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The Collieries of North Somerset

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Abstract
This paper discusses the archaeology of coal mining in North Somerset. A summary of the historical evidence is given from the 3rd century AD to 1973 and the relevance of technological change is highlighted. Field archaeology for several of the more important sites is described and the influence of the industry as a factor in the development of town and countryside landscape of the area is examined. Consideration is also given to the future management and conservation of the resource.

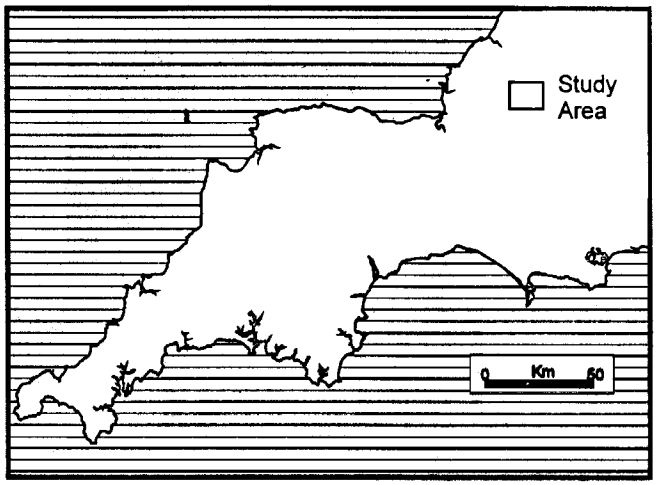


Fig. 1. The study area. Location.

INTRODUCTION

Coal mines are traditionally associated with the midland and northern counties of Durham, Yorkshire, Derbyshire and Nottinghamshire. Few would consider North Somerset as a mining district, but for over five hundred years collieries were active in what was predominantly an agrarian region (Fig. 2). Furthermore a national survey of the coal industry by English Heritage has demonstrated that Somerset and Avon retain some of the best preserved colliery landscapes in Britain.[1] The following account provides an overview of the mining remains in North Somerset; this now includes parts of Avon, but the Bristol Coalfield is deliberately excluded having been dealt with in Cornwell's *Collieries of Kingswood and South Gloucestershire* (1983).

HISTORY

Mining is first documented in North Somerset in the 15th century, although an indirect reference probably written in the third century AD appears to refer to the usage of coal to maintain the perpetual fires at the Temple of Minerva in Bath; once burnt this fuel left a stony residue and this suggests that coal rather than wood was being used (Down and Warrington 1971, 16). The source is not known, but coal crops out at or near the surface where the Roman Fosseway descends into Nettlebridge and it could have been worked by simply quarrying into the ground.

Shaft mining with pillar and stall workings became widespread during the 15th and 16th century (Down and Warrington 1971, 17). Coal was initially brought to the surface using ladders or a simple hand windlass, but winding operations were speeded up in the 17th century with the introduction of the cog and rung, and later the horse gin. Problems with underground water were overcome by driving drainage adits or by physically lifting the water up the shaft.

As the mines became deeper with the workings going beneath adit level, it was necessary to remove the water using more complex machinery. Early pumps were often hand or horse-driven, but these lacked the efficiency of those powered by water wheels. Examples of the latter are recorded in Somerset from the 17th century onwards and were so successful that they continued to be used long after the introduction of steam power; the last recorded example was working at Vobster Colliery as late as 1867 (Bulley 1952, 70,72).

The introduction of the steam engine in the early 18th century marks an important threshold in the development of the modern coal mine. The engine was first developed for pumping and this enabled collieries to be sunk to greater depths thus releasing previously unobtainable reserves. The first recorded beam engine on the Somerset Coalfield is believed to have been installed by 1745 at the aptly named Paulton Engine Colliery; further examples followed at New Tyning (1791), Upper Writhlington (1805) and Huish (1821) [Bulley 1952, 73-74]. Winding methods were improved at the end of the 18th century when the reciprocating action of the beam engine was converted into rotary motion by attaching a connecting rod, crank and flywheel to one end of the beam. A beam winding engine was working at Old Pit, Radstock in 1794 and further examples are recorded at Middle Pit (1804) and Huish (1823) [Bulley 1952, 78].

The surface features at a typical 1820s colliery would have included two stone-built beam engine houses (for pumping and winding), a wooded headgear and ancillary buildings. Ventilation was normally achieved by having a furnace at the foot of the upcast shaft; foul air was drawn towards the fire with the shaft acting like an enormous chimney. Fresh air then descended into the second or downcast shaft and a system of doors was used to ensure that it passed through all the underground workings.

The horizontal steam engine was introduced in the mid-19th century and this quickly replaced the beam winding engine. The horizontal engine could be single cylinder or more commonly two cylinder and was fixed to a cast iron bed plate with the winding drum at one end. In Somerset, the engine typically had cylinders of 26in by 60in and a 12ft diameter winding drum (Down and Warrington 1971, 45).

As collieries became larger the winding shaft was normally enclosed in a brick or stone-built structure commonly called a heapstead. On arriving at the surface the tubs were first weighed and the coal was then emptied onto a screen; this apparatus would size the material, and remove any unwanted

dirt and coal dust. By the end of the 19th century most of the larger collieries had picking belts, conveyors and vibrating screens; the railway sidings often ran beneath the screen in order to facilitate coal handling.

Improvements were also being made with underground ventilation. By the mid-19th century, furnace ventilation had become very efficient, but the risk of a fire or an underground explosion led to its gradual replacement with steam-driven mechanical fans. There were many different forms, the most popular being the Guibal fan which was introduced in 1859. The fan had eight or ten blades and was fully enclosed in a brick-built structure; foul air was drawn up the mine, along the fan drift and into the fan where it was forced to the edge of the blades and then vented into the atmosphere. A small expanding chimney or evassee reduced the speed of the air as it left the fan.

Annual output in Somerset peaked at 1,250,000 tons in the early years of the 20th century and this was accompanied by a growing rationalisation of the industry. The surface facilities at many of the older collieries were improved and major new developments also took place with the sinking of Norton Hill New Pit (1900), Dunkerton (1906) and Pensford (1917)[Down and Warrington 1971, 61,120,213].

When the National Coal Board was created in 1947, only twelve collieries remained in operation, most had been working for over 100 years and several were almost exhausted. The Coal Board immediately began to close those that were uneconomic, whilst investing in collieries with proven underground reserves. This normally involved the installation of electric winders, underground pumps, electric ventilating fans, new screens, coal washers, surface mine car circuits, coal ploughs and belt conveyors. At Norton Hill the NCB spent over £500 000 creating what was in effect a totally new mine with an estimated annual output of 315 000 tons per annum (Down and Warrington 1971, 220). This colliery dwarfed almost everything that had gone before and Norton Hill represents the absolute peak of Somerset coalmining practice. The triumph was short-lived and the adoption of alternative fuels during the 1960s led to a crisis in the coal industry. Although vast sums had been spent, Somerset was by national standards a small coalfield and rarely worked at a profit. Geological problems and growing manpower shortages led to the closure of Pensford in 1958 and Norton Hill in 1966 (Down and Warrington 1971, 29). By 1968 only Kilmersdon and Lower Writhlington were left, but their production was heavily geared to the demands of the Portishead power station. Domestic coal consumption continued to fall and in 1972 the Central Electricity Generating Board announced that Portishead was to be converted from coal to oil. In the face of growing losses the NCB decided to close both pits and the last production shift in a Somerset mine reached the surface at Lower Writhlington on 28th September 1973 (Bonsall 1993, 20-25).

