

from the 19th century mine, and Huntcliff, where a surviving concrete building housed a ventilation fan. The most complete mine complex is on private land at Skelton Park.

The only substantial deposits of alum bearing shale in Britain lie beneath the sandstones of the Cleveland Hills. Before the development of modern chemical processes alum was important in the leather industry and for fixing dye in textiles. The shale was fired in clamps, after which the aluminium content was leached out in tanks, the liquid then being drained and crystallised. The crystals were exported by sea.



Boulby alum works

The industry developed in Cleveland from the 17th century; there are workings at Belman Bank, Guisborough, and at Slapewath, where the heaps of discarded shale can still be seen. At Boulby a substantial working was in operation for two centuries from the mid-17th century. It is here that the remains of the industry can best be seen; these include settling tanks, shale dumps, water conduits and the foundations of buildings, as well as clamps of unfired shale. The manager's house stands nearby. An information board is sited on the coastal footpath above the workings.



Further information on, and objects connected with, the industrial development of Cleveland can be found in the museums at Hartlepool, Preston Park (Stockton), Kirkleatham (Langbaugh) and Middlesbrough. There is also the independent Tom Leonard Iron Stone Mining Museum at Skinningrove. Large-scale Ordnance Survey maps have details of industrial archaeological sites, but many are on private land. Please keep to the public paths and remember that these sites can be dangerous.

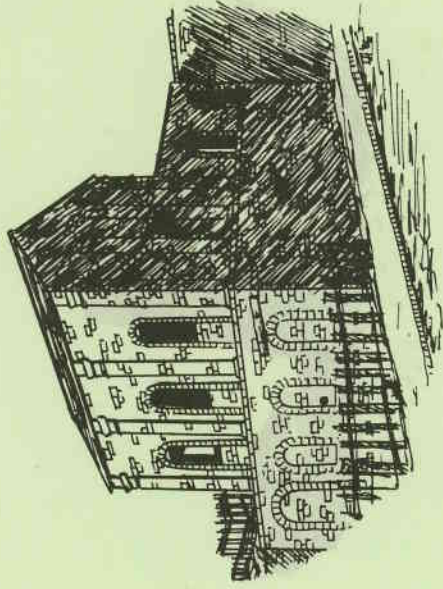
Further information on industrial archaeology in Cleveland can be obtained from:-

Cleveland County Archaeology Section
Old School, Victoria Road, Middlesbrough

Published with the assistance of
Cleveland County Community Programme Agency.

**Cleveland
Archaeology**

Industrial Archaeology in Cleveland

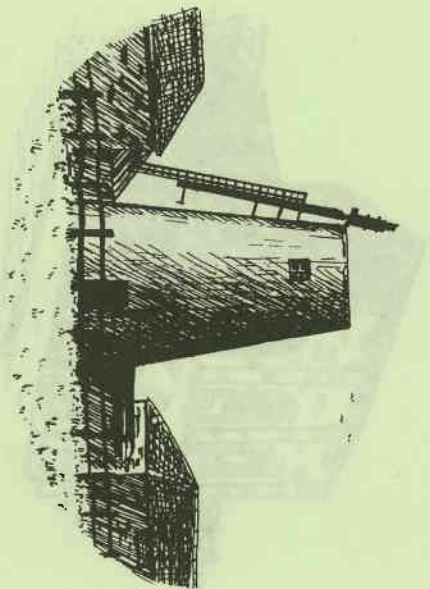


Throston Engine House

Evidence for the earliest industrial development of Cleveland can still be found. In many cases this is not easily visible, but the techniques of archaeology can uncover details of the buildings and the processes which, from the 17th century, led to the industrialisation of the lower Tees Valley. This leaflet draws attention to some of the surviving industrial monuments and to the industrial archaeology fieldwork and excavation which has been undertaken by Cleveland County Archaeology Section.

