

## THE GRANITE QUARRIES AND MINERAL MINES OF LUNDY

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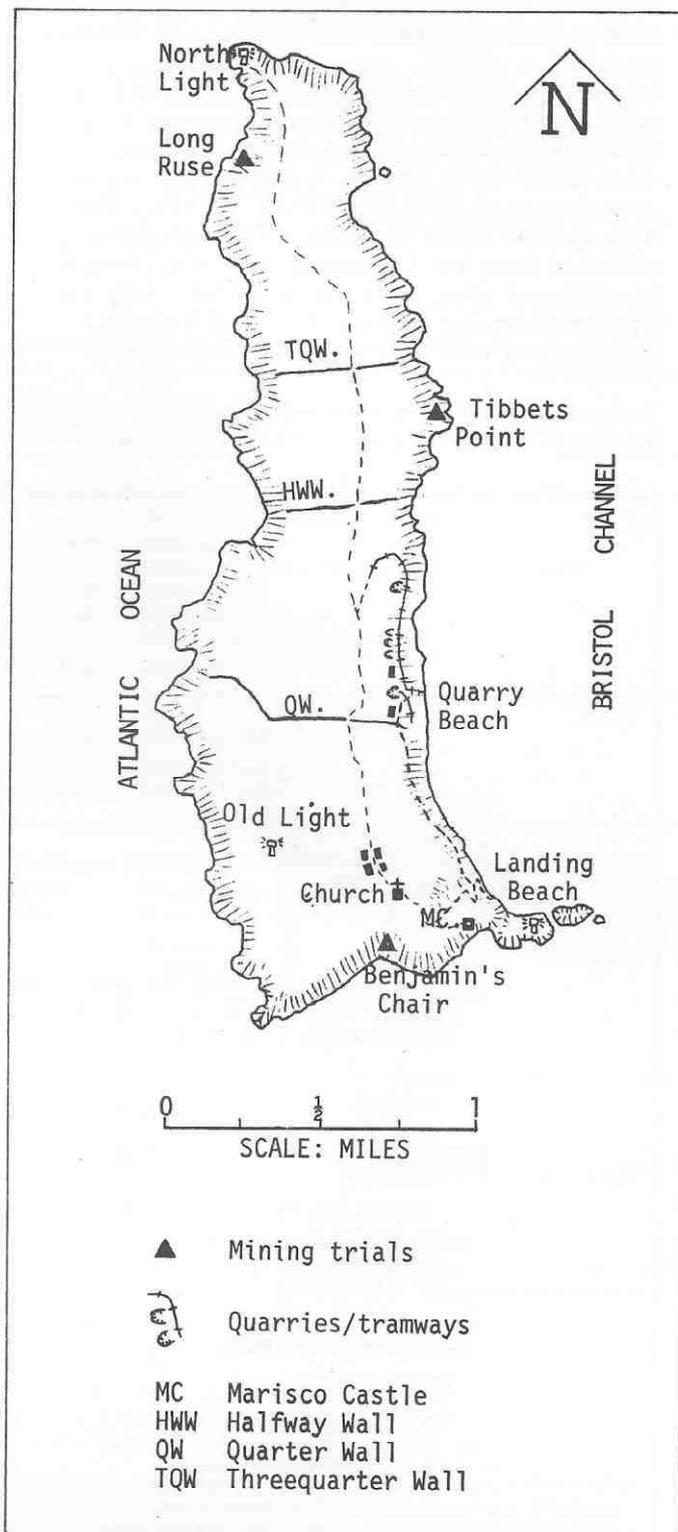
Lying in the mouth of the Bristol Channel about 12 miles NNW of Hartland Point, North Devon, Lundy is an island which receives thousands of visitors each year travelling by steamer from Weston-super-Mare or Ilfracombe. The three mile by half a mile granite island, which is now owned by the National Trust, boasts few amenities: a church, a general stores and an inn, three lighthouses (one disused), a handful of cottages and a year-round population of about ten. Lundy's principal attractions remain its wild, open moorland, its craggy 300 foot cliffs, and the resident populations of puffins, cormorants and wild goats. The thin peaty soils have never been successfully cultivated, the island being exposed to frequent Atlantic gales. During the 19th century, however, there was an alternative source of income and employment in the shape of extractive industry. Granite was quarried and shipped to the mainland and a few abortive attempts were made to mine the copper minerals found at a number of places in the cliffs. These activities have left a variety of remains some of which are accessible to the day visitor. The main quarrying site, together with its system of tramways and inclines, can be seen in a couple of hours with a minimum expenditure of energy. The copper mining trials are less easily approached being situated for the most part in near vertical cliff faces and therefore requiring more time to locate and the use of climbing equipment and skills to explore.

