



Prehistoric miner's stone hammer from Bradda

In the Middle Ages use was made of the Island's lead and perhaps also of the silver which was found in small amounts along with the lead. An ancient smelting site was found at Ronaldsway in 1935 with many traces of lead, and possibly silver was separated from the lead on this spot.

### CLUES FOR THE MINERS

A record about the mines in the south of the Island dated 1740 refers to a mine at Bradda as the "Green Chambers". It appears that there were green stains of the mineral malachite (a kind of copper ore) on the rocks there. The silvery gleam of lead ore was an obvious clue elsewhere. An eighteenth century writer described a typical find at Glenmoye: "... by a shepherd who was going up the hill and with his foot tumbled down some earth and discovered a small rib of ore, so informed Sir John Askin of it, who set men to work". (Sir John was a Scottish lead mining prospector active on the Island in 1741). The sides of valleys where streams had cut down into the rock were often closely examined.

Often the part of a mineral vein near the surface of the ground was changed to what miners called *gossan* or *iron hat*. Gossan was brown or brownish yellow in colour. Where there were patches of gossan, a *trial* would be made to see if there was a lead vein beneath.

Other rock features which interested men searching for metal ore were *faults* and *dykes*. Faults were places where the rock had fractured and movement had occurred under pressure. The hot solutions containing minerals which eventually cooled to veins of metal had often been able to make their way through cracks and spaces in the rock where there were faults. Dykes are found where hot pasty rocks from deep down are able to make their way through weak points in the rocks above and eventually reach the surface. The molten rock soon cools to solid rock of a different colour from the surrounding rocks. Black dykes on the shore at Langness lead into the cliffs where the old copper mines were. Dykes are not really very good clues for finding ore, but miners often did explore areas where they were found. Granite was also often thought to indicate where metal ore might be found.

### SOURCES OF MANX ORES

The chief metals mined in the Isle of Man were lead, zinc, copper, silver and iron. Several metal ores often occur in the same mine. Laxey, for example, produced zinc, lead and copper. Bradda produced copper and lead. Varying amounts of silver were found in all the Island's

lead mines.

Iron was mined only in the Maughold area where it was found in the form of *hematite* or *kidney ore*. The chief iron mining areas in Maughold were at Ballajora and near Maughold Church. The mine near Maughold Church as known as the Glebe Mine. There were many other places in the parish where trials were made for iron.

Copper was found on its own at Langness and along with lead elsewhere. At certain times copper had some importance at Laxey. Bradda was thought of as the main copper mine. Copper mining was also tried in Maughold and in a creek near the Calf Sound.

Zinc was found along with lead at Ballacorkish (in Rushen parish), Laxey, Snaefell and Cornelly. It was only found in small quantities at Foxdale. Laxey was the main source of zinc. Well over 11 000 tons of zinc were produced at Laxey in the peak year of 1875. During 1854-5 Laxey produced more zinc than the output of all the UK mines put together.

Lead was the most widespread of the Manx ores, occurring from the Calf of Man to Glen Auldyn and the Corran valley, from Kirk Michael Mines on the west side of the chain of Manx hills to Laxey on the east coast. Traces of lead were found in all parishes except Bride, Jurby and Andreas out on the northern plain. The veins containing lead ran roughly north and south in the Laxey area, but approximately east and west in the Foxdale group of mines. Miners often hoped to find a mineral vein continuing for several miles in the same direction. It was believed, for instance, that the outcrop found at Glen Chass, near Port St. Mary would continue in a line northwest to the coast at Bradda Head or Fleshwick. From the central mining areas at Foxdale many attempts were made to find extensions to the east or west, but the main vein was found to split into small branches at the east and west ends.

### THE PRINCIPAL LEAD MINES

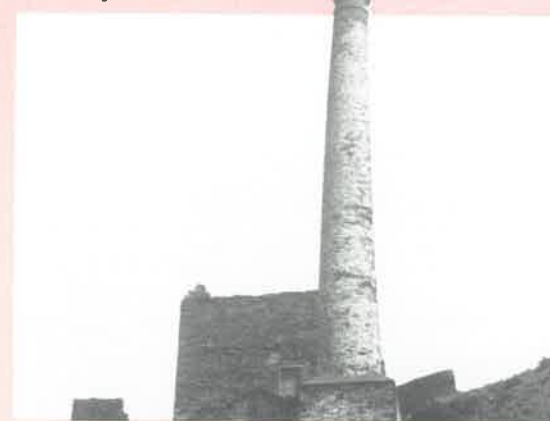
When lead was first seriously mined on the Island in the eighteenth century the great resources of Laxey and Foxdale were not suspected. Attention was given chiefly to the southern mines at Bradda, Ballacorkish and Glen Chass.