ARCHAEOLOGY

Unlike the traditional mining districts of Britain, most of the Somerset collieries had closed before the 'environmental' policies of British Coal began to take effect. Those pits that remained in operation after 1947 have normally been cleared, but for earlier periods Somerset has a remarkably complete archaeological resource. This includes the surface earthworks of shallow bellpit workings, undisturbed sites where atmospheric

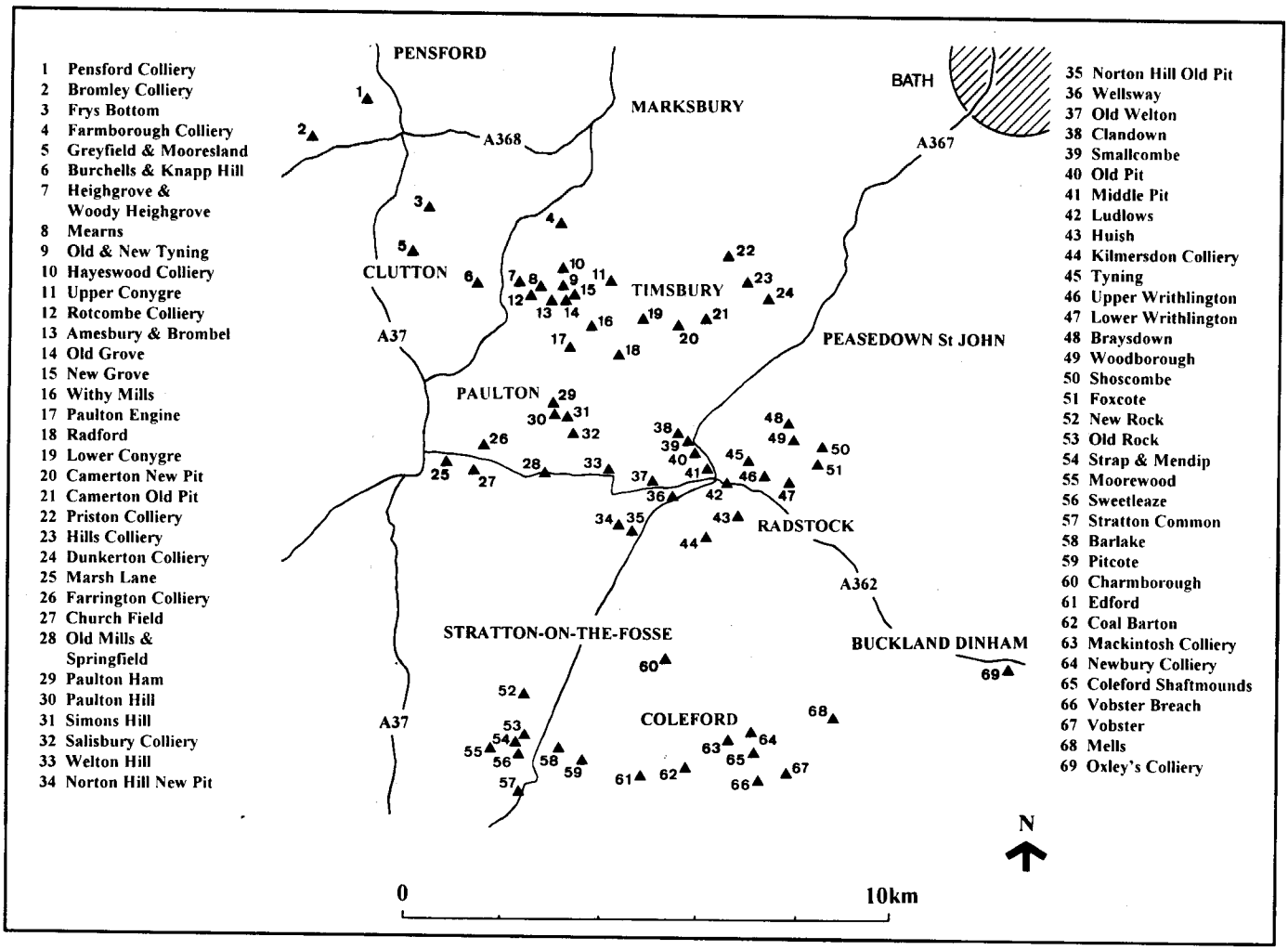


Fig. 2. Map showing the location of the principal North Somerset Collieries.

beam engines were at work and an unparalleled collection of horizontal winding engine houses.

Our story begins in a small field on the outskirts of Coleford where a particularly complex pattern of shaft-mounds survive (ST 696 493). The collapsed shafts are surrounded by large collars of spoil and in some instances horse gins may have been used for winding, man riding or pumping. The scale and extent of the underground workings is difficult to deduce; the features may be associated with simple bellpit workings, but given their complexity, galleries are likely to have been present. In the absence of documentation or archaeological excavation only a very broad date of circa 1600-1800 can be given.

Pitcote and Barlake collieries (ST 655 494; ST 661 494)
These dispersed low investment multi-shaft workings were replaced by much larger single site collieries following the introduction, in the early 18th century, of the beam pumping engine. Pitcote Colliery was working from 1750 and the owner considered that if he erected a 'Fire Engine & c', the result would be 'one of the Compleatest Coal Works in all the Country' (Down and Warrington 1971, 244). The site now lies in a copse to the west of Pitcote Farm and two conical spoil heaps stand on either side of a flat area of ground (Fig. 3); modern tipping has recently occurred, but the entire surface plan of the mine including the bed of a supposed atmospheric beam engine probably survives.

The features at Barlake Colliery are similar to those at Pitcote and clearly demonstrate the tremendous effect that the steam engine had on surface layout. Barlake was working by 1819, a steam engine was installed in 1820 and the mine had closed by 1830 (Down and Warrington 1971, 244). The footings of a probable beam engine house lie beside the shaft and two *in situ* piles of stone may have been used to anchor a wooden headgear (Fig. 3). Spoil was brought to the surface in an iron bucket or hudge and this was pushed in barrows to a small flat topped tip beside the stream; a second conical tip stands beside the road. It is not known whether the steam engine at Barlake was used for pumping or winding, but given the close proximity of Pitcote, both mines are likely to have been in the same ownership and connected underground. Barlake was probably opened in order to increase total output and the erection of a beam winding engine house would have certainly improved winding speed. The installation of two beam engines became a common surface arrangement during the late 18th/early 19th century; the beam winding engine was much more efficient than the horse gin, and the presence of two shafts improved safety and underground ventilation.

