

## ELEMENTAL HISTORY

The village of Strontian, home to about 350 souls, nestles in a fold of the hills on the Ardnamurchan peninsula in the Lochaber district of the West Highlands of Scotland, beside an arm of the sea called Loch Sunart. It is one of only two settlements in the world whose modern name has been given to a naturally occurring element. The other is Ytterby, on a much more densely populated peninsula in the Baltic, close to Stockholm; Ytterby gave its name to yttrium, erbium, terbium and ytterbium.



Strontian village from near the Whitesmith shaft. The casting is a crushing wheel.

Today, Strontian is an oasis of rural calm. The nearest supermarket is a 98 mile (158 km) round trip by road, and the village supports itself mainly by tourism and fish farming. But events leading to the discovery of strontium were turbulent, even brutal. About 1722, galena was discovered in veins on a bleak, boggy, rainy and windswept hillside some 5 km north of the village. Mining commenced in 1725. Miners were brought in from the north of England, where minerals were igniting the industrial revolution, and these newcomers were not popular with the locals, who lived a miserable existence of subsistence farming and fishing. The miners stole horses, cattle and tools, and committed acts of vandalism. Many were housed in a shanty town called New York (so named, no doubt, to capture the excitement of a British colony far away). Mining supplies and food had to be brought in by sea, and when this failed, miners died of starvation. In 1745, during the Jacobite rebellion, when Bonny Prince Charlie raised his standard at nearby Glenfinnan before marching on London, he was joined by local men who stole gunpowder from the mines. The English response was to send the Royal Navy, closing the sea lanes and preventing stores from reaching Strontian, leading to widespread starvation. Flooding in the mines following the frequent heavy rain was a constant problem. A water-powered pump was installed in 1757, but it stopped working in 1758 following a 5-month drought, and after further flooding the mines closed in 1760.

In 1764 a man of the kirk, the Rev. Dr John Walker, known as 'the mad Minister of Moffat' (in southern Scotland), visited the derelict mines. Walker had an insatiable appetite for natural history specimens and was on a six-month collecting tour of the Highlands and Hebrides. He found a 'singular substance' that he recognised was different from 'aerated terra ponderosa', our witherite. It seems likely that his specimen came from the mine at Whitesmith. Experiments in 1790 by an Irish physician, Adair Crawford, suggested it contained a new 'earth' (the oxide strontia), and this was confirmed by careful experiments presented to the Royal Society of Edinburgh in 1793 by Thomas Hope, who later became a professor at Edinburgh University. The name strontianite was first used by Sulzer in 1791, and the metallic element strontium was finally extracted in 1808 by Sir Humphry Davy, using the same electrolytic technique that he used to purify calcium and barium. The great chemist visited Strontian and stayed below Whitesmith mine, in the cluster of houses on the extreme left of my picture.



Needles of strontianite, SrCO<sub>3</sub>



The Strontian Main Vein

In addition to being the initial source of strontianite, the veins are the type locality of the Sr-Ba zeolite brewsterite, and beautiful specimens of the rare Ba zeolite harmotome can still be found. Short-lived and financially unsuccessful attempts to revitalise the mines continued until the early 1980s, when barite was extracted for the newly arrived North Sea oil industry, but much larger deposits were soon found elsewhere in Scotland. In the words of one of my sources: 'Strontian was left with industrial scars on an already barren landscape, a name enshrined in the Periodic Table and a history of gonorrhoea'. The mines are one of the star mineralogical attractions of the Lochaber Geopark, part of the European Geoparks network, and can

readily be visited en route to the celebrated Tertiary ring complex of Ardnamurchan, further to the west. Additional information can be obtained at [www.lochabergeopark.org.uk](http://www.lochabergeopark.org.uk).

**Ian Parsons**

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