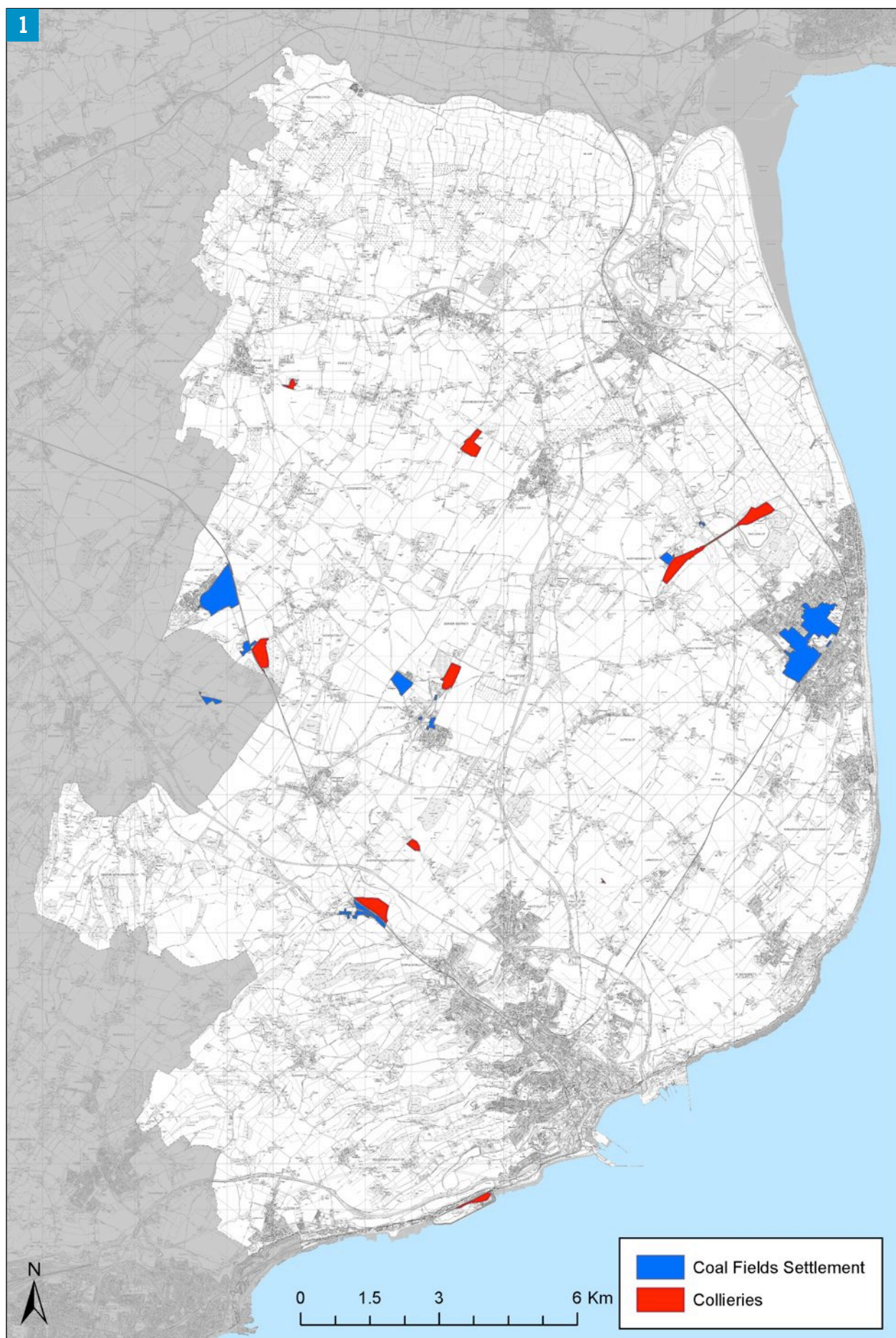


# Appendix 1: Theme 10.1 – The East Kent Coalfields





Cover Snowdown Colliery buildings  
Figure 1 Collieries and coal field settlements in Dover District

# Theme 10.1 – The East Kent Coalfields



## Summary

10.1 The development of the East Kent Coalfield from the late nineteenth century led to a short-lived, but intensive industry that transformed the otherwise rural landscape of parts of the District. It is an industry that has left its mark on the District, not only as a result of the surviving buildings, but also from the new areas of settlement and in particular the communities that it generated. These new communities have retained a distinctive character that has outlived the collieries themselves.

