

EXTRACT FROM ENGLISH HERITAGE'S RECORD OF SCHEDULED MONUMENTS

MONUMENT: Beans and Bacon, Old Eye, Fiery Dragon and Cod Beat lead mines and a limekiln 480m south of Blakelow Farm

PARISH: BONSALL

DISTRICT: DERBYSHIRE DALES

COUNTY: DERBYSHIRE

NATIONAL MONUMENT NO: 29967

NATIONAL GRID REFERENCE(S): SK25565922
SK25935928
SK25975913

DESCRIPTION OF THE MONUMENT

The monument includes the earthwork, buried, standing and rock cut remains of Beans and Bacon, Old Eye, Fiery Dragon and Cod Beat lead mines and a limekiln 480m south of Blakelow Farm. The monument is situated on Bonsall Moor, to the south of Tower Lane, and is defined in three separate areas of protection. Geologically, the monument lies to the north of the Great Bonsall Fault, with the lead veins running through gently folded limestone and lying at a stratigraphic horizon beneath the Matlock Lower Lava.

Ore accounts dating from 1541 provide the earliest record of mining on Bonsall Moor but most of the surviving surface remains represent mining activity of the 18th and 19th centuries. The mines would have been worked under the jurisdiction of the Barmote Courts, the legal administrative unit governing Derbyshire lead mining. The Derbyshire system of mining was largely based on local mining customs and consisted of individual groups of miners or small mining companies working relatively short lengths of the vein.

The monument survives as a series of earthwork, buried, standing and rock cut remains which include a wide belt of lead bearing veins and scrins (narrow mineral deposits). The Beans and Bacon, Old Eye and Fiery Dragon veins are situated in the westernmost area of protection, roughly parallel to each other and aligned approximately east to west. Between Beans and Bacon and Old Eye veins are a series of short scrins which are aligned south west to north east. Cod Beat scrins, which lie in the other two areas of protection, are aligned north to south.

Beans and Bacon mine is situated at the western end of the monument just south of, and roughly parallel with, the northern edge of the area of protection. Within this area are a series of five coes (stone built shelters or sheds) one of which is a double coe with the Beans and Bacon founder shaft in one compartment. Shafts along this mine have been the subject of investigations and have been shown to display similar evidence to that recorded at Gorseydale lead mine, which lies approximately 350m to the north west of Beans and Bacon and is the subject of a separate scheduling. The workings are fairly small scale but they contain evidence of all types of rock breakage; plug and

feather, gad and wedge, pickwork and also gunpowder blasting. These remains and those at Gorseysdale are the only known examples of such multiple breakage techniques within single, small mines. A shaft, situated approximately 65m east of the north west corner of the monument, gives access to the largest and deepest workings in the Beans and Bacon mine. The entrance shaft, workings and internal shafts have been descended in excess of 55m beneath the surface. Old Eye vein is situated just north of the southern boundary of the westernmost area of protection, and, for the most part, runs roughly parallel with Beans and Bacon mine. The course of the vein is marked by grassed shallow open cuts (veins worked open to daylight), prospecting holes, and shafts. The founder shaft is situated within a low walled, ruinous coe close to the southern edge of this area of protection. Approximately 150m to the east of the founder shaft is a limekiln which is built into the vein structure. The kiln is well preserved and survives as a dry stone wall which spans the vein with an arched entrance on the western side.

To the north of, and towards the eastern end of Old Eye vein are a series of scrins aligned south west to north east. At the northern end of the scrins is a ruined coe adjacent to which is a flue like structure which extends westwards into a small plantation. The flue is visible for approximately 50m but terminates at its eastern end near a collapsed shaft.

Fiery Dragon vein runs roughly east to west in the eastern end of the largest area of protection and is marked by lines of hillocks and shafts. Just south of the main vein are four, deep, conical open holes; these represent open pit extraction of a locally enriched ore-body. The eastern and central portions of Fiery Dragon mine have been seriously degraded by former hillocking and deep trenching operations and are not therefore included in the scheduling.