In the great days of mining in the nineteenth century ten chief mines produced practically all the lead. Five of these mines (Old Foxdale, Beckwith's, Dixon's, East Foxdale and Cornelly Mines) were in the Foxdale area. Bradda and Ballacorkish were the most important southern mines. Great Laxey, Snaefell and North Laxey Mines in the upper Cornaa valley completed the list of main lead producers.

Old Foxdale had been worked in the eighteenth century and perhaps earlier. Work went on here from 1823 to 1911.

Beckwith's Mine was important from 1839 to 1866. The original discovery of a lead vein here

was said to be due to a hay cart revealing a lump of lead in its track along the west side of South Barrule. This mine was at Glen Rushen. Amongst its ruined buildings is a leaning chimney.



Leaning chimney at Beckwith's mine Glen Rushen

Dixon's Mine was about 400 metres east of the ruined mine buildings which are a landmark along the skyline above Foxdale at 'Snuff the Wind'.

East Foxdale (also known as Central Foxdale) was near the Eairy Dam. It was at its best in the 1880s, sometimes producing more than 500 tons in a year. This mine yielded an average of 35 ounces of silver per ton of lead.

Cornelly (also known as Jones's, or Townshend's Mine) was near Archallagan Plantation, on the opposite side of the valley to Greeba. Its most important period was 1874-1884.

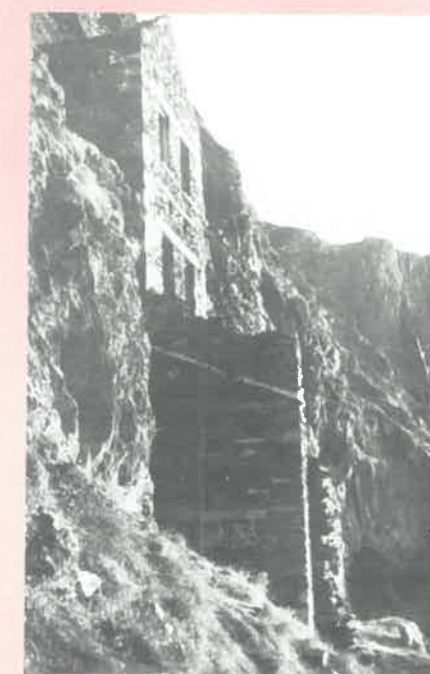
Ballacorkish Mine (also known as South Foxdale and Rushen Mines) is west of Colby village. It was most important between 1862 and 1893, producing lead, zinc, and also silver, though in lesser amounts than Foxdale and Laxey.

Bradda Mine has a long history and we know for certain that it was working by the middle of the seventeenth century. During the nineteenth century its story was one of start and stop. Copper and lead, with traces of silver were worked here, especially between 1850 and 1883. The ore was taken out by boat from a beach by the ruined engine house and the chimney we can see from Port Erin.

Great Laxey flourished from 1822 to about the



Foxdale mines in 1887



Old buildings perched above the sea, North Bradda.

1890s. It was an outstanding mine in the whole of Britain. In quantity its main product was zinc from the ore known as *black jack* or *blende*. At one period the Isle of Man produced a fifth part of all the zinc ore from British mines and 90% of the Manx zinc ore was from Laxey. Foxdale led Laxey in the amount of lead produced. Roughly two thirds of the lead exported from the Island came from the Foxdale group of mines and one third from Laxey.

Snaefell Mine was producing lead and zinc from 1856 to 1908. The mine was at the eastern foot of Snaefell and the mineral vein was originally discovered in the bed of the stream. This mine was notable as the scene of the Island's worst mining disaster, when in May 1897 twenty men lost their lives because of carbon monoxide poisoning due to burning timber. Working continued after the disaster until 1908 when the mine was abandoned after a wedge-shaped mass of rock blocked the shaft.

North Laxey Mine in the upper Cornaa valley was worked from 1856 to 1897 and seems to have been purely a lead mine.

### SITE PROBLEMS

Often mining trials were made in remote parts of the Island where access was difficult. Men travelled considerable distances to and from

their work. "I have seen them going home with lanterns over the mountains at ten o'clock at night", stated a man with memories of miners leaving Foxdale for their homes at Glenmoye. Sometimes the ground was very difficult, for instance, the steep slope down to the Falcon Cliff Mine below the Sloc. Transporting equipment to the remote sites must have been quite a problem. Newspaper accounts in the year 1854 mention a new steam engine being landed at Port St. Mary which had to be transported to Beckwith's Mine at Glen Rushen with teams of horses and wagons. An old miner recalled how a large boiler from Cornaa was brought to Snaefell Mine. The boiler was found to be too heavy to haul by road. It was floated round to Laxey and hauled up via Agneash. "It took weeks to get the boiler out to the foot of Snaefell", he recalled.