## Introduction

10.2 This paper is concerned with an industry that has left its mark on an otherwise rural landscape that covers the majority of Dover District, that is the East Kent Coalfield. Since the middle of the nineteenth century, there was strong speculation that the coal seams being worked profitably in Northern France would extend across the Channel into East Kent. In 1890 a borehole sunk during a suspension of works on the channel tunnel site at Shakespeare Cliff near Dover confirmed the presence of a



workable coal seam in the county and gave hope that a major new industry would develop in the region. The first coal mine in Kent was started on the site in 1896.

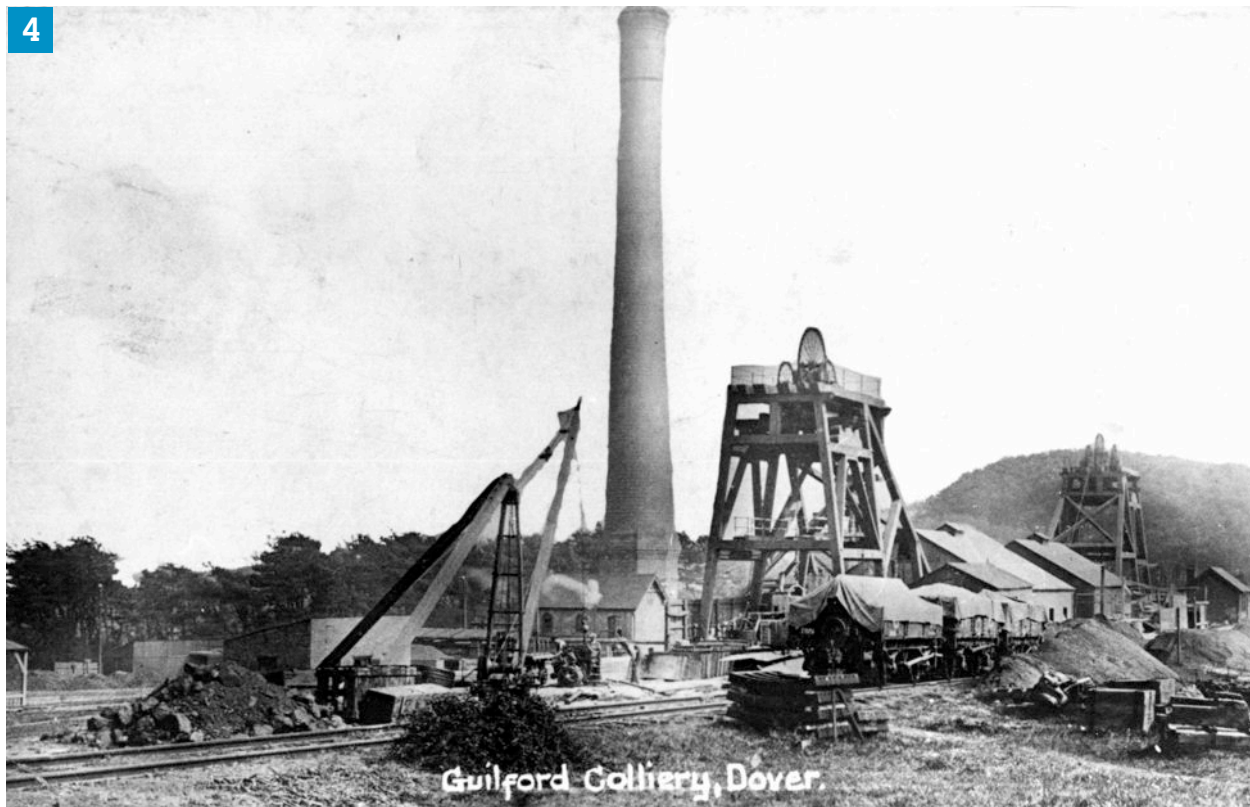
10.3 By 1920 over forty coal companies had been registered, many of which were affiliated to the Kent Coal Concessions Ltd led by their energetic managing director Arthur Burr. Thirty boreholes were sunk between 1904 and 1914 in an effort to find workable coal seams. The depth of the coal seams and flooding made mining difficult and a number of mines (Shakespeare, Guilford, Maydensole, Stonehall, Wingham and Woodnesborough) were abandoned in the early years of the field. Transport problems on mainly unmetalled roads led to the construction of the East Kent Light Railway between (mainly) 1911 and 1916.