The Vobster Collieries (ST 697 488; ST 704 489)
Vobster Breach and Vobster Colliery were probably sunk in the 1860s by the Vobster Coal Co. A horse-drawn plateway transported high quality coking coal to a junction with the Newbury Railway near Vobster Cross and much of the coal was eventually destined for the Wiltshire Ironworks at Westbury and Seend (Gould 1994, 79-80).

Vobster Breach is one of the best preserved mid-19th century collieries in Britain (Fig. 4). The shaft stands on top of a raised heapstead and is surrounded by four stone cut blocks which supported a wooden headgear. A stone-built engine house stands to the west and this contained a single cylinder horizontal winding engine; steam was supplied from boilers which stood to the north and an ivy clad brick-built chimney stands behind the engine house. On arriving at the surface, coal was tipped from the tubs onto the screens; these stood at the east end of the heapstead and were probably no more than a series of inclined iron bars. The small coal would fall through the bars and large saleable coal would continue down the screen and into waiting wagons. Tubs of shale and dirt were pushed manually from the heapstead onto the spoil tip where the latest tub runs survive as a series of earthworks. Two single-storey workshops stand on the south side of the

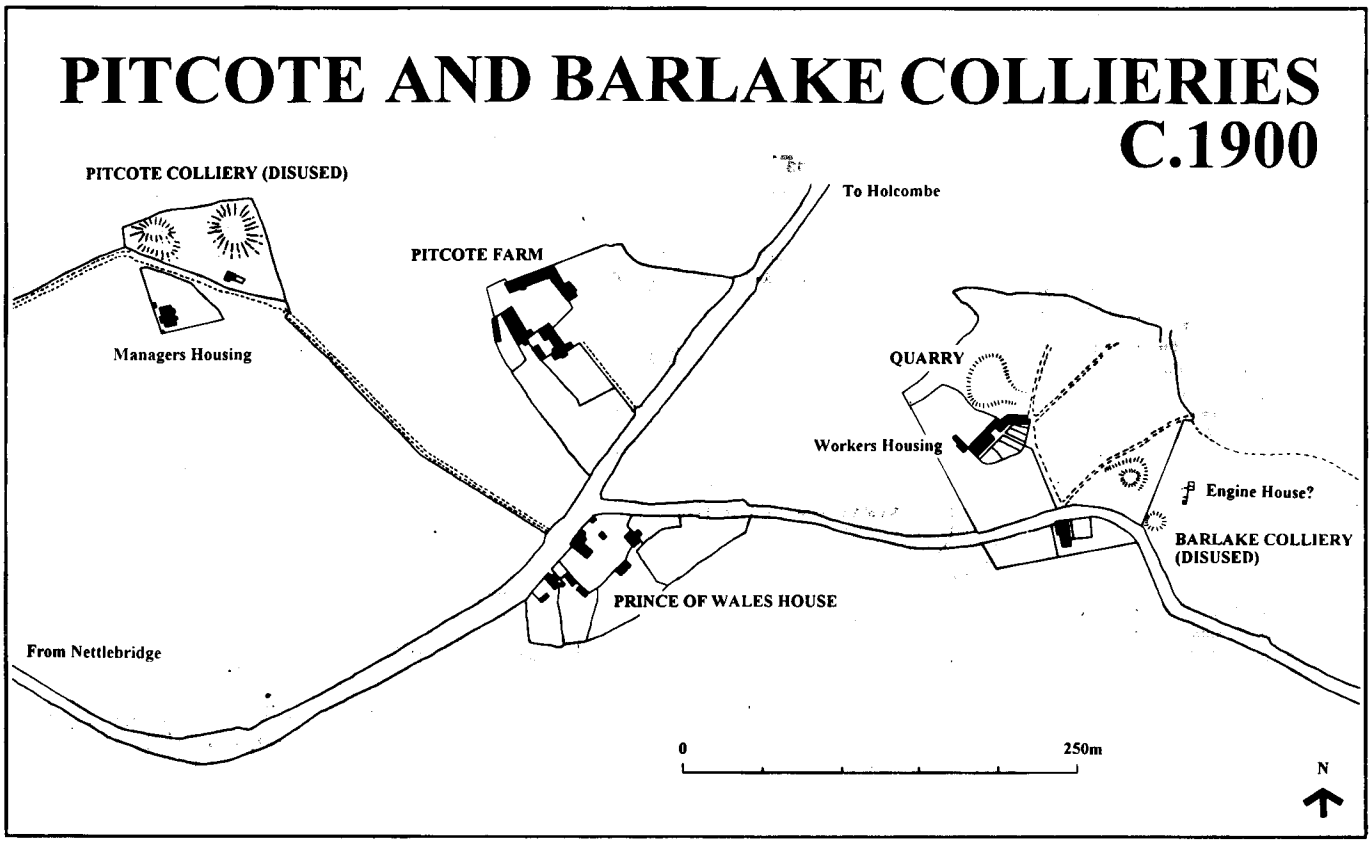


Fig. 3. Pitcote and Barlake Collieries.

heapstead and a larger gabled block lies to the south-west. The colliery offices stood near the entrance to the mine; a small window on the east wall being used to issue tallies and pay the miners. They were subsequently converted into a dwelling and in the 1980s the building was demolished.

To the east of the pithead stands a group of 77 coking ovens (Fig. 5. Plate 1). Coke was used to fuel the furnaces in the iron and steel industry, and came to replace charcoal in a variety of industrial processes. In England most of the surviving coke ovens are of the beehive form and all have lost their associated colliery; those at Vobster Breach are 'long' ovens and appear to be the only extant examples in Britain. The ovens were erected in two banks; a single linear rank and a double back-to-back range. They are built of refractory brick and have an arched entrance with a flue to the rear. Small or lump coal was fed into the mouth of the oven, and the heat from the previous firing was usually sufficient to ignite the charge. An iron-framed door was then lowered and the airflow entering the oven reduced and eventually stopped altogether. After two or three days the charge was drawn and allowed to cool. It was then loaded into waiting wagons and the cycle repeated.

The earthwork foundation of a horse-drawn plateway runs from Vobster Breach to Vobster Colliery. Of the colliery a single roofless stores building, an air shaft and a stone revetted spoil heap are the only visible features, but the foundations of the mine are probably intact. The Ordnance Survey 25-inch First Edition map (1886) shows a stone-built horizontal steam winding engine house to the east of the main working shaft and various other structures including workshops, stores, offices, a horse gin, ventilation chimney and a screen.

A leat approximately one kilometre in length carried water from the River Frome to Vobster Colliery. The position of the weir is no longer apparent, but the leat survives as an earthwork cut and as it approaches the colliery its profile becomes more pronounced (Plate 2). The channel stops at the west end of the site and water then appears to have been delivered through two (now overgrown) stone arches that were presumably connected to an underground chamber housing the waterwheels.