The granite quarries are situated in a group about halfway up the eastern side of the island. They can best be reached by taking the cliff path which commences about halfway up the track leading from the landing beach to the church. There are five major excavations spread over a distance of about 800 yards along the cliffs to the north of the Quarter Wall. The individual quarries vary in size. The largest, at the northern end of the group, reaches a maximum depth of about 85 feet, is about 75 feet wide and extends 120-130 feet from its mouth to the foot of the working face on its western side. A photograph of this quarry was included in an 1899 prospectus connected with a re-working of the Lundy granite.

Comparison with the 1976 photograph indicates little or no change since that date. Like most of the quarries the northern one shows many signs of drill holes in the working faces and scattered granite blocks. These may be indicative of the use of explosives in the breaking of the rock.

One other quarry has some measure of intrinsic interest. The VC Quarry was so named to commemorate the posthumous award of the Victoria Cross to John Harman, son of the island's owner at the time, killed in action in Malaya in 1944. The young John Harman had played in the quarries as a boy and a plaque mounted on a granite slab commemorates this and his final fate.

The quarries were connected by a tramway, signs of which are still visible. This ran downhill from a point on the top of the island plateau, about 360 feet above sea level, curving southwards and then dropping in a gentle gradient past the quarry workings before reaching a wider, level terrace which



INDUSTRIAL ARCHAEOLOGICAL  
SITES ON LUNDY

seems to have contained a number of sidings.<sup>1</sup> At intervals along this tramway, and from a point at the south end of the sidings terrace, short branches of trackway appear to have connected with the individual excavations. A number of spoil tips are also located below the tramway at points adjacent to the quarries. The tramway is today visible as a distinct terrace running along the cliffs. In conditions of low vegetation the sleepers can be located, lying about 3 to 3.5 feet apart. The gauge of the line appears to have been about 17-18 inches.

Once removed from the quarries, the granite would have been trammed to the sidings and there perhaps sorted and graded. Then the stone was sent down an incline to a quay, where vessels would wait to transport it to Bideford or one of the other ports on the North Devon coast. The incline commences at the southern end of the sidings terrace and running at a gradient of about 1 in 2.5 descends to the quay, the granite foundations of which can be seen at low tide. There is no apparent haulage engine site at the head of the incline, suggesting that horse power may have been employed.