10.4 There were no experienced miners in

Figure 2 Shakespeare Colliery, Dover. © Dover Museum (d09802)

Figure 3 Arthur Burr esq. © Dover Museum (d007301)

4



Kent when coal was first discovered in the 1890s. Workers had to be imported from traditional mining areas such as Wales, Scotland, Northern England and the Midlands. At a time when the industry was booming, Kent had to pay high wages to attract workers to work in pits which had relatively poor working conditions and old fashioned practices compared to the pits in the established fields.

10.5 One of the biggest problems facing the early mines was where to house the influx of new workers. Those at Shakespeare Colliery all lived in Dover and others were expected to also live there by the town council. Arthur Burr preferred his workers to live closer to the pits and he leased Elvington court near Tilmanstone and fitted it out with dormitories. He then began to build small estates at Elvington, Woolage, Stonehall and Snowdown.

10.6 By the 1920s four mines had emerged as viable collieries. Three of these were in Dover District at Tilmanstone (started 1906) Snowdown (1907) and Betteshanger (1924)

while the fourth was at Chislet (1913) near Canterbury. The pace of the coal production increased and unemployed miners from Wales and the north of England flocked to Kent to find work. Coal output increased from 368,000 tons in 1925 to over 2 million tons ten years later. The impetus was mainly due to the investment of the Middlesbrough steel company Dorman and Long, which developed Betteshanger Colliery and redeveloped Snowdown after its purchase in 1924. There was also an ambition for a major iron and steel industry at this time and anticipation of a major industrial region.

10.7 In 1925 the East Kent local authorities commissioned a report which envisaged that 18 mines would eventually be opened and that the population of East Kent would almost double. To avoid urban sprawl, the report proposed the construction of eight new towns and limited expansion of the existing towns. In the event the Kent coalfield failed to match the high expectations and the population growth did not occur to the extent expected.

Figure 4 Guilford Colliery, Dover. View of pit head buildings and rail wagons. © Dover Museum (d55403)



10.8 Nonetheless many miners did escape unemployment and poverty in their home areas to work in Kent, and in particular many blacklisted miners travelled to Kent after the General Strike of 1926. This influx initially horrified the local population. Towns like Deal, where large numbers of the Betteshanger miners lived, experienced large groups of blackened labourers marching to and from the colliery through their streets. Tensions increased and signs stating 'No Miners' appeared in the shops and pubs in the town. To try and reduce this hostility Kent mines were amongst the first to establish pit head baths to allow the miners to go home clean. Pit villages were developed at Elvington, Aylesham, Hersden and Mill Hill to house the miners from the four collieries.

10.9 The East Kent Light Railway also did not achieve its planned success and planned lines such as that from Wingham to Canterbury were never built. By the 1950s only a short section serving Tilmanstone Colliery survived. An aerial ropeway linking Tilmanstone colliery with Dover Harbour

Figure 5 *Aerial ropeway emerging through cliff at Dover harbour, 1930. © Dover Museum (d25562)*  
 Figure 6 *Betteshanger Colliery Regeneration - sites for sale*