The collieries at Vobster were much larger than those at Pitcote and Barlake, but the use of water wheels at such a late date is surprising. Winding was undertaken by horizontal single-cylinder steam engines instead of beam engines and the arrangement around the shaft had become more complex with the introduction of the coal screen. An enormous quantity of shale and small coal was now being brought to the surface and parcels of land were deliberately set aside for the creation of the spoil heap. At Vobster a ventilation furnace stood at the foot of the upcast shaft and the draught for the fire was improved by having a brick or stone-built chimney at the surface. The collieries were both connected underground, with Vobster being used for ventilation and pumping, and Breach for coal winding and coking.

Newbury and Mackintosh Colliery (ST 696 498; ST 691 497)
Newbury Colliery was sunk at the beginning of the 19th

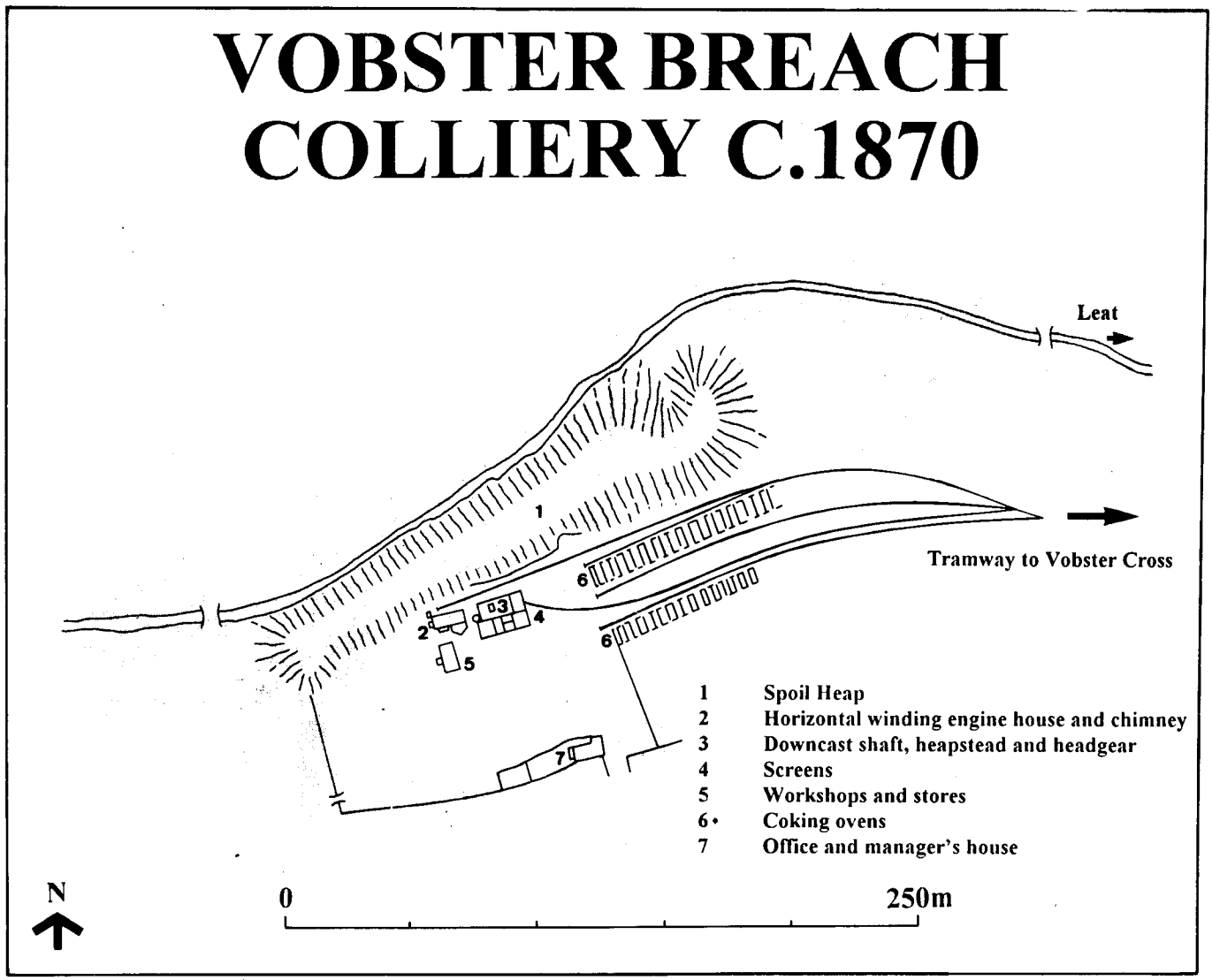


Fig. 4. Vobster Breach Colliery c.1870.

Plate 1. The nationally unique coking ovens at Vobster Breach.

Plate 2. This earthwork leat transported water to drive the water wheels at Vobster Colliery; the coal mine lies in the centre background of the photograph.

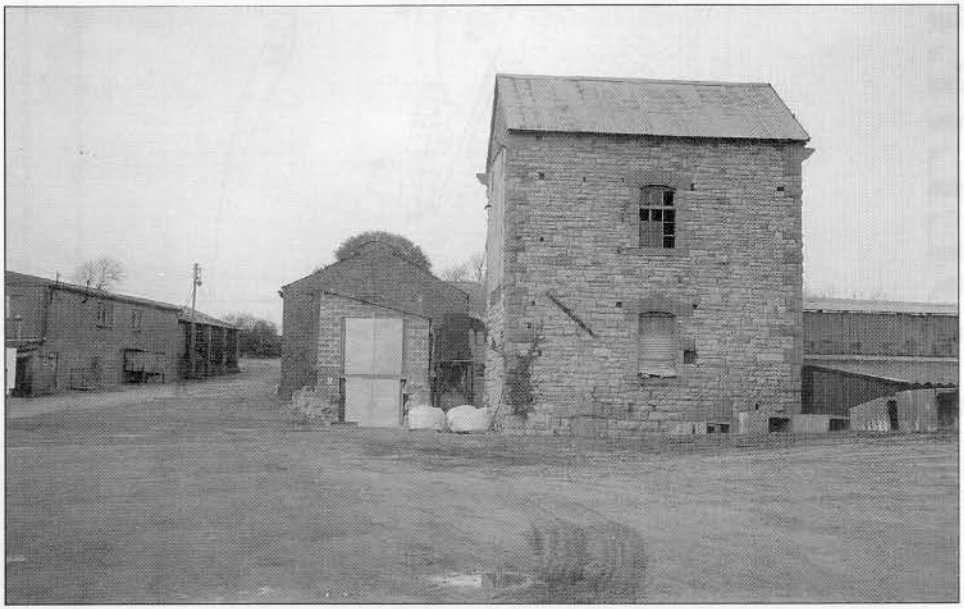


Plate 3. Winding and pumping arrangements were concentrated around a single downcast shaft at Newbury Colliery. The beam pumping engine house stands to the left with the winding engine house in the centre background.

