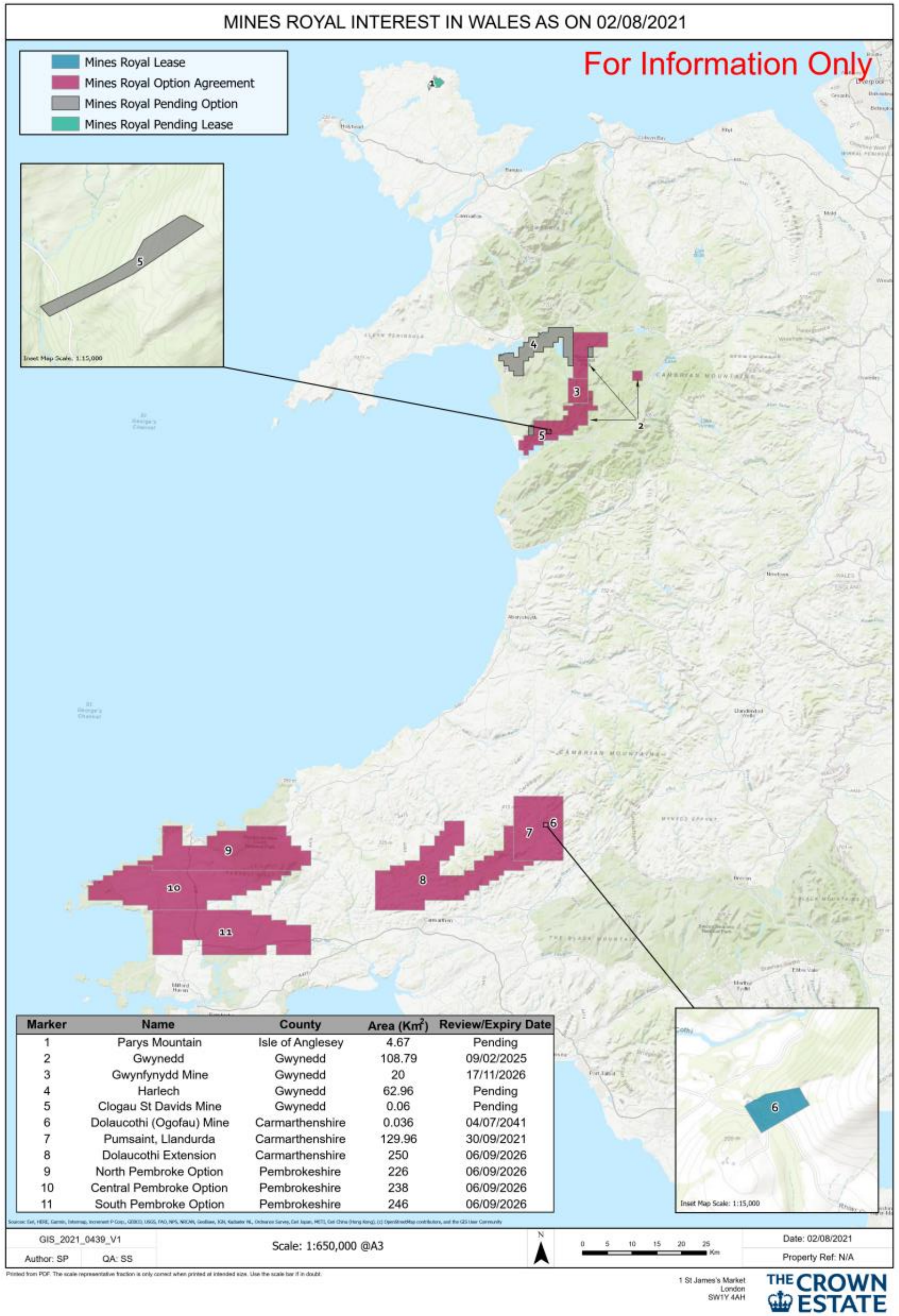
Sarn Helen Gold – A Welsh company exploring for Gold in Wales

Ancient/Roman Britain

- Gold was being mined in Wales prior to the Roman arrival and so we can say for certain that gold mining and exploration in Wales started over 2000 years ago. Wales as such did not exist then but there were four Welsh tribes one of which, the Silures, was based in SE Wales and was likely responsible for any mining.
- The Romans first landed in Britain in 55BC and then again in 54BC in revenge for Britons helping out Gaul. They only came back with a view to establishing a colony some 90 years later in 43AD. This third time they came because they know there was gold and lead in particular, they had developed expertise for mining these metals elsewhere in Europe and wanted to expand their portfolio!
- Once back they quickly headed west to take on the Silures, and once subdued/assimilated established a gold mine and fort at Pumsaint (Ogofau) in South Wales and commenced mining on a more industrial scale.