Sometimes the determined efforts of new mining companies to open up mines in difficult places seemed slightly mad even to people of the time as when the *Mona's Herald* reported in January 1872 that a schooner had arrived at Port-e-Vullen in Maughold with machinery, boilers etc. for new mine workings "on the edge of a precipice" there.

The need to get the ore from the mines to a port for shipping entailed long journeys by cart and horse from areas such as Glen Rushen, and Foxdale before the opening of a special branch line of the railway in 1886. Supplies such as coal and timber had to be brought back to the mines by the returning carts.

The nature of the rock itself varied from mine to mine and could make much difference to the running costs. At Snaefell, where the rock was described as "bricklesome", and at Glen Rushen, much timbering was required in comparison with Laxey. One of the reasons why Glen Rushen Mine closed down was the expense of the amount of timber required to support the underground workings.

Water was always a problem in the mines. The Laxey workings in Glen Mooar were beneath a watercourse. In the early nineteenth century a wooden partition had been made to separate the Engine Shaft from the river, but a thunderstorm in the summer of 1836 caused the mine workings to be flooded and five men were drowned. Eventually the problem was solved by building a wall across the bed of the stream. It took eighteen months of work, day and night, to rectify this problem. Flooding of workings from general underground water was a problem in all deep mines and the very first steam engines invented had been put to use in pumping water from mines. A problem in the Isle of Man was that there was no local coal supply to fuel steam engines. In spite of making all possible use of streams to turn waterwheels for power and of ingenious ways of collecting water from the hillsides, steam power was necessary for both pumping and winding gear to haul up the wooden *kibbles* full of mixed rock and ore. Dry weather in summer caused additional problems because there was a shortage of water for the washing floors at the surface. A dry summer in 1874 led the Great Laxey Mining Company to invest in new equipment for their washing floor.

Snaefell Mine frequently suffered water shortage problems. Water was gathered from streams by means of specially constructed channels which led the water into the Snaefell dams on the hillside above the mine. The water supply often failed in dry summers and work would be stopped at three o'clock in the afternoon. It was common for Snaefell miners to take summer jobs and come back to the mine in September for the winter. Shortage of water often meant that there was not just a shortage of water for the washing floors, but a lack of water to turn the waterwheels which were used to pump the underground water out of the workings and so the lower levels gradually flooded.

Foxdale was the only Manx mining area with gas problems. There carbon dioxide would often come out from cavities in the rock known as *loughs*. Traces of this gas were sometimes noted at Laxey, but at Foxdale large amounts would sometimes be released and continue for quite long periods. It was not an explosive gas and the problem was overcome by supplying compressed air from two pipes continually.

### OLD WORKINGS

There were hundreds of mining *trials* up and down the Island. Today all that may be left of once busy sites are a few heaps of spoil or the ruins of an engine shaft or the stone casing which once supported a great waterwheel. The *deads* or mine rubbish which once dominated the scene at Laxey and Foxdale have been put to various uses and removed. The waste tips at Snaefell Mine were re-worked 1954-58 and 2,500 tons of ore recovered from them by modern methods.

Abandoned shafts have been a source of danger ever since mining began on the Island. Cattle and horses would be lost through falling down unfenced shafts. Sometimes underground workings would collapse causing the ground surface to subside. A farmer working a field near the Maughold iron mines said, "I was grubbing a field on Ballajora, and was in one corner of the field when I felt the horse give a spring forward in time to prevent it falling down the hole". Miners often worked in from a cliff so that what may now look like an interesting cave is really an old miner's *adit* (tunnel) and could be a very dangerous place to explore.



A dangerous mine entrance is sealed. Glen Rushen.



# MANX MINES ROCKS AND MINERALS



Foxdale miners at top of shaft

### EARLY MINES

**M**INING for metals on the Island probably began in the Bronze Age. Bronze was made by mixing copper and tin. We can imagine that the prehistoric miners in search of copper ore would be attracted to

sites at Bradda Head, Langness and perhaps Maughold Head where copper could be seen outcropping in the cliffs. Stone hammers of the kind used by prehistoric miners have been found at Bradda Head. Later on, in Iron Age times, miners in search of iron ore would have noticed the red staining on the Maughold cliffs that was a sign of iron oxide.