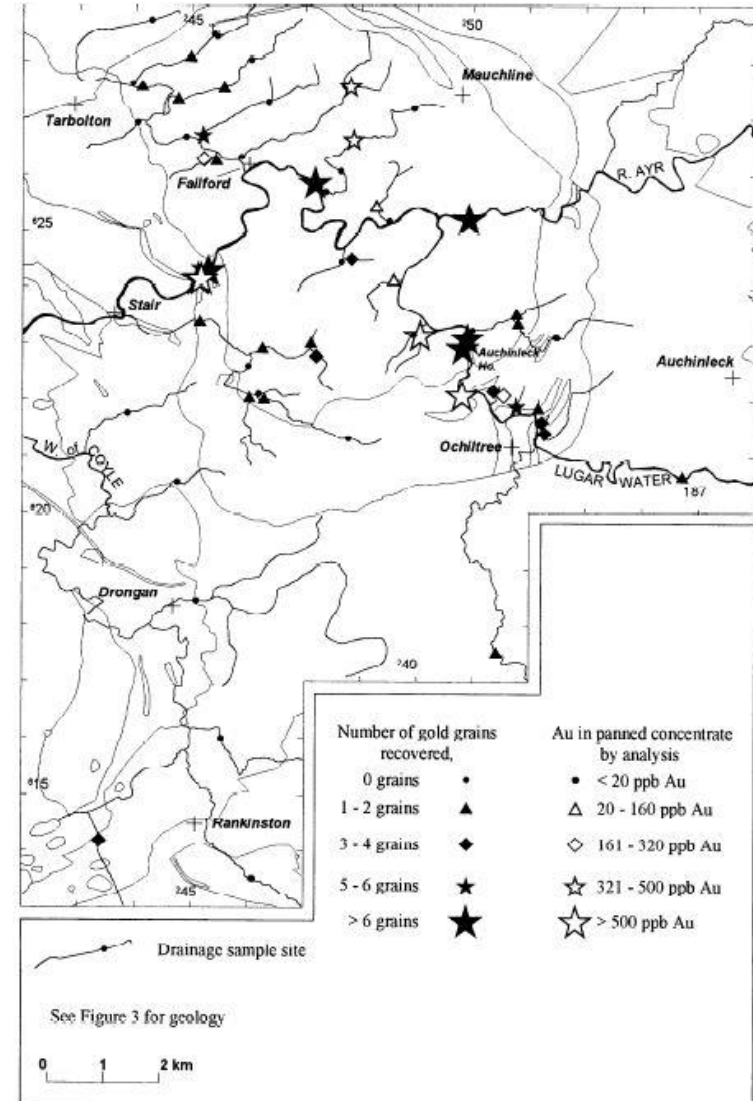
Targeted Deposit Model: Red-Bed Redox Hosted Gold-Copper Deposits

The MRP targeted the Mauchline Basin with the aim of discovering red-bed redox hosted gold-copper deposits. This model is characterized by the deposition of metals through the movement of oxidized, metal-rich fluids across redox boundaries within sedimentary rocks, often associated with volcanic layers. The Mauchline Basin's geological attributes align well with this model, making it an attractive exploration target.

Key Geological Features

Permian Red Beds and Alkali Basalts: These rock types are known to be favorable for hosting significant mineral deposits due to their ability to undergo extensive oxidation and create conducive environments for mineralizing fluids.

Oxidation Depth: The Mauchline Basin exhibits complete oxidation down to 425 meters and oxidation of fractured rock down to 590 meters, providing extensive zones where redox reactions can precipitate gold and copper.