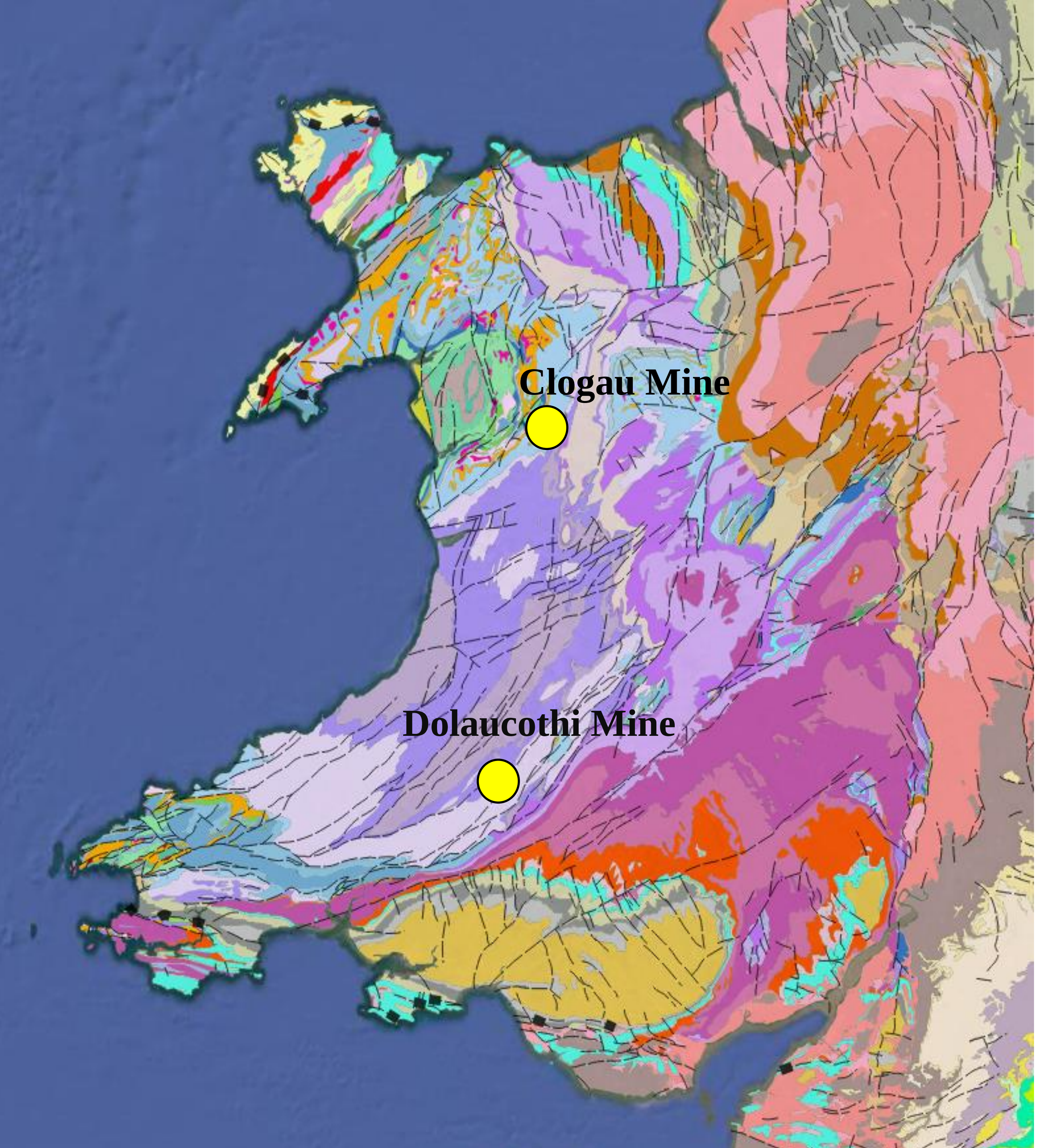
- The Romans used what we would regard as fairly simple techniques to break up the rock and recover free/weathered out gold while their exploration was focussed on looking for tightly folded sediments as they had Identified a connection between this and the presence of veining.
- Best guesses are that the Roman workings at Dolaucothi produced some 30,000 ounces of gold from about half a million tonnes of rock.



Marker	Name	County	Area (Km^2)	Review/Expiry Date
1	Parys Mountain	Isle of Anglesey	4.67	Pending
2	Gwynedd	Gwynedd	108.79	09/02/2025
3	Gwynfynydd Mine	Gwynedd	20	17/11/2026
4	Harlech	Gwynedd	62.96	Pending
5	Clogau St Davids Mine	Gwynedd	0.06	Pending
6	Dolaucothi (Ogofau) Mine	Carmarthenshire	0.036	04/07/2041
7	Pumsaint, Llandurda	Carmarthenshire	129.96	30/09/2021
8	Dolaucothi Extension	Carmarthenshire	250	06/09/2026
9	North Pembroke Option	Pembrokeshire	226	06/09/2026
10	Central Pembroke Option	Pembrokeshire	238	06/09/2026
11	South Pembroke Option	Pembrokeshire	246	06/09/2026

Royal Mines Act

- Following the end of the Roman occupation there is very little if any evidence of gold mining or exploration in Wales until the middle of the 19th century but one important thing did happen was the passing of the Royal Mines Act in 1688 since when all gold and silver in Britain has been owned by the Crown.
- Since 1760, this has been administered by the Crown estate, currently via the Crown Mineral Agent which is Wardell Armstrong. This act covers England, Wales, Northern Ireland and Scotland (apart from Sutherland in northern Scotland where the Duke of Sutherland owns all mineral rights).
- This may seem like a nationalisation but in fact it is this act that actually makes exploring for gold and silver in the UK much more straightforward than exploring for anything else.