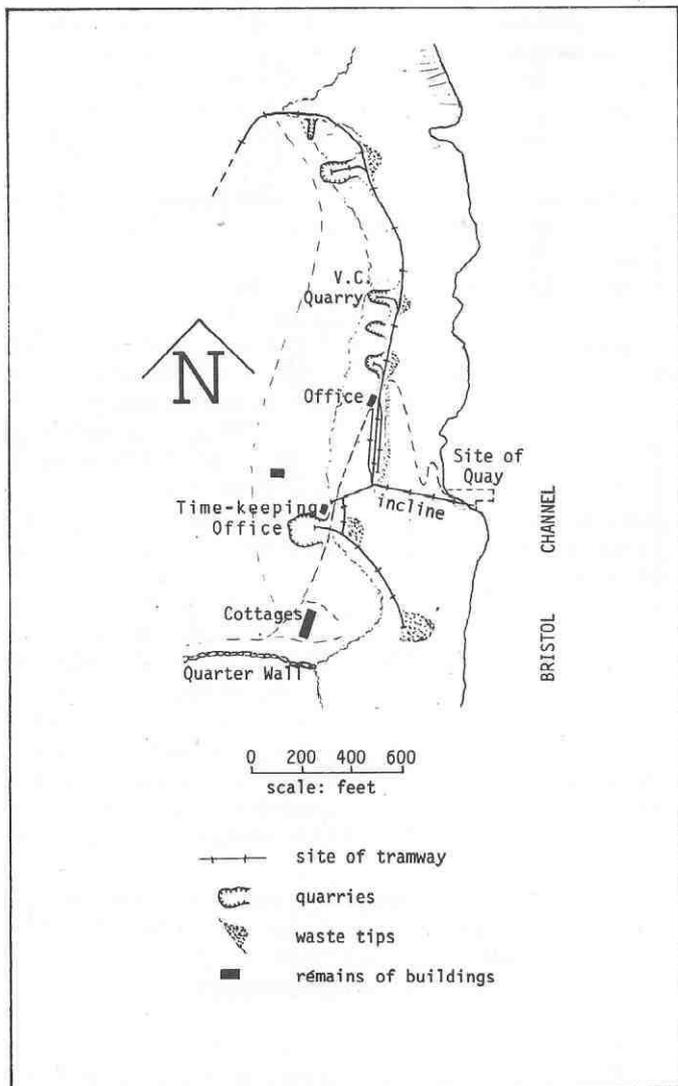
There are a number of ruined buildings associated with the quarries. At the northern end of the sidings terrace is a small

structure, perhaps an office. More interesting, at the head of the incline is a small building in a fair state of repair with an unusual circular hole in the front wall. This was most likely a timekeeping office, being situated on the route taken by the quarrymen down from their barracks on the cliff tops; the circular cavity must have held a clock. The workers' accommodation took the form of barracks located inland of the quarries, adjacent to Quarter Wall. However these were dismantled towards the end of the nineteenth century to provide stone for the building of St Helen's Church on the island, and today it is only possible to trace their foundations early in the year before the bracken grows too much. The quarry officials were allocated superior accommodation consisting of three dressed granite cottages located, in a terrace, on the cliff headland to the south of the quarries. These are still in good condition, one of them having been occupied, apparently, as recently as 1914. Other miscellaneous foundations of buildings are to be found inland of the quarries, although it is difficult to be precise about their exact purpose.

