Abstract: This article presents an account of the efforts made by the 5th Earl of Breadalbane to develop a copper mining property during the mid-19th century on his Perthshire estate. During the twenty years from 1840, pyritic and copper-bearing ores of varying grade were produced. Following this period, limited amounts of sulphuric acid, phosphate fertilizer and copper matte were produced, but despite the high calibre of the consultants hired by the Earl, the operation made a heavy financial loss. Analysis of slag remaining by the shore of Loch Tay has permitted a description of the metallurgical process used, while by matching the information from the Breadalbane archives to the visible remains of the plant, the author offers an interpretation of the mining and manufacturing site as it exists today.

Introduction

In 1971 Historical Metallurgy published an article by John W Bainbridge describing copper-smelting operations at Tomnadashan, a small copper mine on the south shore of Loch Tay, which was owned by the Earl of Breadalbane in the middle of the 19th century (Bainbridge 1971, 12-14). This article followed his general discussion published in 1970 of the Tomnadashan enterprise in Industrial Archaeology (Bainbridge 1970, 60-74). Later, writing in the Scots Magazine, Bainbridge gave descriptions of both the mining and smelting operations and also of a sulphuric acid plant operated at the site (Bainbridge 1980, 38-45). Bainbridge's chief source materials were the Breadalbane Muniments, estate archives stored at the National Archives of Scotland, Edinburgh. However, when he was writing, these archives had not been fully indexed and were stored in a large number of boxes, thereby limiting their accessibility to the researcher. Today the muniments have been fully indexed and a more thorough perusal of them has been possible, and as a result of this the present author has prepared an updated account of the Tomnadashan operation. In particular, it is intended to show that the archaeological remains of the operation which can be seen in the field, while slight, are considerably greater than previously believed; as well as remains of the copper smelting furnace, extensive traces of the flue systems in both the copper smelting and acid manufacturing circuits have been found.

Mining

Background 1825-41

In July 1825, a number of influential landowners established the Scottish National Mining Company, with a view to developing the natural resources of the Highlands (1/4/7—see List of Sources). Among those who attended the meeting were the fourth Earl (later 1st Marquis) of Breadalbane. He was accompanied by his son John Campbell, Lord Glenorchy. It was from this meeting that Glenorchy's interest in the minerals on his estates can be traced. In 1834 Glenorchy, then 38, succeeded to the Earldom (and Marquisate) on the death of his father.

The Tomnadashan deposit is located midway along the south bank of Loch Tay, Perthshire, in the central