Re-Discovery

- In the early 1840s there were a number of copper and lead mines operating in the Dolgellau area of central/north Wales. At one of these in 1843 a processing problem led to the manager engaging a consultant process engineer (Arthur Dean) and when he examined the jigs that were being used to separate the heavier ore from the lighter waste, he noticed specks of gold with the galena (lead ore). Dean then published a paper in 1844 in which he claimed that large numbers of gold veins existed in North Wales.
- Then, later in the same year the Geological Survey reported it had found gold near Dolaucothi.
- These articles clearly sparked some interest and since this time these have been the only two locations where mining companies have seriously looked for gold in Wales.

Dolaucothi History

- The first post-Roman mining at Ogofau was in 1887 and between then and 1912 it was operated by a variety of companies but production during this time has been estimated to be only about 100 ounces in total.
- Roman Deeps Ltd then carried out exploration between 1933 and 1934 and between 1935 and 1936 reportedly mined some 300 tonnes of ore containing 260 oz gold, and outlined a further 150,000 tonnes ore at a grades varying between 8.5 and 17.0 g/t Au.
- British Goldfields (No 1) Ltd then raised capital of some £200,000 and 1937 and mined 16,862 tonnes of ore for 1388 ounces in 1938. A proportion of the gold mined was free and another proportion within arsenopyrite and the latter was being sent to Germany for processing. Unsurprisingly mining stopped at the outset of WW2 and the workings were allowed to flood.
- Anglo Canadian Exploration carried out exploration between 1975 and 1990 with a lot of the work actually being done by Cardiff University's MINEX department. This included several drillholes some of which intersected gold baring quartz veins. Anglesey Mining then undertook further exploration and drilled two more holes between 1995 and 2005 but no serious exploration has been done since.
- Notably in the late 1970s and early 1980s the MINEX department used the mine as a training field centre and it is now run a tourist attraction by the National Trust.

Dolaucothi Geology

- The Dolaucothi deposit occurs in tightly folded black shales of lower Silurian age. It comprises heavily folded and faulted gold-bearing pyrite and arsenopyrite bands, and also quartz veins the most consistent of which was termed the Roman Lode has been interpreted to be a classic ‘saddle-reef’ structure plunging south-west at a shallow angle.
- The Roman Lode was the main target for mining at Dolaucothi and has been traced laterally over several hundred metres and was mined to a depth of about 150 m where it remained open when mining stopped.
- The gold itself occurs both as free gold in quartz veins and also as fine particles locked up with arsenopyrite.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Company History

1. Conceived at Costas on Queen Street, Cardiff and born at the Geological Society - Q2 2019
2. Registered - Q4 2019
3. Granted four Option Agreements in Pembrokeshire and Carmarthenshire - Q2 2020.
4. Selected exploration target areas - Q1 2021.
5. Raised Equity Investment - Q2 2021
6. Undertook first field season -Q3 2021

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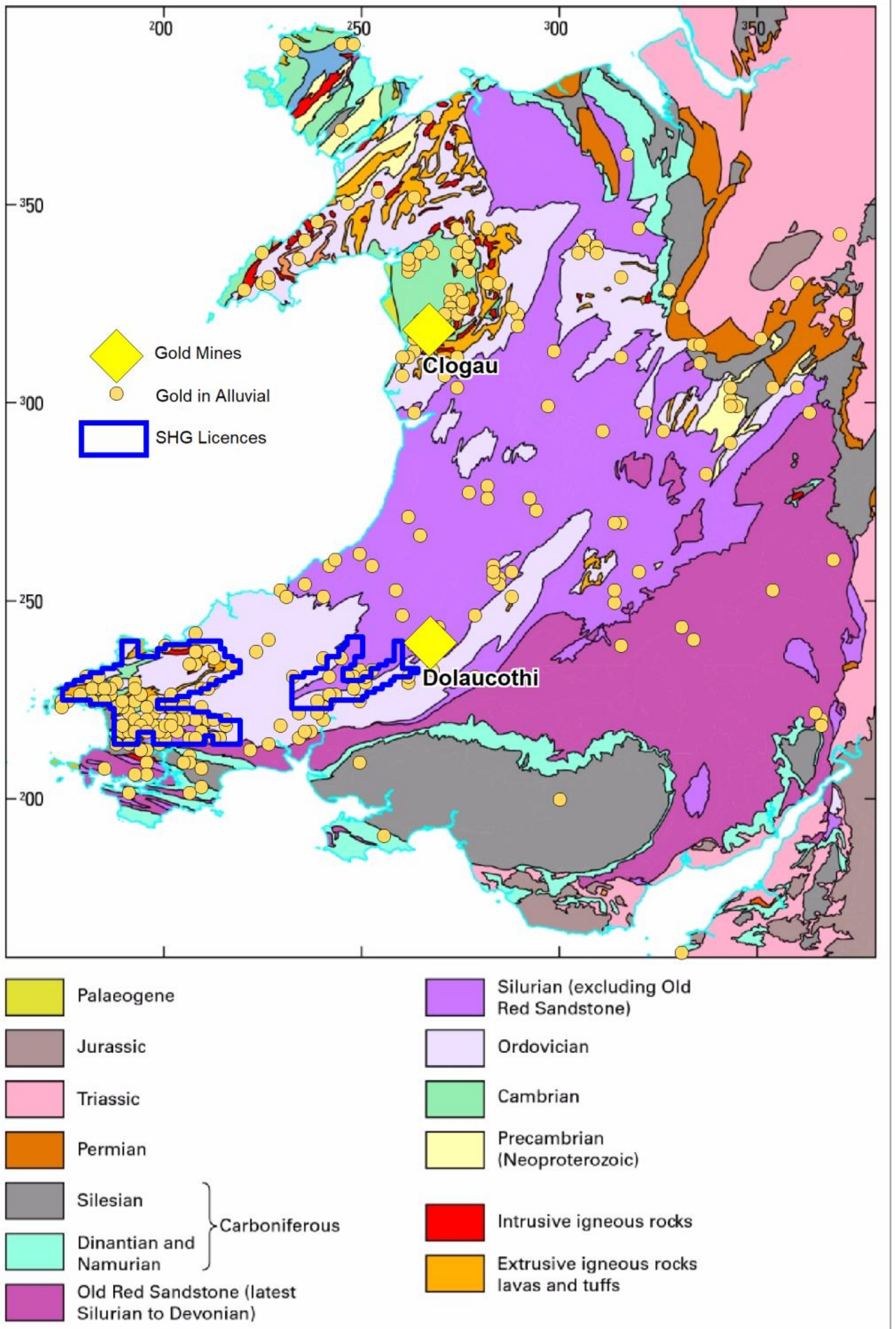