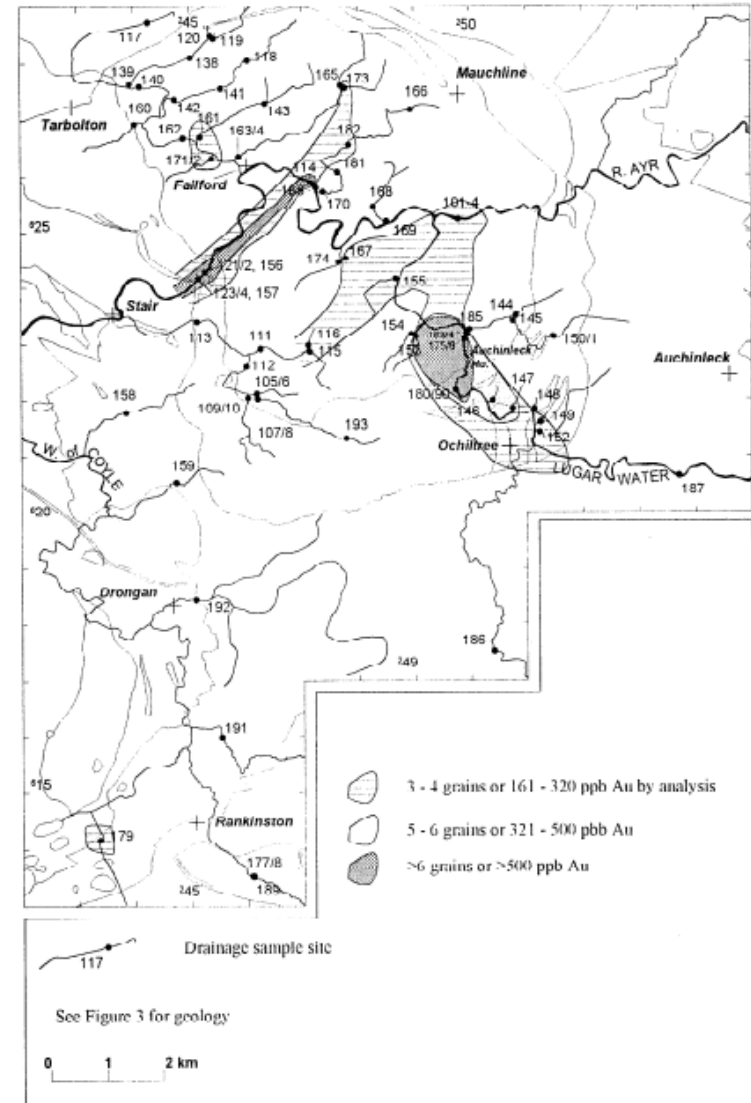
Previous Work in Mauchline area

MRP Findings:

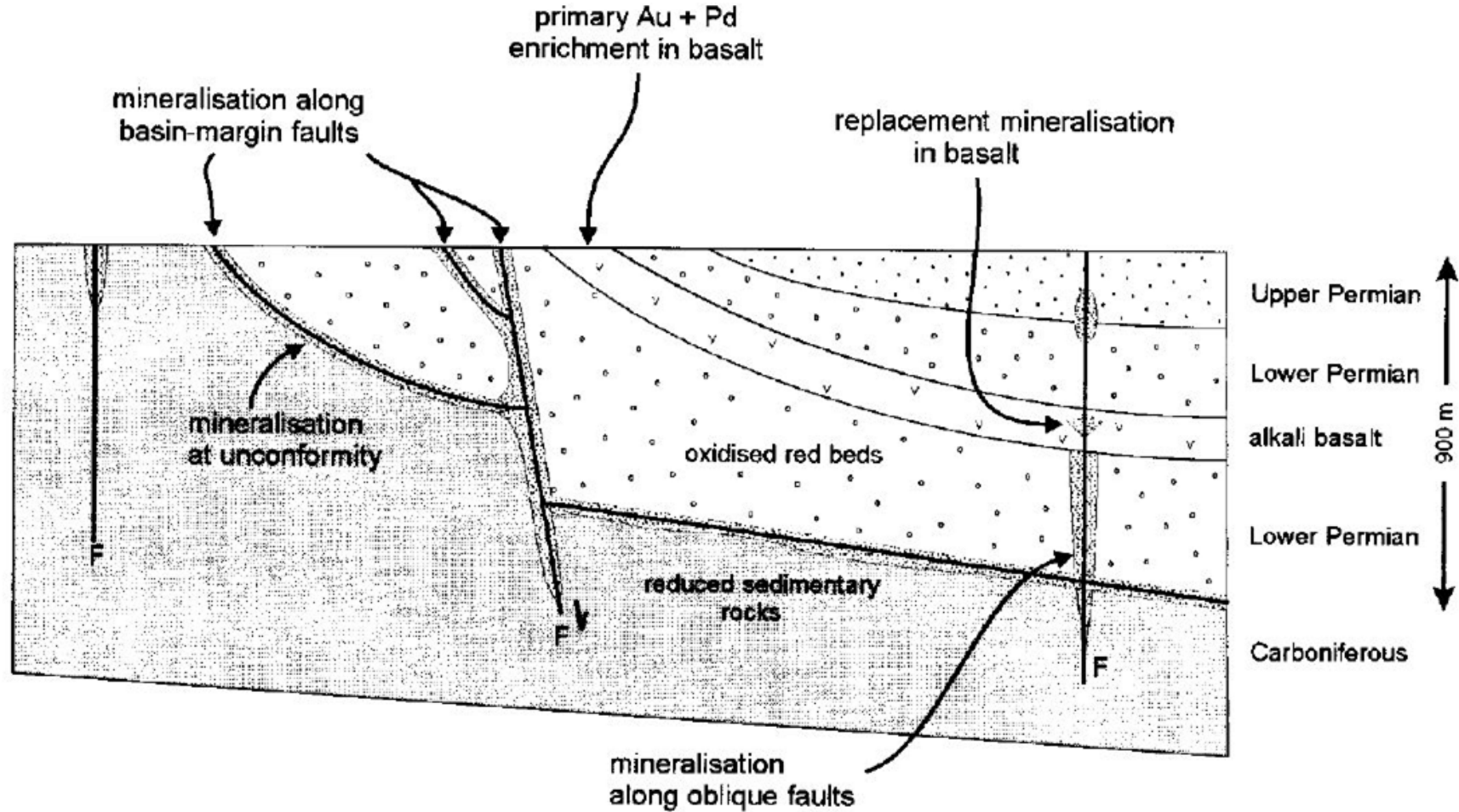
Stream Sampling Widespread and locally abundant Gold within the Mauchline Basin. Of the 76 panned concentrates collected, gold was present in 38 samples, indicating a local bedrock source.

