

# QUEST FOR GOLD

**William J. Ramsay F.S.A.Scot.**

March 1996



Gold is an element, one of about a hundred substances that cannot be split up by chemical means into simpler substances, a yellow metal of very high value, and man has ever sought its source, whether in the beds of rivers, or hidden in the mass of rocks which go to make up the planet Earth.

The Ancient Egyptians made ornaments with it and even decorated a war-chariot, found in the Great Pyramid at Mena during excavations, with strips of beaten gold, and which today can be seen on display in the Cairo City Museum.

Copper is also an element, a reddish brown metal, and a substance that has many uses but which does not bear the high intrinsic value of gold.

The Romans were enthusiastic prospectors for metals of various kinds and even at this period in time, sites are known where the legionaries had burrowed and toiled in the earth, in their search for these valued commodities.

Towards the end of last century and into the early years of the present one, some national newspapers carried reports of discoveries of lodes of gold and copper and various other deposits of minerals in the hills surrounding the shores of Loch Duich, and naturally these stories aroused great interest, particularly amongst the land-owning fraternity in the parishes of Lochalsh and Kintail.

One of these gentlemen, Sir Keith Fraser, the proprietor of Inverinate Estate, decided to investigate these claims and, as a result, he arranged for two miners from Wales to come up and undertake test trials at one of the "so-called" lodes.

The men began an exploratory drift, ie a horizontal passage following the line of a vein of mineral in a mine at Creapall, in an outcrop of Lewisian Gneiss, exposed on the lower steep slopes of Carr Brae, and in close proximity to several outcrops of marble. The vein they followed was not a lode, ie a vein of metal ore with well defined sides, crossing the beds, but a layer or band of gneissose material, which was found to contain large amounts of pyrites and pyrrhotite.

The band measured five to six feet in width. Above the entrance of the drift, the outcrop can be seen and the surface has weathered with a rusty appearance and this contains many strings and finely disseminated particles of pyrites, together with small scales of graphite, and clearly it is of essentially the same character as many other outcrops of graphitic gneiss which can be found in the neighbourhood of Kintail and Glenelg.

The two Welshmen were engaged during 1904 and 1905 in driving the mine shaft along the line of the gneissose band, and they excavated a tunnel some ninety feet in length with a diameter of around six feet overall.

The miners removed about two hundred and twenty tons of extremely dense rock and an onerous task it must have been considering the tools at their disposal. Steel punches, rock drills, sledge hammers, wheel-barrows and shovels, and no doubt some low grade explosives.

The drift enters the rockface in a slightly downward direction and levels off after some yards, until at about seventy feet the tunnel veers to the left at an angle of some 30 degrees, continuing for a further twenty feet until the end of the drift is reached.

A sample of a block of material which had fallen from the outcrop was assayed and the results are as follows :

Iron = 55%; Sulphur = 40%; Nickel = 0.8%; Copper = 0.25%; Silver = 11 dwt per long ton; Gold = 3 1/2 dwt per long ton.

Dwt = a pennyweight, which is the weight of a silver penny, and there are 24 grains of troy weight in this penny, or 1.5552 grammes.

The assay figures for this sample must have been much richer than the average, for out of four specimens - each somewhat richer in the yellow ores than the average samples are - which were collected by the Geological Survey and assayed by Dr Pollard, the two richest yielded gold at the rate of only 1 dwt 4 grs. per ton of 2,240 lbs.

The figures for the first sample were made available to the Geological Survey by the owner of the property, Sir Keith Fraser. (see Appendix 1)

A sample taken from a similar pyritous graphitic band, at a site about 933 yards slightly north of west of Biolary in Glenelg, was also assayed by Dr Pollard, and was found to contain only 1 dwt 1 gr of gold per ton of 2,240 lbs, and it would seem highly unlikely that these graphitic pyritous bands will prove to be profitable sources of gold.