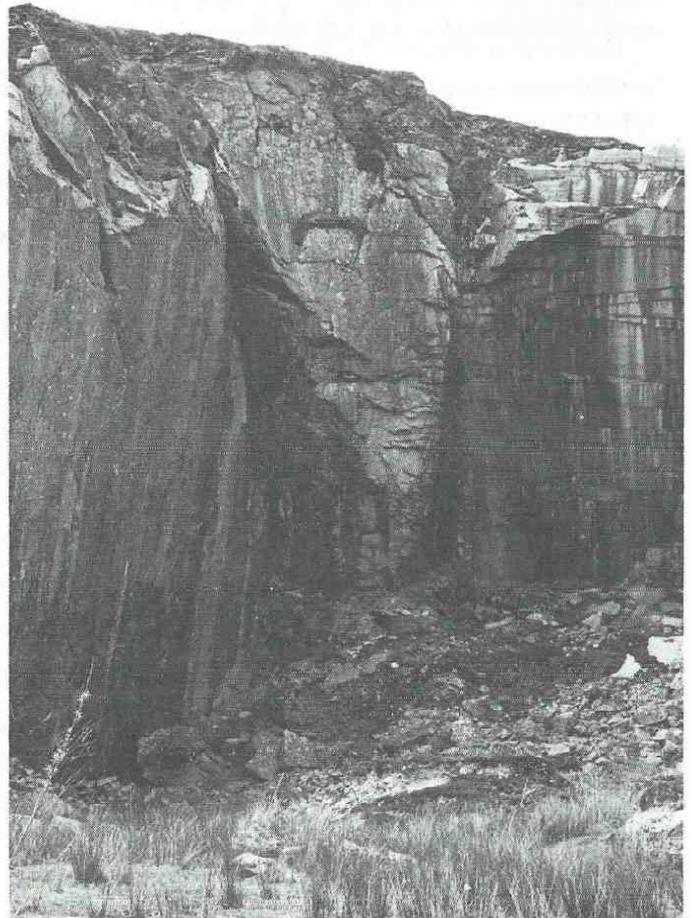
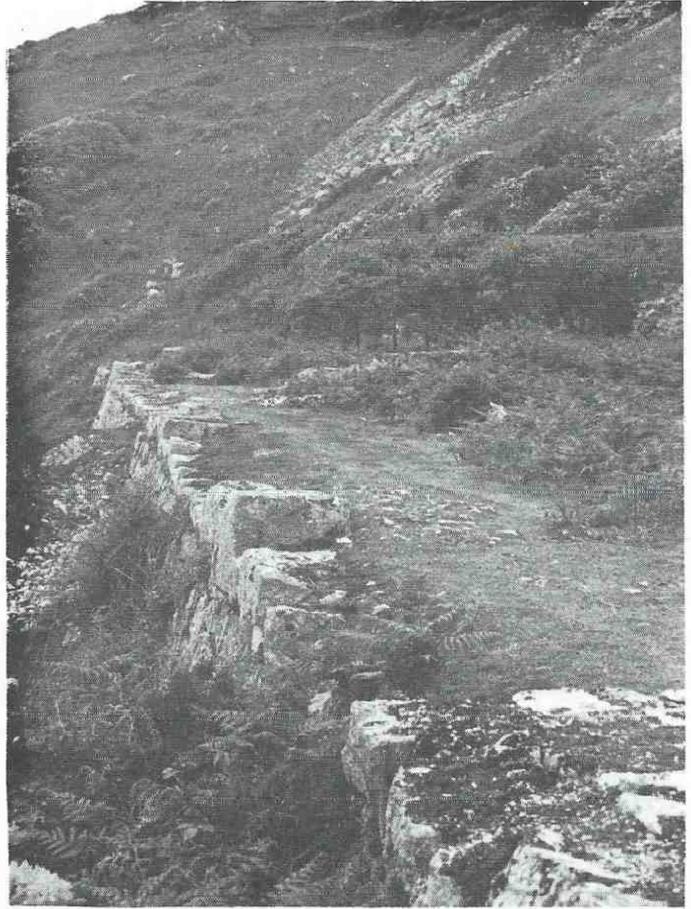
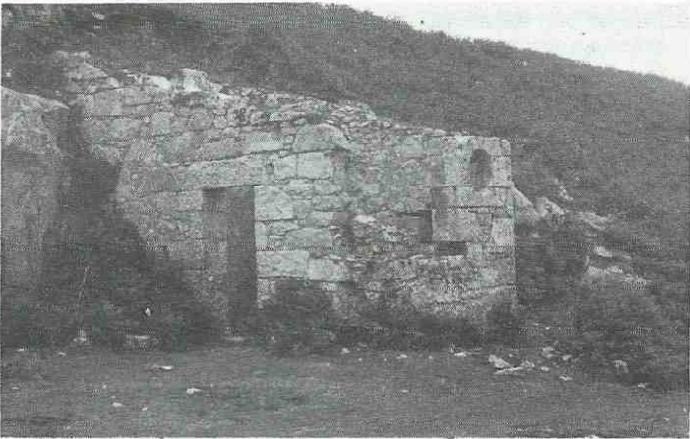
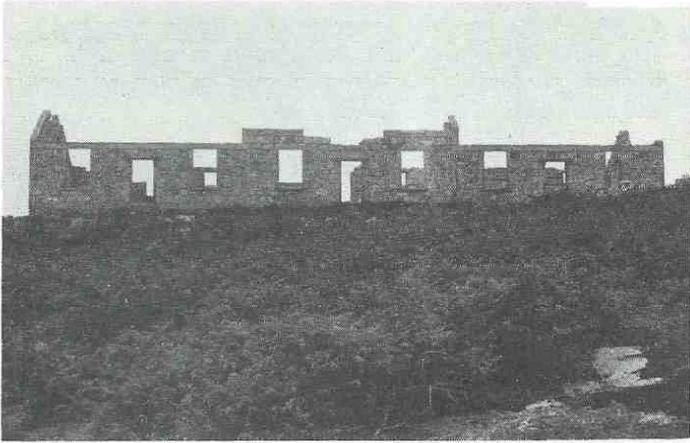
The history of the industry on the island is difficult to piece together although it is certain that the rock has been used for construction purposes for at least 700 years. Marisco Castle, located at the south-eastern end of Lundy, was constructed in about 1242-44 by agents of King Henry III in an attempt to control dissident nobles who had been making use of the island.<sup>2</sup> Much of the castle stands today and with a succession of later additions shows clearly that dressed island stone has been in use throughout the period. Whether it was quarried or merely collected as freestone lying on the surface is not certain, but it nevertheless points towards an early and continuing awareness of the value of the island's stone as a building material.