Gold Characteristics: The gold grains found in the Mauchline Basin are characterized by a low silver content (median 3.0% Ag) and a relatively high copper content (26% of grains with more than 0.6% Cu). Additionally, palladian gold grains (up to 6.1% Pd) were identified, further suggesting a diverse and rich mineralizing environment.

Rock Samples: The MRP collected several rock samples showing hydrothermal alteration in the alkali basalts. Although no significant gold enrichment was detected chemically, native copper was found in situ within sandstone rafts in the volcanic sequence. This finding aligns with the exploration model where gold and copper are precipitated from mineralizing solutions at sedimentary - volcanic interfaces.

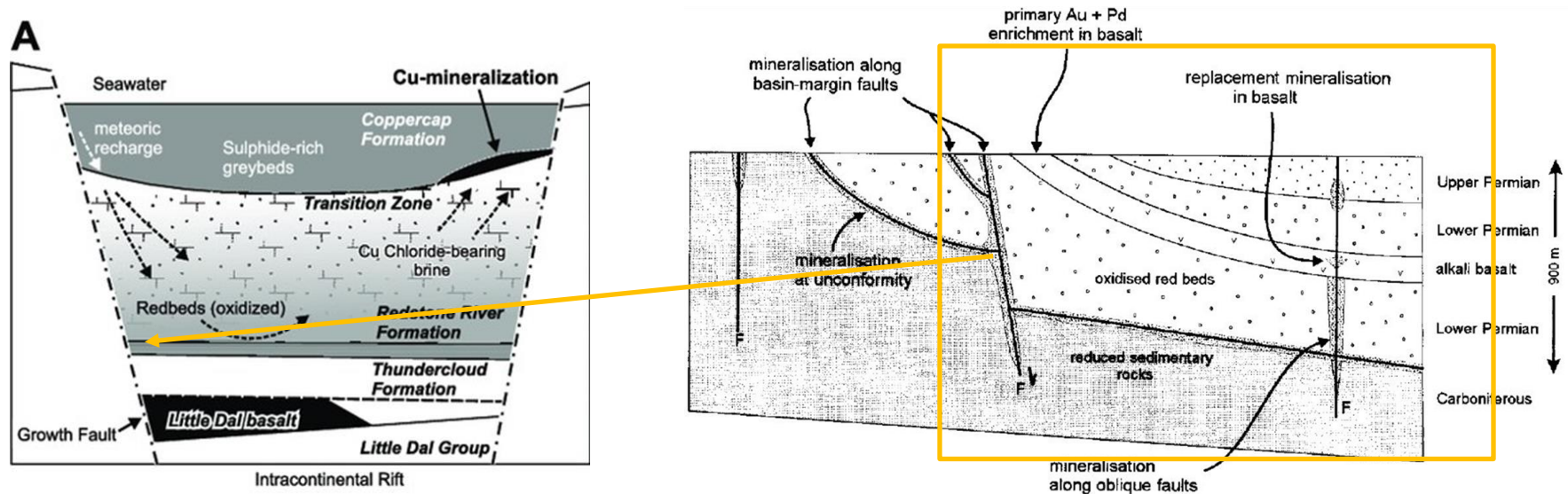


REDOX Model



Geological Analogue

Aspect	Coates Lake (Mackenzie & Selwyn Mountains)	Mauchline Basin (Ayrshire)
Geological Context	Neoproterozoic to Cretaceous units, terrestrial rift environment.	Permian and Triassic red beds, extensive coal and alkali basalt sequences.
Types of Deposits	Stratiform/stratabound Cu-Ag deposits.	Gold in drainage sediments, associated with red beds and alkali basalts; includes PGEs (Pd, Pt).
Metallogenic Processes	Cu-Ag from chloride brines in red beds, precipitated in reducing zones.	Gold from oxidizing fluids, precipitated in reducing environments.
Role of Basalts	Significant for hosting/concentrating Cu-Ag.	Crucial for mobilizing/depositing gold, associated with hydrothermal alterations.
Gold Grain Composition	Complex Cu-Ag compositions, no significant gold.	Silver-rich, copper-bearing, and PGE-rich gold grains.
Oxidation Depth	Extensive oxidation/reduction zones.	Complete oxidation to 425 m depth.
Distinctive Features	Sulphide inclusions in Cu-Ag deposits.	Selenides, tellurides, arsenides in gold grains.