Plate 4. The Guibal fanhouse at Mackintosh replaced an earlier air furnace at the foot of the upcast shaft in the early decades of the 20th century.

VOBSTER BREACH COLLIERY COKING OVENS

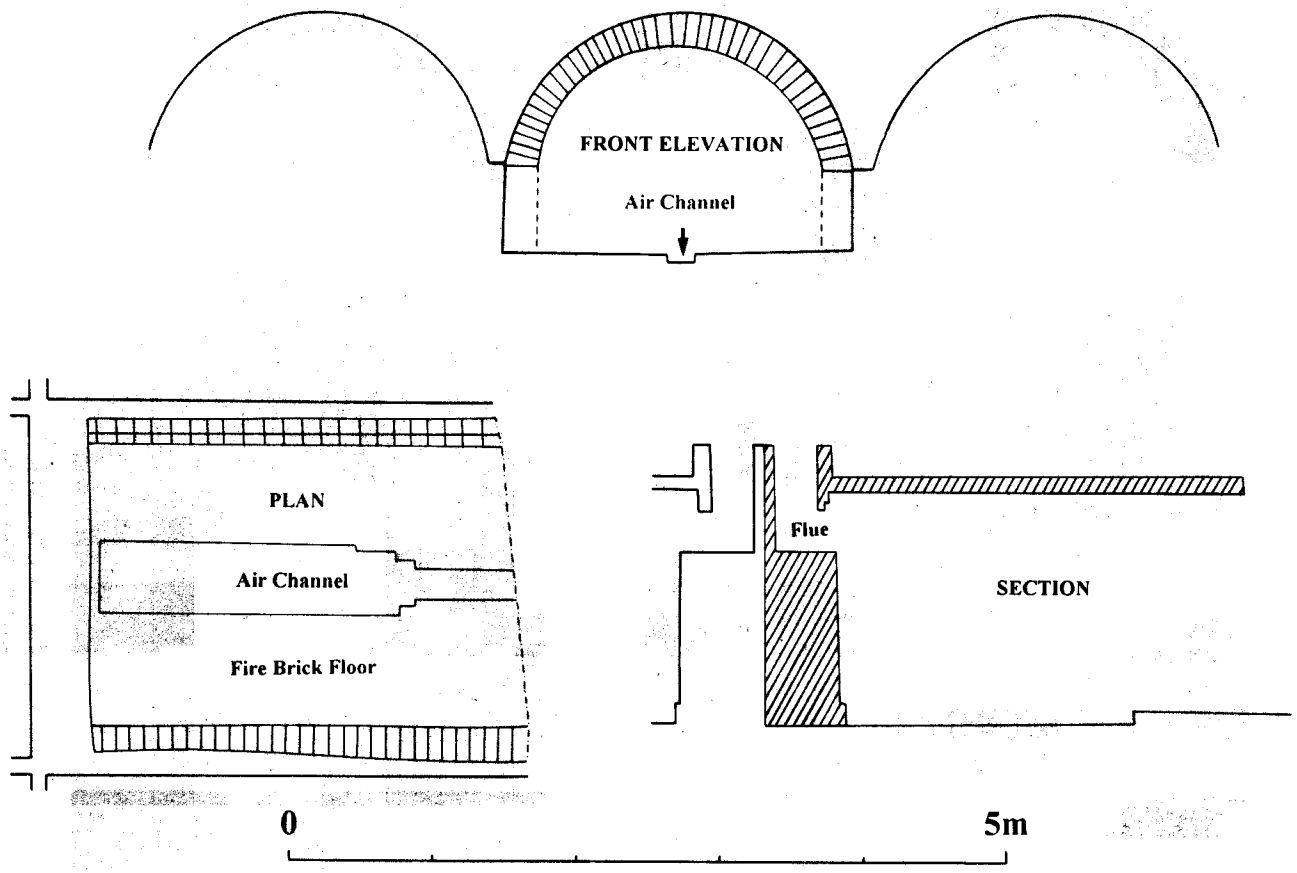


Fig. 5. Vobster Breach Coking Ovens.

century and like Vobster, coke was produced for the Westbury and Seend Ironworks (Down and Warrington 1971, 233). Most of the surviving buildings surrounding the downcast shaft date from the 1920s and these represent the next stage in the evolution of the steam driven colliery (Fig. 6).

A stone-built beam pumping engine house stands beside the shaft and this was probably erected in the 1860s; it is a classic of its type and the pump could raise 20, 000 gallons of water per hour at five strokes per minute (Down and Warrington 1971, 236). The large square opening for the beam has been blocked, but the foundations for the engine survive beneath later deposits of clay (Plate 3). To the north stands a red brick-built single storey winding engine house. The building is now used as a store, but the rope openings and the stone foundations for the backstays of the headgear survive. The engine was built by Wood and Gee, and unlike those at Vobster, it had two 24 inch by 54 inch cylinders (Down and Warrington 1971, 236). The workshops and stores stand to the north and are built of brick in a similar architectural style, these would have housed the mine smithy and carpenters shop. Until recently an attractive stone-built single-storey office block stood to the west.

On arriving at the surface, the coal tubs were pushed from the cage and into the screens building. This complex stood to the south of the shaft and was erected at different levels in order to facilitate the movement and grading of coal. Unwanted stones were removed from the picking belts, the graded coal fell into waiting railway wagons and tubs containing dirt and shale were pushed over a bridge and onto the spoil heap. Two banks of coke ovens stood to the east of the pithead and although these have been demolished, contemporary photographs demonstrate that they were similar in form and function to those at Vobster Breach.

In order to increase output from Newbury and comply with new legislation a second shaft was sunk at Mackintosh in 1867 (Down and Warrington 1971, 234). The shafts were connected by a steam-driven narrow-gauge tramway and the route survives as an un-metalled track. Mackintosh became the upcast shaft for the colliery with ventilation being effected by a steam driven Guibal fan. Most of the fan housing has been demolished, but the one surviving arched wall gives a fan diameter of four metres (Plate 4). A modest single-storey brick-built horizontal two cylinder winding engine house, a boiler house, chimney and a wooden headgear also stood at the pit head. The foundations for most of these features were removed when British Coal re-capped the shaft in 1995, but