Why Pembroke?

- The Lower Silurian shales and siltstones that host the gold at Dolaucothi and the associated structural features that were the source for this gold extend southwest into Central Pembrokeshire.
- The Cambrian Shales that host the gold at Clogau are also present in North Pembrokeshire.
- The BGS found gold in alluvial samples taken in streams southwest of Dolaucothi and in Pembrokeshire but until 2021 no work was undertaken on the ground to find the source of this.
- This gold must have come from the local rocks. Our challenge is to:
  - find the source(s) of the alluvial gold; and
  - determine if there enough to mine?

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British Geological Survey Reports on Pembrokeshire

BRITISH GEOLOGICAL SURVEY

BGS RESEARCH REPORT RR/00/10
is equivalent to
DTI MINERALS PROGRAMME PUBLICATION NO. 5

Evidence for gold mineralisation in the Lower Palaeozoic and Precambrian rocks of south-west Wales

G E Norton, D C Cooper, J R Davies and J D Cornwell

MRP Report 137

Exploration for volcanogenic mineralisation in south-west Wales

T B Colman, G E Norton, B C Chacksfield, D C Cooper and J D Cornwell

BRITISH GEOLOGICAL SURVEY

BGS RESEARCH REPORT RR/00/09
is equivalent to
DTI MINERALS PROGRAMME PUBLICATION NO. 4

Potential for mesothermal gold and VMS deposits in the Lower Palaeozoic Welsh Basin

D C Cooper, K E Rollin, T B Colman, J R Davies and D Wilson

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Pembrokeshire - Work to date

1. Established access agreements to Initial Target Areas with local landowners
2. Rented a field office and accommodation in Haverfordwest
3. Undertaken a 3 month stream sediment sampling/panning and soil sampling programme over Initial Target Areas (July-September 2021)
4. Tested all samples using XRF on site and a priority selection of these by Fire Assay, ICP and Ionic Leach at ALS in Galway (Ongoing).

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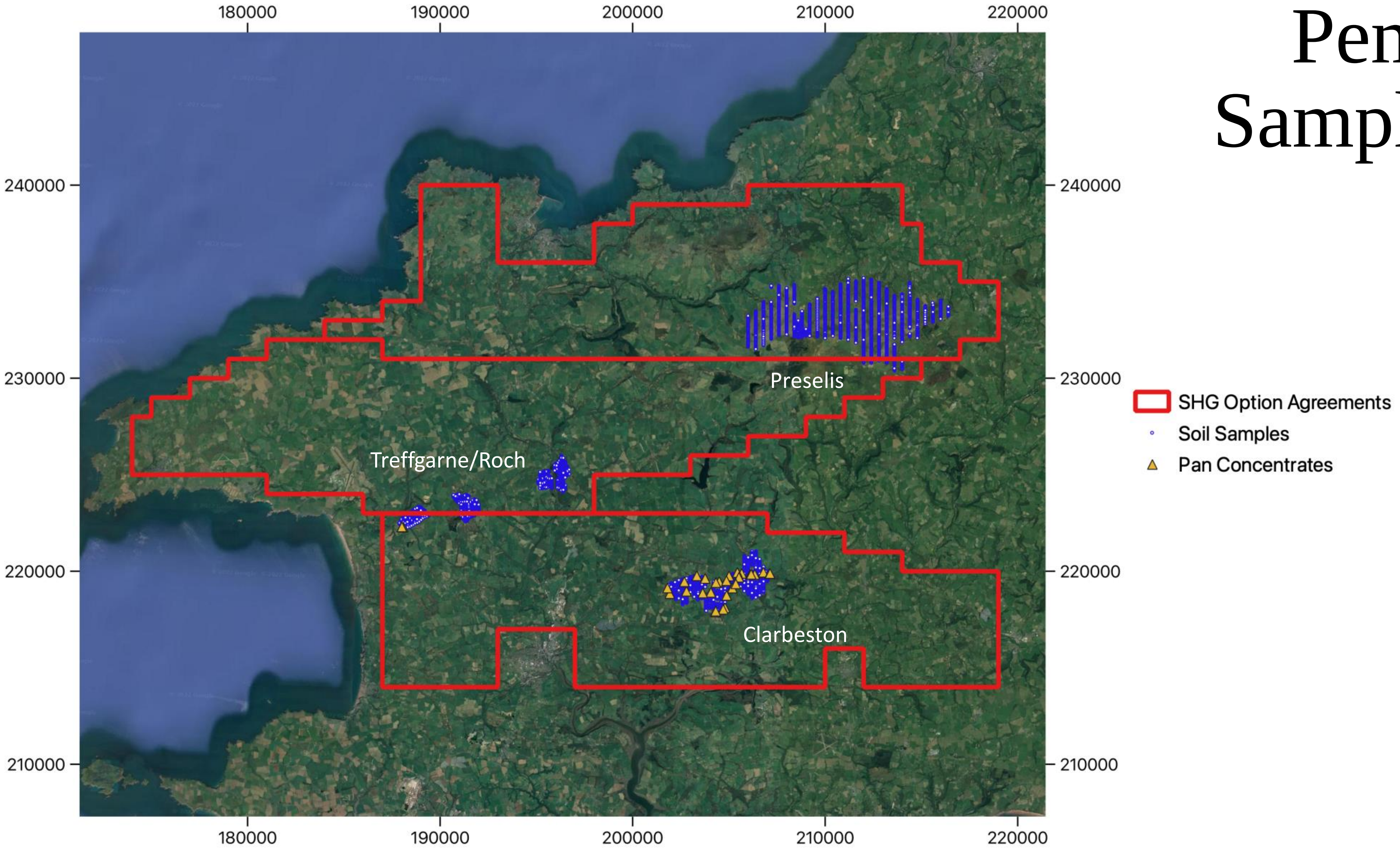
Pembrokeshire Sampling Summary