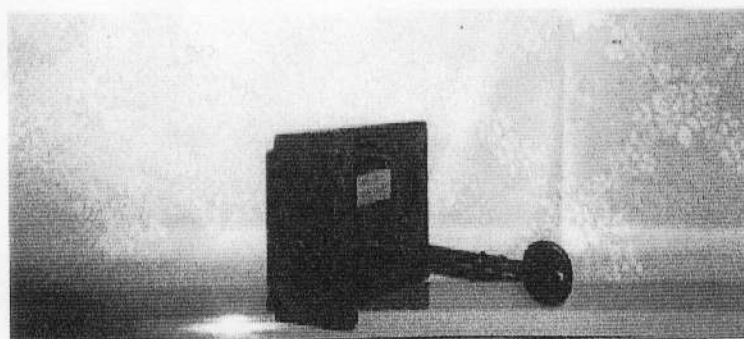
A stout wooden door, complete with large brass lock and 7" brass key, prevented access to the mine by sheep and tool-hungry natives when the site was not in operation. Some time after the trials were abandoned, a rockfall occurred at the entrance and, as there was no further need for security, the door was taken away by the estate manager, Mr MacRae. The brass lock and key are still in the possession of Mr J S MacRae, the son of the then estate manager, and can be seen at his home, 'Tamara', Inverinate.

Some large stones, partially concealed under a carpeting of dead and decaying leaves, blown in by autumnal winds, create a hazard for the unwary and particular care is required when entering the mouth of the shaft.

The walls and roof of the tunnel show little sign of water ingress, evidence of the impermeability of the solid mass of rock in which the mine was formed, and the small pools of water on the shaft floor would appear to have seeped in from the steep slopes around the mouth of the tunnel.

The mine has not served any useful purpose since the venture ended, except to provide shelter for creatures of the wild from time to time, and on occasion to act as a sepulchre for some of them.

The site is rarely visited apart from students of geology, with their hammers in hand, but one visitor has left his mark in the etching of his initials "N.M." on the upper wall near the termination of the drift level.





## Bibliography

The Lead, Zinc, Copper and Nickel Ore of Scotland  
G V Wilson, 1921, p146

Memoirs of the Geological Survey of Scotland  
The Geology of Glenelg, Lochalsh, etc. Vol XVII 1910, p174-5

## Appendix 1

Copy letter from Sir Keith Fraser, Proprietor to Donald MacRae, Estate Manager, Inverinate

## Glossary

gneiss	a coarse-grained metamorphic rock, containing quartz, feldspar and mica
metamorphic	changed into present texture, or composition, or structure, by natural forces such as heat or extreme pressure
quartz	a common form of native silica occurring both in crystal form and in mass - colourless when pure - very hard
feldspar	a common white or pinkish mineral containing aluminium and other silicates
mica	a group of rock forming minerals, with perfect cleavage in one direction, the thin plates flexible and elastic and generally transparent
silica	a compound of silicon occurring as quartz or flint and in sandstone and other rocks
silicon	a non-metallic substance - one of the elements - found widely in the earth's crust in its compound form
pyrites	a mineral that is a sulphide of iron (iron pyrites) or copper and iron (copper pyrites)
sulphide	a combination of sulphur with a metal
gneissose	having the structure of gneiss
graphite	a soft black form of carbon
pyrrhotite	a brownish-bronze weakly magnetic mineral iron sulphide, sometimes called magnetic pyrites
marble	a metamorphic rock, chiefly calcium carbonate - a form of limestone - very hard
calcium	one of the elements, greyish-white - the basis of lime
carbonate	a salt formed by the union of carbonic acid with a base - a compound, that releases carbon dioxide when mixed with an acid
carbonic acid	an acid formed of carbon and oxygen - generally gaseous and evolved by respiration and combustion

APPENDIX I

59 Sloane Street  
S. 10

Monday  
(Undated 1904/5)

Dear Macrae

One line in haste to say that the analysis  
of the ore sent contains

- |             |                   |
|-------------|-------------------|
| 1 Iron      | 7 Magnesia (etc)  |
| 2 Copper    | 8 Sulphur         |
| 3 Nickel    | 9 Phosphoric acid |
| 4 Aluminium | 10 Gold           |
| 5 Arsenic   | 11 Silver         |
| 6 Lime      | 12 Oxygen         |

SIC

a rich combination but it depends on the amount  
of metal especially copper whether it is valuable or  
not. Anyway it is necessary to go deeper to get  
a true analysis.

Yours sincerely Keith Fraser.

27/

There is 3 dwts 6 grs per ton of Gold  
 10 " " " " Silver  
 .25 of copper on surface - 1.25 pays well  
 Sulphur 31 might pay  
 Iron 40 55 etc.

copy of letter in on Macrae Square Vancouver  
from prospectors dit Keith Fraser