From Saxon times onwards windmills and watermills were used to grind flour and other materials, indeed, these were the only machines

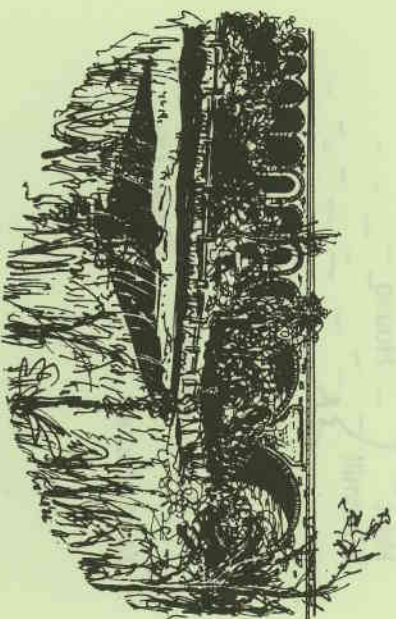
which did not depend on animal power. Water power became increasingly important from the 17th century, when it was harnessed to provide the motive power for a wide variety of industrial processes, in particular, the production of cloth and woollen materials. Cleveland has a working watermill at Tocketts, near Guisborough, but there are many others on streams throughout the area. The County Archaeology Section has excavated and reported on the site of Norton Mill and has plans to investigate Marske Mill, Saltburn.



Hart windmill

Because of the plentiful streams windmills are less common in our area, two survive as land marks in the north of the county, at Hart and Elwick, whilst a third can be seen at Ingleby Barwick. Several others have been converted for domestic use.

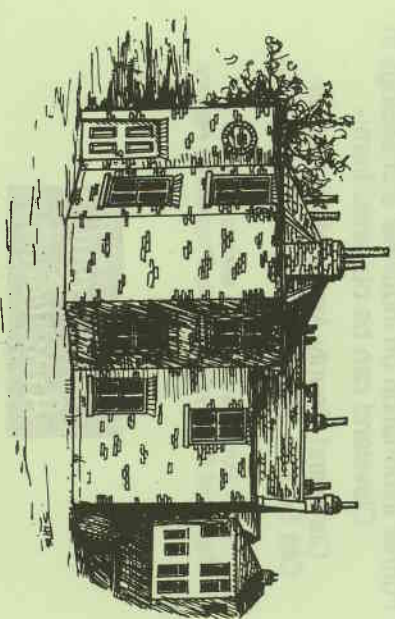
The Stockton and Darlington Railway, opened in 1825, is renowned as the first passenger carrying railway in the world, but it had been preceded by the extensive development of wagonways and was primarily concerned with the transport of coal to the staithes at Stockton. Port facilities grew up at Middlesbrough and Hartlepool as railways were developed to serve these towns. Buildings connected with the earliest development of railways survive; on the north bank of the Tees at



Yarm railway viaduct

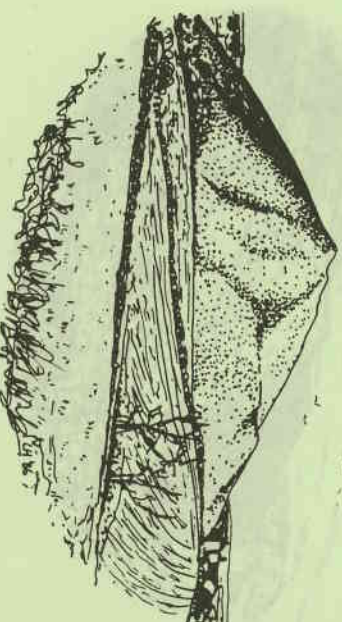
Yarm is a railway cottage which stood near the terminus of the Yarm branch of the Stockton and Darlington railway. The impressive viaduct at Yarm carried the Leeds Northern Railway across the river valley; it was constructed in 1849.

A brick building in Bridge Road, Stockton, is known as the booking office for the Stockton and Darlington railway. Survey by the County Archaeology Section shows that it began life as a simple bay-fronted building with a gable wing and



Stockton 'Ticket Office'

an enclosed staircase. The building was in existence by 1826, although whether it was built by the railway company for use as a booking office is not known. Later alterations to the building incorporated the circular housing for a clock, which supports its suggested use. In Hartlepool the Throston Engine House was constructed by 1840, it housed a winding engine used to haul coal wagons from the dockside. The building has recently been surveyed by the County Archaeology Section and the details of its use finally elucidated. It is a measure of the pace of change that the building had become redundant in 1847; it was subsequently used for other industrial purposes.



Shale tip at Kilton

The ironstone deposits of the Cleveland Hills have been exploited since the Iron Age (500 BC). During the Middle Ages iron was mined, frequently by the monasteries, in order to fuel the demand of the growing towns. The development of wagon-ways and the steam engine enabled coal and iron ore to be transported to furnaces on the Tees and the exploitation of the ironstone resources was massively increased.

Remains of ironstone workings can readily be seen at Kilton, where there is a substantial shale tip