A combination of soil samples, rocks chips (not on map) and pan concentrates have been collected. The current sampling totals stand at:

- 4,422 soils
- 149 rock chips
- 37 pan concentrates

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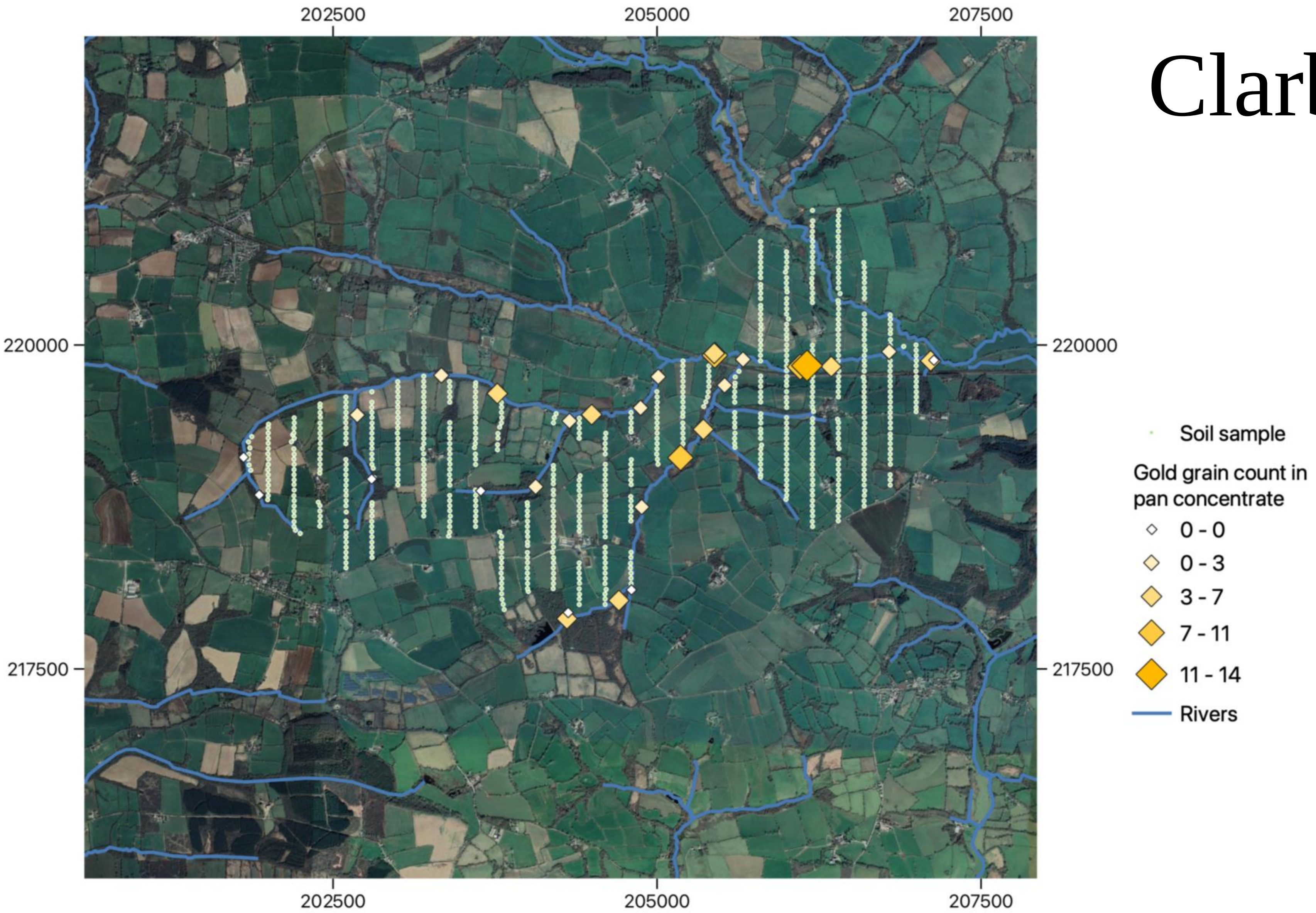
Clarbeston Summary