Between the founding of Marisco Castle and the 19th century there is patchy evidence of the use of the island's granite. During the English Civil War the island was held for the King by Thomas Bushell, a mining engineer.<sup>3</sup> Bushell rebuilt the castle and constructed a number of batteries and fortifications around the island. During the 1750s and 1760s a Bideford merchant, Thomas Benson, having acquired a lease of the island, used it as a base for smuggling activities and the illicit landing of convicts supposedly bound from Bristol to New England. These unfortunate men were put to work constructing the Quarter and Halfway Walls from island granite.<sup>4</sup>

Organized extraction of the Lundy granite came after the mid-19th century. In July 1863 the Lundy Granite Company was registered with a capital of £25,000. At the same time there was a grandiose scheme afoot to build breakwaters off the eastern shore of the island in order to create a large transit harbour for shipping using the Bristol Channel. No doubt the schemes were linked and the ultimate failure of the harbour plan must have hampered the long-run success of the quarries. In the short-run, however, the construction of tramways and buildings on the island entailed heavy expenditure and the capital of the quarry company was soon increased to £100,000. This company of the 1860s would seem to have constructed most of the quarries and tramway system as it remains today, since all of the subsequent attempts to work the stone were total failures. The operations of the Lundy Granite Company continued until 1868 when



## LUNDY GRANITE QUARRIES



- 1 Lundy granite quarries: cottages for quarry officials
- 2 Lundy granite quarries: timekeeper's office
- 3 Lundy granite-quarry tramway: marshalling terrace
- 4 Lundy granite quarries: the 1899 'prospectus working'

competition from mainland granites forced the winding up of the concern. The Lundy Company would always have suffered from high overhead costs; the maintenance of its workforce on the island with the construction of accommodation and the constant shipping in of supplies, and high cost of shipping the stone back to the mainland ports and then to market. Life for the workers must have been dismal with frequent gales or thick fogs encompassing the barren clifftops. High wages may have compensated for this, and the company also attempted to combat the lack of amenities by building the inn, the Marisco Tavern, during the 1860s.

For nearly thirty years after the demise of the Granite Company there seems to have been little activity in the quarries. By the late 1890s, however, there was fresh demand for the stone within the island. In 1896 the owner, the Rev. William Hudson Heaven, started building St Helen's church. At first use was made of readily available stone, by demolishing the old quarryworkers' barracks. Soon more stone was needed and thoughts were obviously redirected towards the idle quarries. In addition, in 1896-7, work was started by Trinity House in building two new lighthouses on the island, at the north and south ends, to replace the original lighthouse of the 1840s located on the highest point and often obscured by low cloud. In 1897, therefore, a new attempt was made to work the quarries with the establishment of the Lundy Granite Quarries company, with an initial lease of 21 years. The company did not survive the completion of the church and lighthouses, contrary to expectations, and by 1900 ceased operations due once again to the high cost of transport and of maintaining a workforce on the island. It would seem from the evidence of photographs (already mentioned above) that at least in the main quarry, little stone was extracted in this later working.