The remaining two areas of protection contain the remains of Cod Beat mine which is represented by deep, straight and vertical sided scrins which were worked as open cuts. Both these areas of protection contain several parallel scrins which run in a north to south alignment and which are quite different in character to the remains of the other mines. Between the two smaller areas of protection are further remains of both Fiery Dragon and Cod Beat mines but these have been degraded by fluorspar extraction which was carried out in the 1950s and are not therefore included in the scheduling.

The mines are given added importance by the part they played in early geological debates in to the origin of rock. The debates, which began in the late 18th century, centred on whether or not all rocks were sedimentary or whether some were the result of igneous activity. The toadstones, local to the area, featured heavily in this debate with specific reference being made to sites on Bonsall Moor.

All modern fences, gates and stiles are excluded from the scheduling although the ground beneath them is included.

ASSESSMENT OF IMPORTANCE

Approximately 10,000 lead industry sites are estimated to survive in England, spanning nearly three millennia of mining history from the later Bronze Age (c.1000 BC) until the present day, though before the Roman period it is likely to have been on a small scale. Two hundred and fifty one lead industry sites, representing approximately 2.5% of the estimated national archaeological resource for the industry, have been identified as being of national importance. This selection of nationally important monuments, compiled and assessed through a comprehensive survey of the lead industry, is designed to represent the industry's chronological depth, technological breadth and regional diversity.

The ore works were an essential part of a lead mining site, where the mixture of ore and waste rock extracted from the ground were separated ('dressed') to form a smeltable concentrate. The range of processes used can be summarised as: picking out of clean lumps of ore and waste; breaking down of lumps to smaller size (either by manual hammering or by mechanical crushing); sorting of broken material by size; separation of gravel sized material by shaking on a sieve in a tub of water ('jigging'); and separation of finer material by washing away the lighter waste in a current of water ('buddling').

The field remains of ore works include the remains of crushing devices, separating structures and tanks, tips of distinctive waste from the various processes, together with associated water supply and power installations, such as wheel pits and, more rarely, steam engine houses.

Simple ore dressing devices had been developed by the 16th century, but the large majority of separate ore works sites date from the 18th and 19th centuries, during which period the technology used evolved rapidly.

Ore works represent an essential stage in the production of metallic lead, an industry in which Britain was a world leader in the 18th and 19th centuries.

Sites are common in all lead mining areas and a sample of the best preserved sites (covering the regional, chronological, and typological variety of the class) will merit protection.

Limekilns were first used in Britain in the Roman period when lime was used in mortar. In the medieval period, the replacement of timber buildings by stone structures and the construction of churches, religious houses and fortifications, led to a great demand for mortar and hence the need for limekilns. Many kilns were constructed for a particular building project.

By the end of the medieval period quicklime, the product of the limekiln, was being used in agriculture as a means to neutralise soil acidity and break down heavy clay soils. Agricultural use was particularly important in the 18th and 19th centuries. By the post-medieval period quicklime was also used on lead mining sites as a cheap alternative to gunpowder for rock blasting.

The remains of Beans and Bacon, Fiery Dragon, Old Eye and Cod Beat mines are well preserved and include a diverse range of components relating to the mining of these veins. The workings have particularly early origins and preserve an unusual and extensive range of evidence for different rock breaking techniques. The standing, earthwork, buried and rock cut remains combined with the documentary sources provide evidence for both the historical and technological development of what was once a far more extensive, multi-period mining landscape. They incorporate a wide range of mining and processing features, which enable the development of the mine working and its chronological range to be reconstructed. The large veins, smaller scrins, shafts, hillocks and other extraction features provide evidence for methods of extraction whilst other processing areas will contain deposits showing the effectiveness of these techniques. The mining remains also provide an insight into the Derbyshire Barmote Court system of mining and the constraints this imposed on the miners of the area.

The limekiln is also well preserved and provides important stratigraphical information about the continuity in use of the mines. It also retains important and rare archaeological evidence relating to the production and use of quicklime in this part of Derbyshire.

MONUMENT INCLUDED IN THE SCHEDULE ON 06th January 2000