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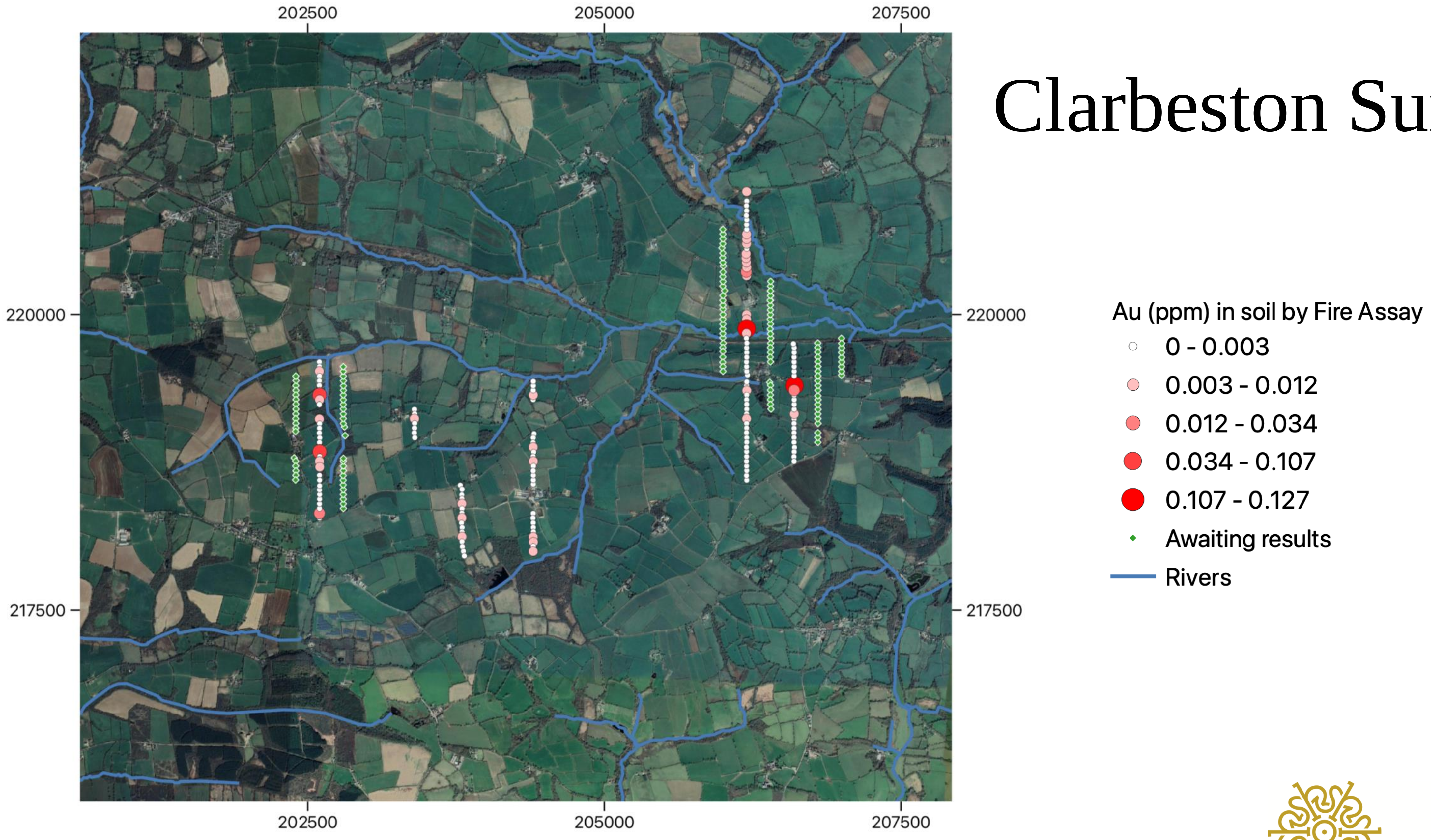
Clarbeston Summary