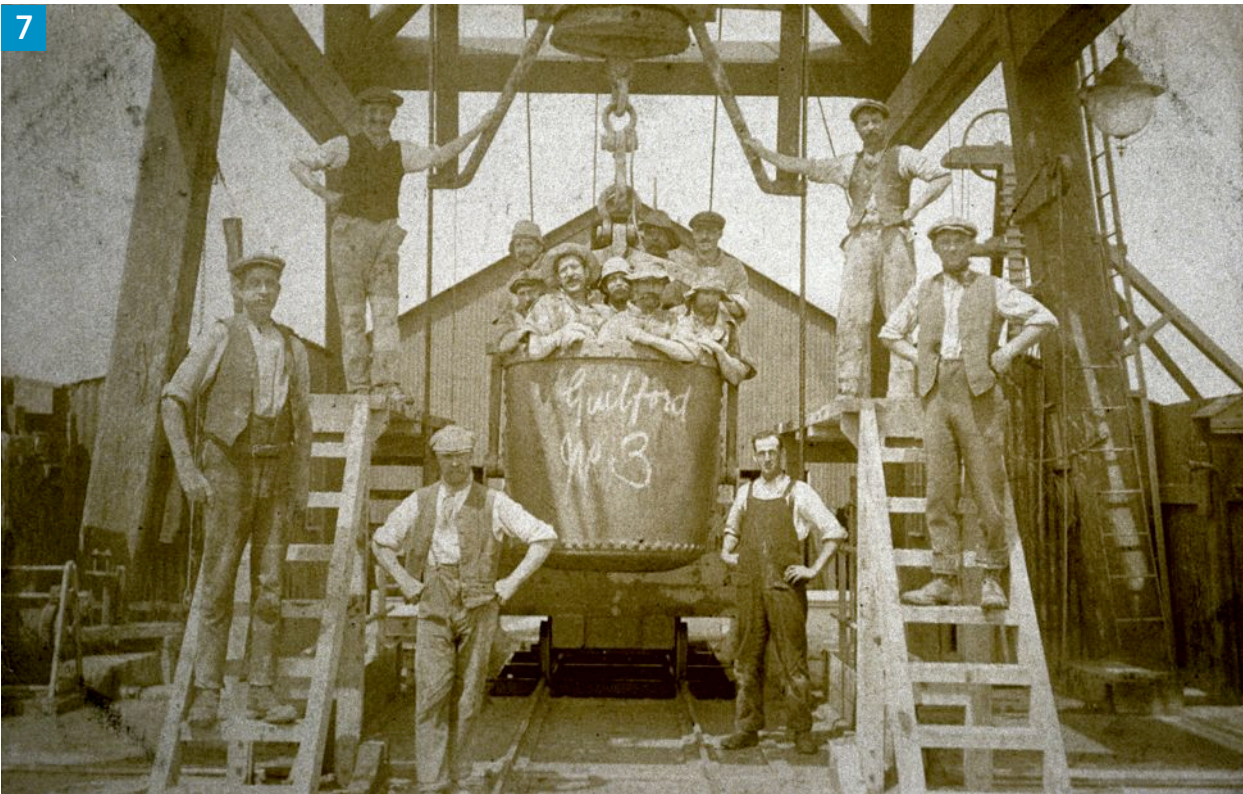


was built in 1930.

10.10 The economic conditions of the late 1930s caused a decline in the Kent coalfields. The coalfields had a reputation as difficult and unprofitable workings, the coal being some of the most expensive in Britain and the whole industry was always close to failing. In 1947 the entire coal industry was nationalised and the National Coal Board had it in mind to close the Kent mines from as early as 1960. Chislet which provided coal for steam locomotives lost out to electrification of the railways and closed in 1969. By 1975 the three remaining Kent pits employed just 3000 miners and produced a million tons of coal per annum, virtually all of which was used by the steel industry. The 1980s saw the government closing uneconomic pits and the resulting national miners strike in 1984. Snowdown and Tilmanstone closed in 1987 and Betteshanger closed in 1989, only 99 years after the first discovery of coal in Kent.

## Description of the Heritage Assets

10.11 The heritage assets of the East Kent Coalfield are a diminishing resource of the former colliery workings and the early attempts to establish the coalfield, its supporting infrastructure, the settlements that housed the miners and the coalfield communities and memories that survive today. These are described briefly in turn below.