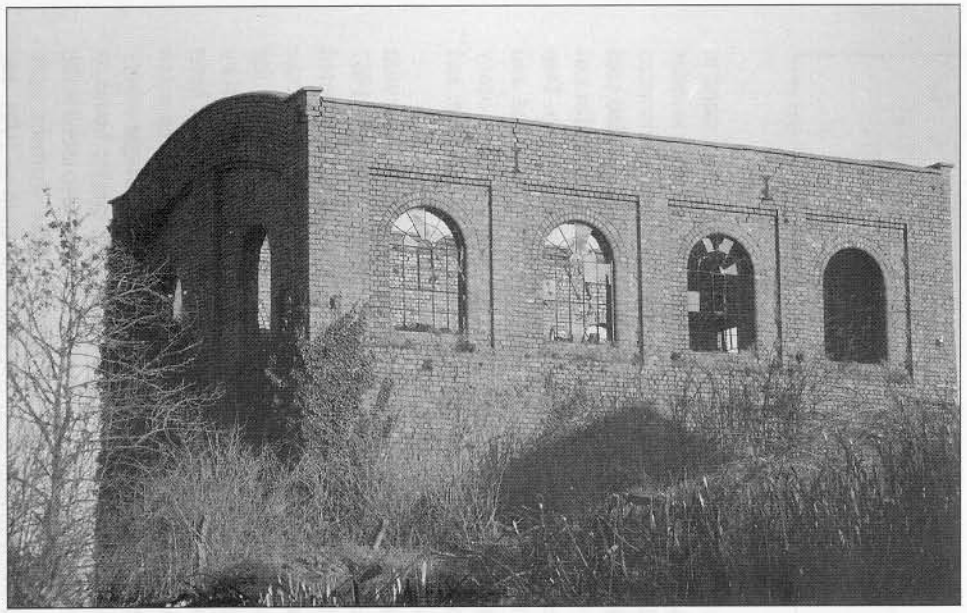


Plate 5. The Pensford Colliery winding engine house was one of the largest examples to be erected in North Somerset.

Plate 6. A now demolished 'functionalist' bath house at Pensford.

Plate 7. The magnificent indoor market at Radstock will provide a future home for the Radstock and Midsomer Norton District Museum.

Plate 8. Whitelands Radstock. These buildings are remarkably similar to the three-storey weavers houses in Yorkshire.

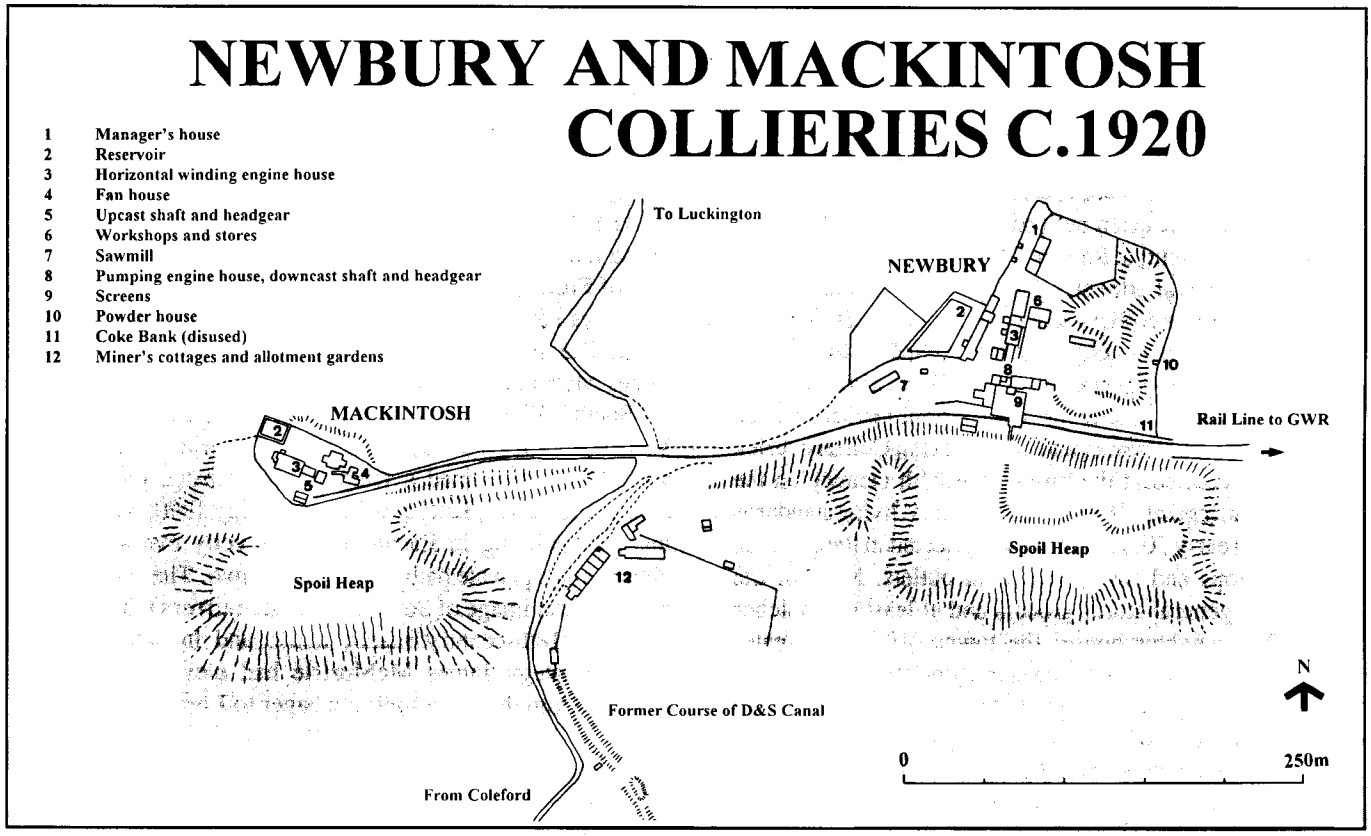


Fig 6. Newbury and Mackintosh Collieries c.1920..

the buried bed of the winding engine and an earthwork reservoir survive; the fan house was also left untouched.

As a group the surface features at Newbury and Mackintosh are of major national importance. This is one of the few sites in Britain where steam-powered pumping, winding and ventilation can be visibly demonstrated, and the association between the upcast and downcast shaft is probably unique. The scale of the buildings and especially the colliery screens, dwarfs those at Vobster Breach and all the principal structures were powered by steam.

Pensford Colliery (ST 618 626)

Pensford retains the only large-scale remains of the 20th century industry in north Somerset. All the buildings are built of red brick and these are similar to other structures that were being erected throughout the colliery districts of Britain at turn of the 20th century. Although electricity was increasingly being introduced nationally, Pensford used steam for power generation. Coal cutters were introduced underground and the mine had one of the first coal washers in Somerset. The Coal Board intended to modernise the plant and working methods, but underground faulting made working expensive and the colliery closed in 1958 (Down and Warrington 1971, 60-66).

Most of the surviving buildings stand beside the road and these include a massive two-storey steam engine house; the rope holes survive in the east wall, but the roof has been lost (Plate 5). The building would have housed a two-cylinder horizontal winding engine, and the boiler plant and chimney stood on the south side.

A range of single-storey workshops and a flat-roofed weighbridge lie on either side of the colliery entrance. One of the buildings may have housed the original sinking engine and another contained the mine smithy. A haulage engine house lies to the west of the upcast shaft and this brought coal from Bromley to the screens at Pensford. The coal preparation plant has been demolished, but the railway sidings and an earthwork incline survive. Two in-situ rail lines lead to a raised concrete platform beside the road and the miners free-coal was dispatched from here into waiting horse-drawn wagons.