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Treffgarne Summary

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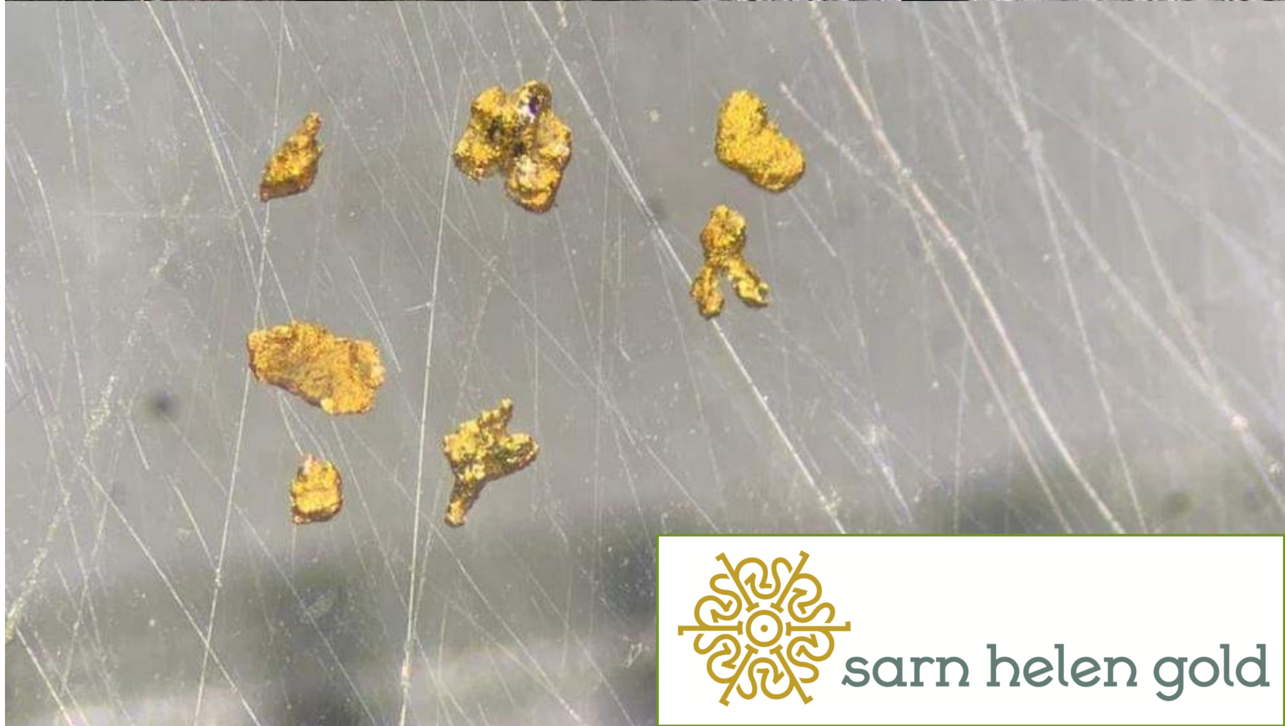
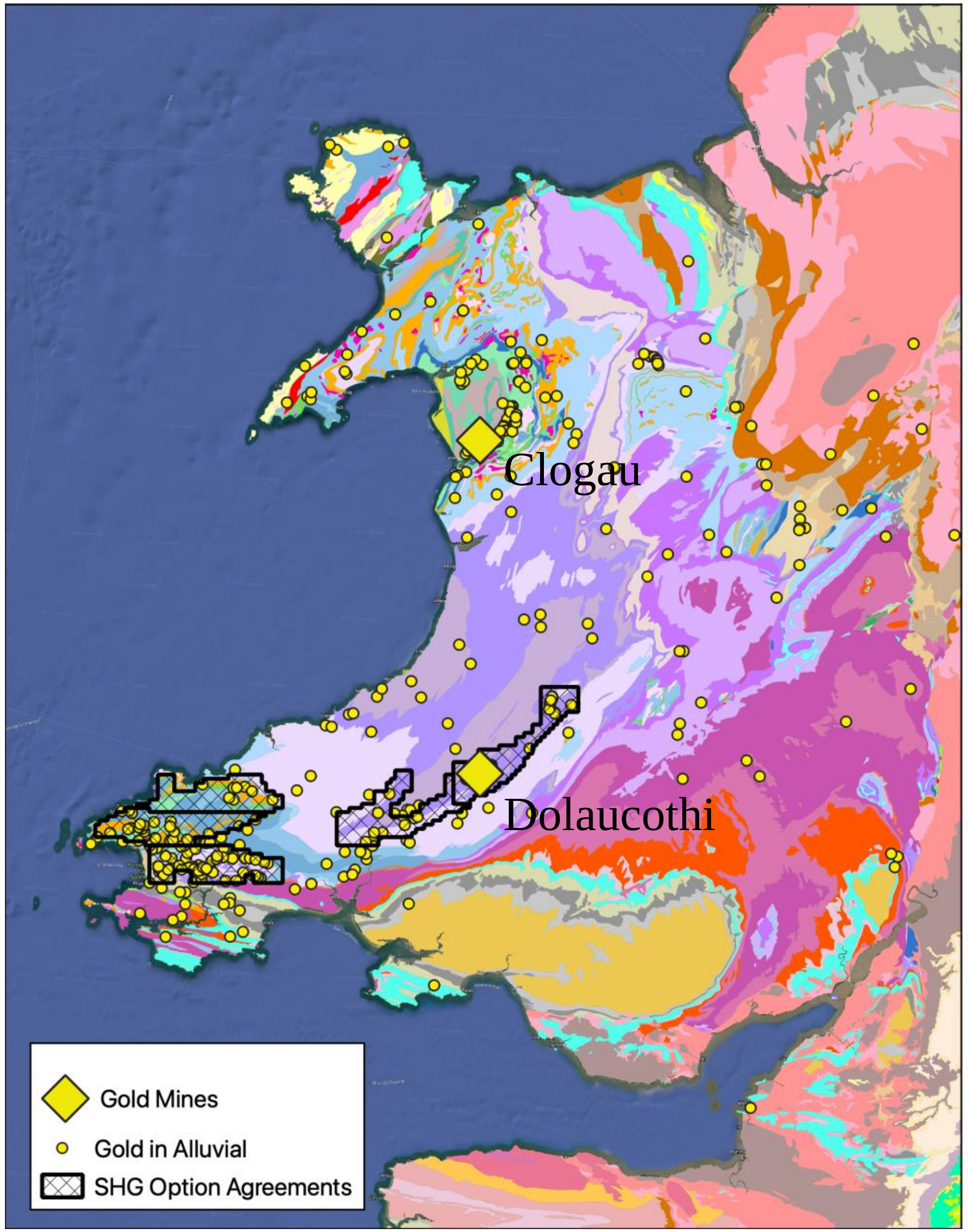
Initial Findings