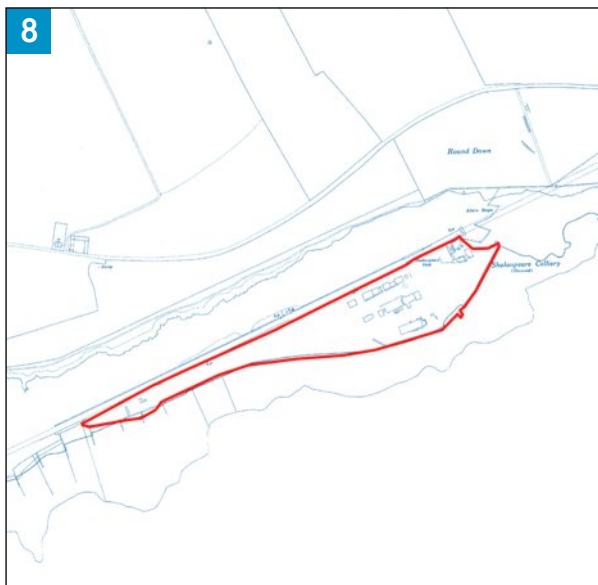


## Colliery Workings

**10.12 Shakespeare (aka Dover) Colliery** was the first coal mine in Kent started in 1896 following the discovery of coal on the site six years earlier. The mine suffered from serious flooding in its first years and it was not until 1903 that the problem was overcome. The first commercial coal was extracted in 1907 but it proved to be uneconomical to mine and was of poor quality. The colliery finally closed in 1915 and

was sold for scrap in 1918. Nothing remains of the colliery today.

**10.13** In the first twenty five years following the discovery of coal in the boring at Shakespeare Cliff, more than 45 boreholes were sunk across East Kent, many funded through entrepreneur Arthur Burr, who created a number of syndicates to invest in colliery developments. It is possible that evidence of the borings survives however none have been identified within the present study. Eventually nine collieries developed although the difficulties in extracting coal in East Kent meant that it was not until 1912 that the first coal was productively mined. Of the nine collieries, five failed in the early years without producing coal. These were the four Burr collieries at Guilford, Wingham, Woodnesborough and Maydensole and the fifth at Stonehall which are described below:



**10.14 Guilford (aka Waldeshare) Colliery** was started in 1906 by Arthur Burr's Foncage Syndicate. Three shafts were sunk but flooding stopped work in 1910. A French company bought the site and tried but failed

Figure 7 Guilford Colliery, No 3 Shaft, first hoppit of coal. © Dover Museum (d09801)

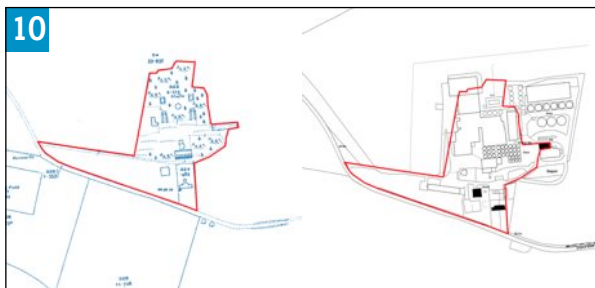
Figure 8 Shakespeare (aka Dover) Colliery (outlined in red) as seen on the 4th Edition (1929 to 1952) Ordnance Survey map



to use the cementation process to seal the shafts and the colliery was abandoned in 1921. Two buildings remain from the original workings including the winding house that has been spectacularly converted to a prestigious residential property.

#### 10.15 Burr's Wingham Colliery

commenced in 1910 and two shafts were sunk and buildings erected. These hit water and the colliery was mothballed until it was sold to a grain miller in 1924. Three buildings survive on the site, which is presently occupied by a grain processing and storage depot. These include the former manager's house and workshops.

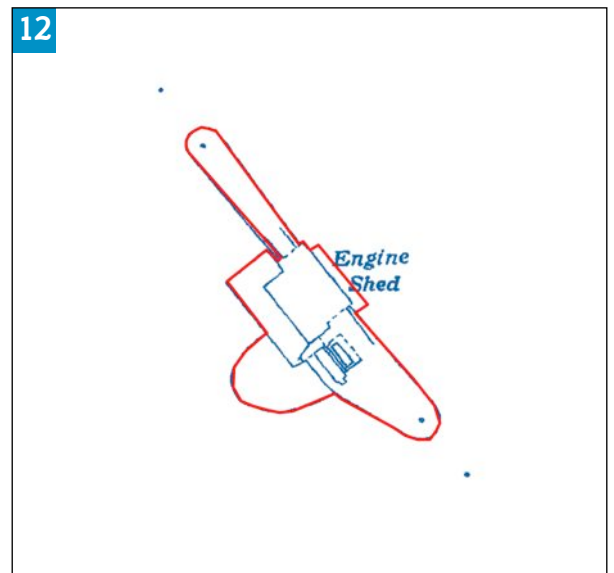


10.16 **Woodnesborough (aka Hammill) Colliery** was started in 1910 by another of Arthur Burr's syndicates. It was mothballed in 1914 and was relatively complete when sold to Pearson & Dorman Long in 1923. They sold the colliery on to the Hammill Brick Company who developed the site as brickworks. Examination of the historic maps