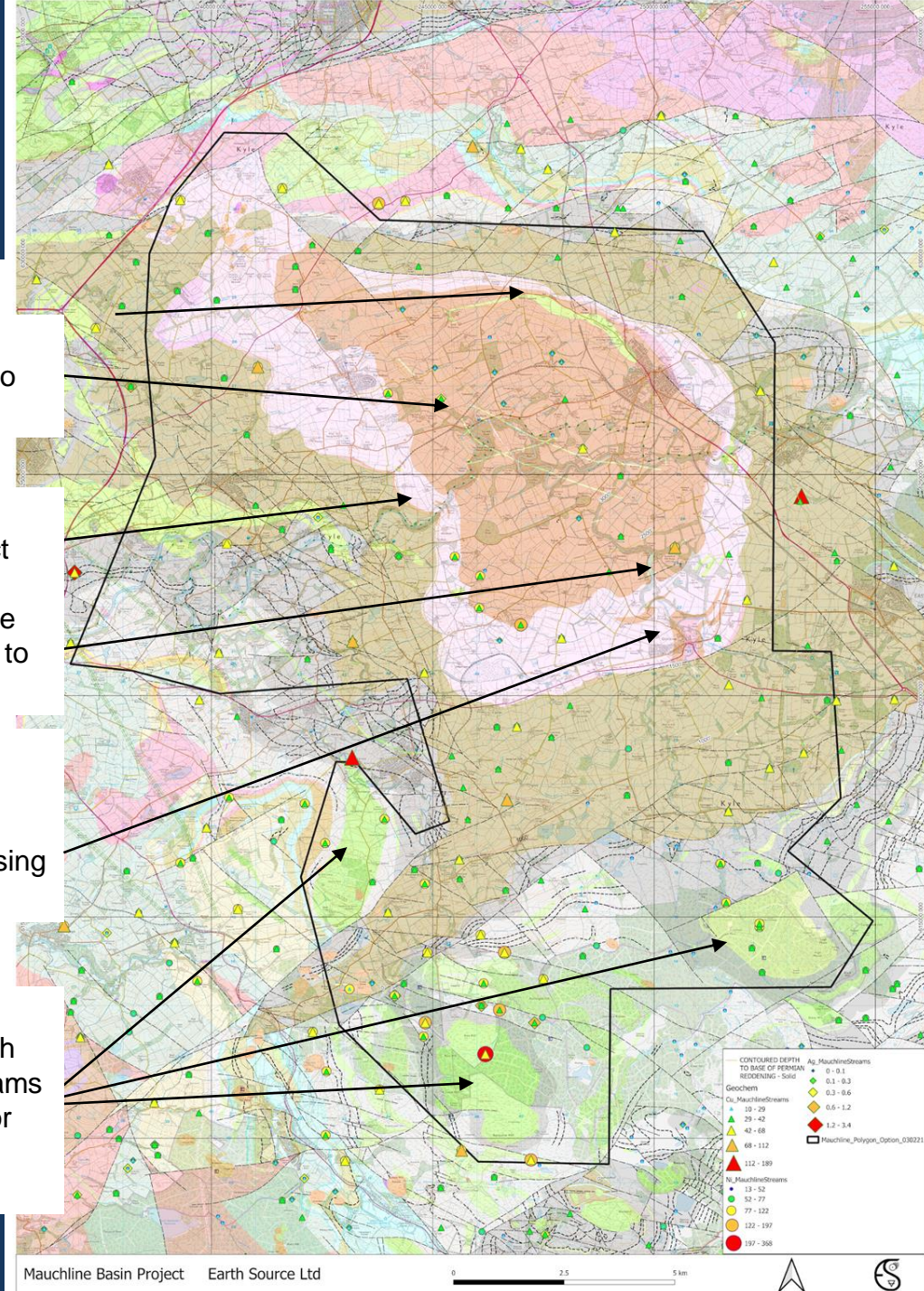
Mauchline Licence 250km²

Microgabbro & basalt reported to host gold grains

Highest MRP results at contact zone, there is **>25km** of surface mapped contact to explore

Intercalated sandstones and volcanics can provide mineralising environment

Microgabbro, outcrops of which anomalous streams flow. Potential for Au and Ni, Cu, PGE



Potential for significant Copper-Cobalt

Beyond the exploration for gold is significant potential for copper-cobalt and possibly nickel.

Prospecting in the area revealed a rock sample of a small piece of float from the river Ayr on the western side of the licence resulted in high copper and cobalt grades.

Deposit styles: Large mafic bodies are present in the area and are likely the source of mineralised material

Historical writings suggest copper workings at a locality within the licence – Dalmore

Graphite

Historical records indicated extraction of graphite in the licence area also in the Dalmore area



Float sample from River Ayr with 0.08ppm gold, 38ppm silver, 9.1% copper, 0.135% cobalt and 0.16% Zn



Founders & Innovators

Terry Nutkins

Earth Scientist, Exploration Geologist
& Business Manager

Over 10 years experience in mineral exploration, held the post of exploration manager for GreenOre Gold and works as a consultant geologist with several domestic and global companies. He has been a part of several underdeveloped discoveries of precious and critical metals.

Calum Dunn

Earth Scientist, Exploration
Geologist & Engineer

Geologist consulting on several UK, Irish and Scandinavian projects. With a diverse background in precious and critical metals exploration. Previous experience in building and running companies. Wide Geoenvironmental/ Geotechnical engineering and mine remediation experience.



Founders & Innovators

Mike Burdon

Business Developer
Chemical Engineer

Since graduating in 1979 with a First Class Honours Degree in Chemical Engineering from Newcastle University, Mike has held a variety of technical, commercial and business development roles in the Natural Resources Sector including British Gas and BHP. Mike has worked extensively in the UK and abroad and is now focused on renewable energy, sustainability and resource independence.

Mark Marshall

Commercial Negotiator
Lawyer

Mark graduated in law from Durham University in 1981 and then qualified as a commercial solicitor. He subsequently spent 25 years in the oil and gas industry, working for Chevron and British Gas amongst others, across all continents. Mark's role was as both a lawyer and commercial negotiator, specializing in creative deal-making. Mark has more recently been working to promote large-scale tidal power generation projects.



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