- Gold recovered from 27 out of 37 panned concentrates in Initial Target Areas confirming presence of gold
- Gold anomalies in soil samples identified at Clarbeston
- Arsenic anomalies in soil samples identified at Treffgarne and Roch





A Fifth Option Agreement

- On April 1st 2022 we were granted a fifth option agreement encompassing the historical Dolaucothi Gold Mine.
- We could not apply for this area previously because it formed part of an option agreement held by another party which expired on 30th September 2021.
- Our application highlighted the significant amount of work we had conducted during the Summer of 2021 on our existing four option agreements and committed to bring the same level of activity to the new area.
- In line with our previous approach we did not just apply for the area previously held by the previous option agreement holder, which only covered the immediate vicinity of the old mine, but for an area of 250km^2, this being the largest area that can be covered by one agreement.

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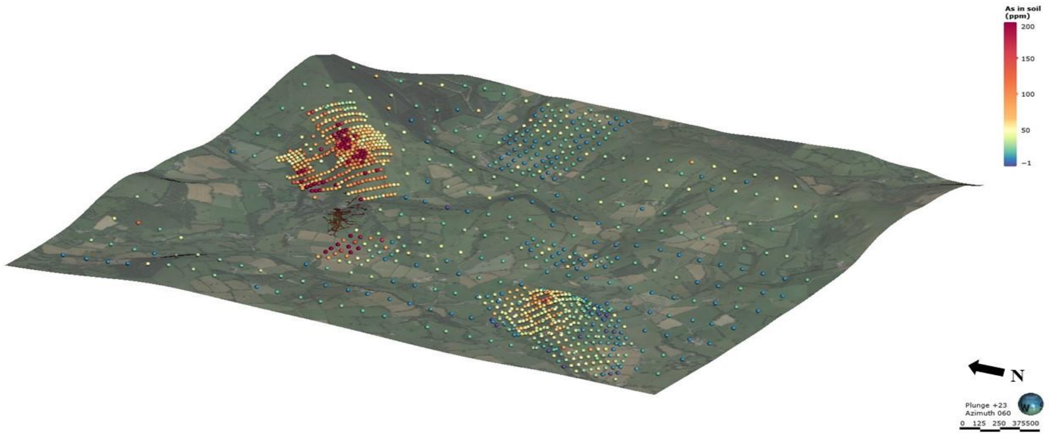
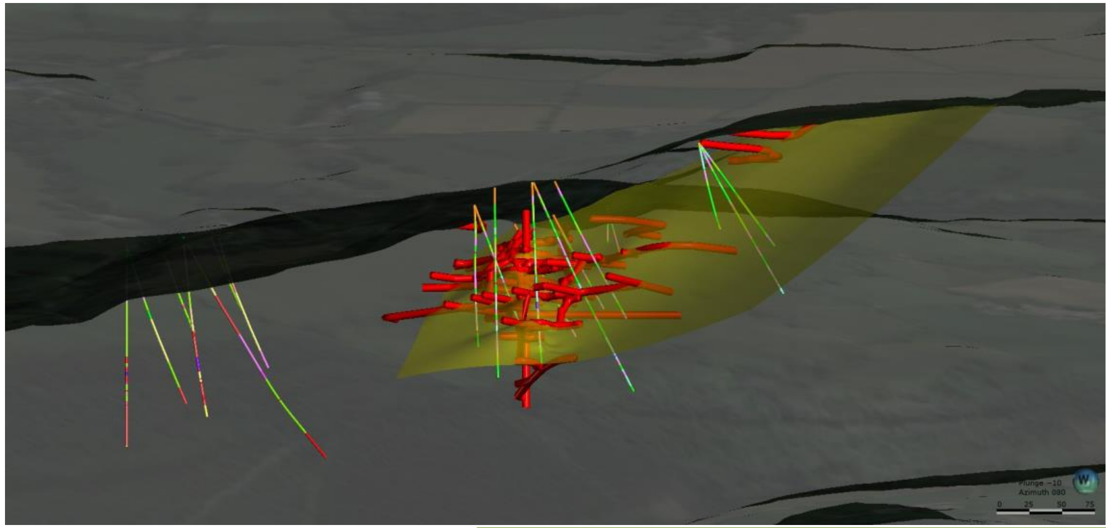
Dolaucothi – Work to date



1. Prepared a landowner maps of the area covered by the option agreement and commenced engagement with landowners again via the NFU.
2. Imported all available exploration and mine data into Leapfrog software.
3. Logged available drillcore being held at Cardiff University and BGS and selected intervals to sample.
4. Commenced the search for an office base.



Plans for 2022

- Extension of panned concentrate sampling and systematic follow up soil sampling (and assaying) in Initial Target Areas (Clarbeston/Treffgarne)
- Extension of pan concentrate/soil sampling (and assaying) into broader Areas of Interest identified by our team including Minwear, Narberth and North Clarbeston
- Sampling of historical boreholes drilled at Treffgarne and Dolaucothi
- Commence on the ground exploration at Dolaucothi

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Thank You
Any Questions
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