In 1902 there was a final attempt to wrest a profit from the island's quarries, with the floating of the Lundy Island Granite Quarries Ltd. By about 1910 this attempt had obviously come to nothing and for the final time the quarryworkers packed up their drills and left the island. Since then there has been no serious suggestion that the quarries might be reworked; indeed with the island now obviously destined to remain in public ownership as an area of outstanding natural beauty, this is not really desirable or likely.

The attempts to mine copper on Lundy may be judged a greater failure than any of those to quarry the granite. Copper minerals can be found in small quantities at a number of places in the cliffs around the island. The geology of Lundy is largely an Eocene granite (about 50 million years old), but in the south-east corner, below Marisco Castle, there is a remnant of the older Devonian slates, similar to those on the North Devon coast, which once must have encased the minor granite intrusion. As in the mining areas of Devon and Cornwall, the granite-slate contact on Lundy is not devoid of metallic minerals. In the cliffs at Benjamin's Chair, to the south-west of the castle, traces of copper were noticed in the mid-19th century and in 1853 the Rev Heaven employed some Cornish miners to drive a short adit to explore the deposit. Two short drives were made, one 75 feet long and the other about 35 feet, but nothing of value was found. These adits are still open today and are perhaps the least inaccessible of the Lundy mining trials, being reached from

a narrow ledge partway down the cliff. Inside, they are very much like similar tunnels elsewhere in south-west England; there are a few signs of timbering, now decaying, and small piles of deads (waste rock).

Two other sites are of interest. At Long Ruse, on the north-west side of the island, there are three short adits in a group. The longest is about 60 feet long, the others are 40 feet and 12 feet. Access to these tunnels is very difficult. Two of the adits are just above high water level and the third in the vertical cliff face about 15 feet above, and indeed is only approachable by descent from the cliff top above. These three also appear to have been driven, under the Rev Heaven's instructions, in the early 1850s, perhaps by the same Cornish miners as drove the Benjamin's Chair trails. Again, lack of economic copper deposits halted the exercise. The third site is found on the eastern cliffs about a mile north of the granite quarries. This is the Tibbet's Point tunnel. Located in a relatively inaccessible spot in the cliffs about a hundred feet above high water level, this excavation is about 65 feet long and is very irregular in shape, almost resembling a natural cavern in places. The dating of this tunnel, if it is indeed a mining trial, is difficult. By its crudity it would seem to predate those executed by Mr Heaven.

One possible explanation of the Tibbet's Point adit, and of the peculiar tunnel beneath Marisco Castle known as 'Benson's Cave', is that Thomas Bushell, the mining engineer, was not idle in his time on the island during the Civil War. Benson's Cave is a tunnel of large proportions, about 30 feet long and driven into the slates beneath the castle. In the level are numerous veinlets of quartz, a possible sign of mineralization that might be followed by any mining engineer. Bushell, well known for his energies in opening lead and silver mines in Wales, the Mendips and Combe Martin North Devon, might well have tried his hand at prospecting during his enforced stay on Lundy, and perhaps these crude tunnels are the result.<sup>5</sup>

Lundy today has a wild and unspoilt beauty and therefore industry of any kind is obviously a thing of the past. Nevertheless in some undefinable way these remains of man's past industrial activity add appreciably to the atmosphere of the landscape and it would be sad if it were felt that there was no place for them in that wilderness.

- 1 The 1st edition 6 inch Ordnance Survey map (1884) has been useful in this reconstruction of the quarry and tramway system.
- 2 For a full and entertaining account of this colourful episode in Lundy's history see, F M Powicke, 'The Murder of Henry Clement and the Pirates of Lundy Island', **History**, XXV (1940-41), 285-310.
- 3 On Bushell's long and enterprising life see, J W Gough, **The Superlative Prodigal**, (Arrowsmith, Bristol: 1932).
- 4 Threequarter Wall was built by a tenant farmer in the 1870s.
- 5 A fuller account of the Lundy copper mines is to be found: M T Mills, 'The Copper Mines of Lundy', **23rd Annual Report, Lundy Field Society**, (1972), 59-62.