The pithead baths stood on the west side of the road and these, the first to be erected in Somerset, were completed in 1931 (Plate 6). The baths were built of red brick and had a gabled central range which contained the showers and locker rooms; the flat-roofed entrance stood to the south. They were unfortunately demolished in the early 1990s.

Following the closure of Pensford, only five Somerset collieries remained in operation; the Coal Board undertook major modernisation programmes including electrification, but the surface evidence for these improvements has mostly been destroyed. At Norton Hill, the largest and most up to date colliery in Somerset, only the baths, boiler house, canteen and spoil heap are left. Mendip Colliery has become a timber yard, Braysdown a council depot, and an industrial estate stands on the site of Kilmersdon and New Rock. The most unfortunate loss was at Lower Writhlington where the entire surface plan survived for almost ten years; this was demolished when the tips were re-worked in the late 1980s and a modern house now stands on the site.

THE COLLIERY IN THE LANDSCAPE

The colliery was only one element of a much broader socio-economic landscape that contained housing, shops, churches, chapels, and municipal public buildings. It was the discovery and subsequent exploitation of coal that gave the settlements in this area their unique character and this industrial architecture contrasts sharply with that of the traditional farming communities of South Somerset. By examining the domestic and public buildings within the towns and villages it is possible to gain an understanding of the living conditions for different social groups. During the 15th-17th century the miner probably lived in a small single-storey stone-built cottage with an earth floor. As the size and number of the

collieries increased more people were required to work underground and they were often housed in small terraces erected by the coal owners, local landlords, speculative builders or the Co-operative Society. Most of the surviving workers housing in North Somerset dates from the late 18th and 19th century, and it was probably during this period that the first terraced rows were erected.

The terraces were often built on the edge of an established agricultural settlement; at Radstock the miners housing clearly avoided the medieval core standing on the north bank of the River Cam. Where a colliery was opened on a green field site it was sometimes necessary for the company to provide housing in order to guarantee a stable workforce. The Kilmersdon Colliery Co. erected stone-built terraces beside the road fronting their works and at Dunkerton Colliery, brick terraces were erected at the turn of the 20th century on the outskirts of Carlingcott. The rise in the miners' living standards in the 19th and early 20th century was reflected in the growing number of shops and associated retail outlets. Most of the villages had a general store, grocers and at least one butcher with its own slaughter house; the towns offered a greater variety of goods and services, and in Radstock this commercial expansion led to a shift away from the old historic core. The covered market place with its wooden clock tower was erected in 1897 beside the newly rebuilt Bell Inn and this provided a more hygienic environment for the preparation and selling of meat, fish and poultry (Plate 7). A retail development at the foot of the Wellsway in the late 19th century included the town's second Co-operative store. The Co-operative movement erected a large number of buildings in Radstock including the new hygenic bakery in 1893, a cafe and sweet shop at the foot of Frome Hill, and terraced housing.

BUILDINGS AND POWER

The North Somerset miner lived in a period of rapid social and economic transformation. With the emergence of wage labour the collier was expected to be at the mine at a certain time and work a specified number of hours for a set price; he was no longer a free agent and up until 1800 his working conditions were probably deteriorating. At the other end of the social scale were the mine managers and coal proprietors; the wage differential between the two was increasing especially during the 'industrial revolution period' and this created tremendous social tension.

The workers within this new economic system had to be tightly controlled in order to justify the huge expenditure in plant and machinery. At the simplest level, behaviour could be conditioned by introducing a system of laws, regulations and fines. A second less overt method was to use the landscape in a way that either consciously or subconsciously continually re-enforced the emerging social hierarchy. Buildings, gardens and boundaries were deliberately placed in positions of maximum visibility recreating the power relationships that were becoming so apparent within the workplace.

At Radstock the first purpose-built miners' terraces were erected by the Waldegraves in the 1840s on land to the east of the newly opened Tyning pit. These unusual three-storey buildings formed a separate industrial community, the Whitelands, which both avoided and could not be seen by the more respectable residents within the old medieval centre (Plates 8 and 9). Further terraces were erected during the second half of the 19th century, but interestingly these were located closer to the town; Waldegrave Terrace and Waterloo Cottages stood on the northern bank of the River Cam. Social control is again evident by the presence of a larger house at the end of each terrace, once occupied by the colliery officials. By 1880 the landscape of Radstock had become a political arena where the hierarchical relationships of the workplace were reflected physically by the buildings in the landscape. Individuals in positions of power would reside in the larger detached houses to the south of the river or in the stone-built villas that were being erected along Wellsway Hill. The offices of the Radstock Collieries stood in an elevated position at the foot of Frome Hill and this impressive building with its large chimneys could be seen from almost any position within the town. The same was true of South Hill House, the home of James McMurtrie, manager of the Radstock Collieries.

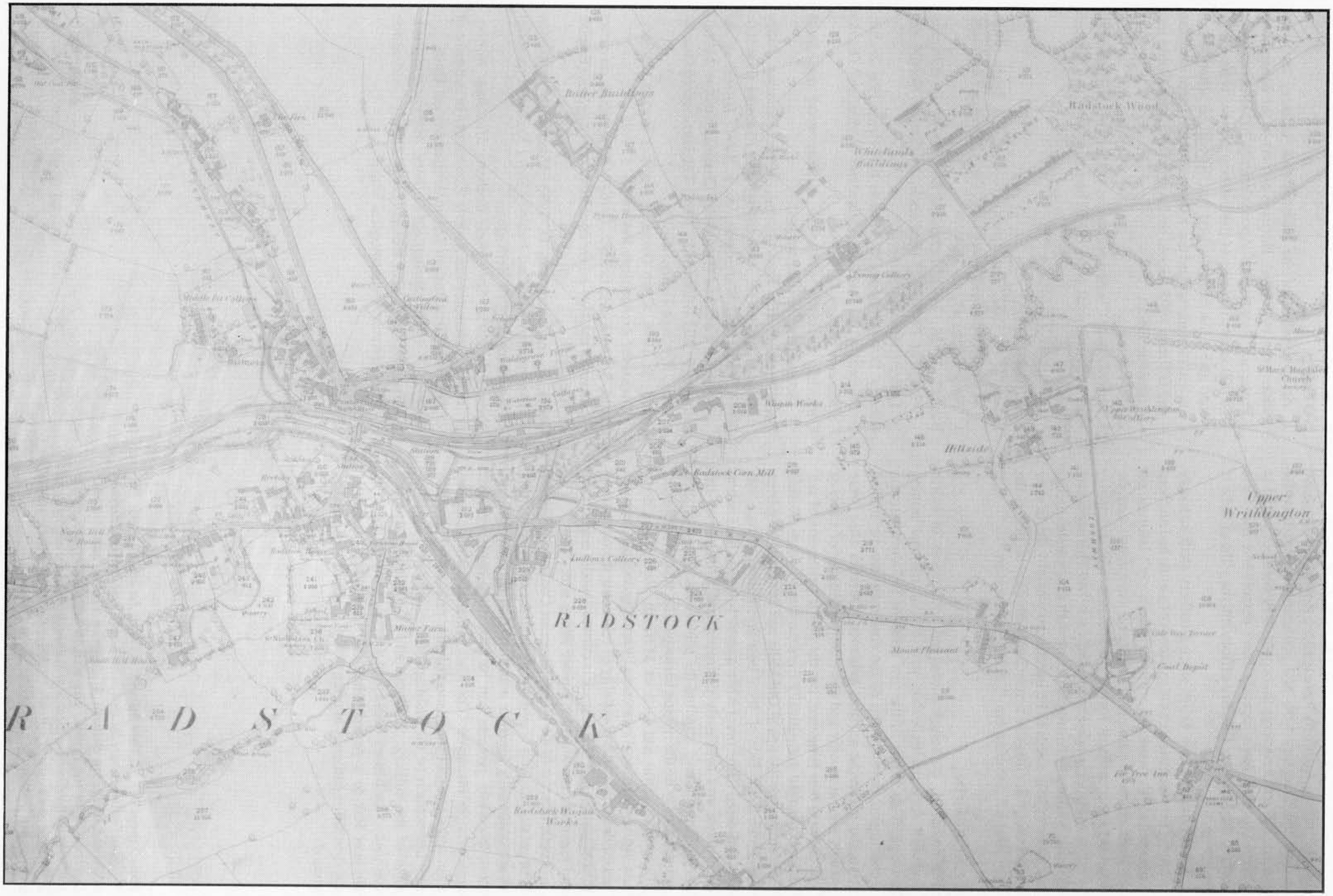
South Hill House stood in extensive grounds at the top of Wellsway Hill (Plate 9). This large Victorian mansion was served by a tree-lined avenue and had heated greenhouses containing exotic plants and fruits (Chedgy 1990, 9); this was the only building in Radstock that directly overlooked the church and a private path connected the two. The position and architectural image of South Hill House mirrors that of a high status 17/18th-century manor house and by adopting this feudal strategy James McMurtrie had elevated his social position from that of colliery manager to Lord of the Manor.

MONUMENT MANAGEMENT

The remains of Vobster Breach Colliery were scheduled as an ancient monument in January 1996, but apart from the grade II listed boiler chimney at Buckland Dinham, none of the other colliery sites in North Somerset are legally 'protected'. This will almost certainly change as a result of a national survey undertaken as part of English Heritage's Monuments Protection Programme where positive recommendations were made for the scheduling and listing of several sites of major national/international importance.[2]

Only a very small percentage of the total surviving resource will be afforded statutory protection and in most instances the responsibility for the sympathetic management of the mining remains lies with the County and District Councils. Sites of potential archaeological importance are recorded on the County Sites and Monuments Record (SMR) which are held by the Archaeological Section of the County Council[3]. If a planning proposal threatens a potentially important colliery site the local planning authority can request that the site is evaluated/structurally recorded before the application is determined; this follows the advice given in central governments Planning Policy Guidance Note 16; Archaeology and Planning (Department of the Environment 1990). 'The developer is responsible for all recording costs including publication and where nationally important remains, whether scheduled or not, are affected by proposed development there should be a presumption in favour of their physical preservation' (DoE 1990, 2). An archaeological evaluation was requested on the former Springfield Colliery site by Avon County Council; Tesco Stores Limited funded the excavation of a 10% sample area and an intensive archaeological watching brief was maintained during construction works (Piper 1995a and b). In this instance the results were disappointing, but the methodology clearly demonstrates what can be done and a similar situation should prevail when additional sites become threatened.

The legislation unfortunately fails when an unlisted industrial building which does not form part of a Conservation Area is to be demolished. Because the building is unoccupied the developer does not need planning consent and even if the


Radstock Wood
Wagon Works
Hillside
Upper Writhlington
Radstock Corn Mill
Ludlows Colliery
RADSTOCK
Manor Farm
Mount Pleasant
Coal Depot
Fir Tree Inn
Radstock Wagon Works
R A D S T O C K

Local Planning Authority were notified they would then have to find the necessary time and resources to undertake the record. Several structures that could have been converted to alternative uses have recently been demolished and these include the Newbury Colliery offices and the pithead baths at Pensford.

A similar situation arises when a colliery shaft suddenly reopens; in most instances the existence of a mine had not been suspected and the workings are invariably 'early'. Information on shaft diameter, lining and internal equipment may be revealed, and surface features associated with pumping, winding and landing operations usually survive. This important material is normally destroyed during shaft filling and capping, and some system needs to be introduced whereby the County Archaeology Section are immediately notified so that at the very least a ' watching brief' can be undertaken.

CONCLUSION

The collieries, communications and settlements of North Somerset form an important part of our national mining heritage. This is one of the few areas of Britain where the technological development of the coal mine can be studied from the surviving surface evidence. Derelict sites were initially seen as an ugly and unwelcome reminder of a way of life that was best forgotten, but the public perception of this past has changed dramatically over the last 30 years. Recent plans to rework the tips at Old Mills and Pensford have been withdrawn in the face of local hostility. Public outrage was also expressed in the press when a small bridge at the Paulton canal basin was needlessly destroyed and at Camerton the Parish Council have acquired the site of Old Pit and erected a small display on the mining heritage. The superb Radstock, Midsomer Norton and District Museum Society has done much to heighten local awareness by holding displays, lectures and guided walks; the possibility of relocating the museum to the old market hall at Radstock is currently under negotiation and one could not wish for a more fitting site.

Public interest in the North Somerset Coalfield has never been greater, and it is hoped that through the combined efforts of the community together with local and national agencies these important remains can be protected, conserved and appropriately displayed. The sites are a major educational asset and a careful examination of their remains will provide new information on the buildings, technology, and development of the colliery. In Somerset, coal mining has been confined to the history books, but the field monuments act as physical link to a period when our fore-fathers and their children toiled endlessly in often pitiful conditions beneath the ground.

NOTES

1. An assessment of the national coal industry has been undertaken by English Heritage as part of the Monuments Protection Programme. Approximately 300 sites out of the 10 000 where remains of the industry survive were examined and it has been decided that 90 will be scheduled as ancient monuments and that a further 92 will listed (Gillman and Gillman 1995, Gould and Ayris 1995, and Gould and Cranstone 1993).
2. See 1 above.
3. Avon County Council will cease to exist in April 1996 and the archaeological service will be maintained at a District level.

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Plate 9 (page 25). Extract from OS 25 inch 1st edition 1893. The Whiteland buildings are located in the north-west corner of the map to the east of Tyning Colliery. Waldegrave Terrace and Waterloo Cottages lie in the centre. The now demolished offices of the Radstock Collieries were located to the south of a right angled bend in the road and west of Ludlow's Colliery: South Hill House stands immediately west of St Nicholas' Church.

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