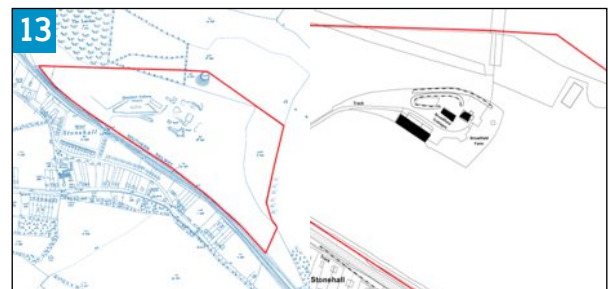


of the site indicates that an important collection of four of the original colliery buildings survive on the site and incorporated into the early brickworks.

10.17 Another Burr syndicate started **Maydensole Colliery** in 1910. Buildings were erected and boreholes drilled but no shafts were sunk. Two of the buildings survive on the site, presently sitting isolated in a field. They were later used to help drive the Tilmanstone to Dover Aerial Ropeway that passed through the colliery and are marked on the present Ordnance Survey as 'Old Engine Shed'.



10.18 **Stonehall Colliery** was started by two French brothers in 1913 and a range of buildings erected. The owners returned to France on the outbreak of the war in 1914. Following the war, the derelict site was purchased by a French company but it was abandoned again in 1921 and partially demolished. Three of the colliery buildings survive on the site today.



Figures 10-13

*Guildford (10), Woodnesborough (11) and Stonehall (13) Collieries & the Engine Shed for the Tilmanstone to Dover Aerial Ropeway (12) seen on the 4th Edition Ordnance Survey map (blue) and modern Ordnance Survey with surviving buildings highlighted in black.*

14



1969.

**10.20 Snowdown Colliery** was the first commercial pit in Kent. Started in 1907 by Burr's Foncage Syndicate the first coal was brought to the surface in 1912 and a year later 800 tons per week was being mined from the 5' 6" (1.68 m.) Beresford Seam. The company went into receivership following a strike in 1921 and was closed and mothballed a year later. It was purchased in 1924 by Pearson & Dorman Long who had also started a new colliery in the same year at Betteshanger. The new owners modernised the colliery, replacing the steam winding plant with one of electric. Land was purchased and Aylesham village built to house the mining families who had hitherto lived mainly in Dover.

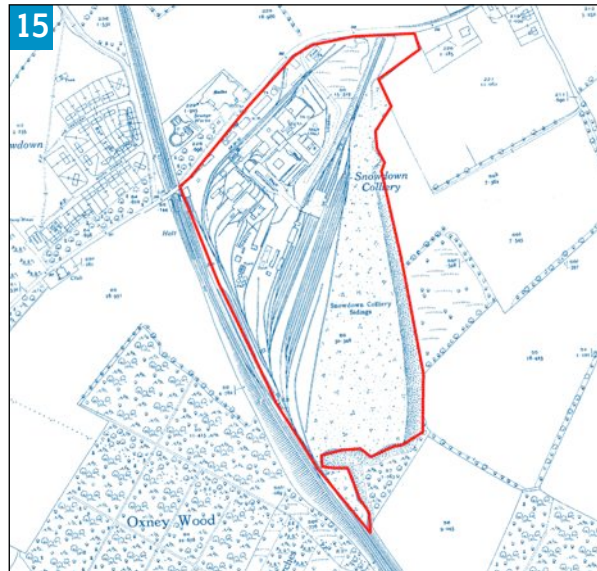
**10.21** At 3,000 foot deep (about 915 m.), Snowdown Colliery was the deepest in Kent, hot and humid it was considered one of the worst to work in Britain. Snowdown closed in 1987. Today it represents the best survival of the collieries with sixteen of the original buildings still surviving on the site. Other later buildings also survive on the site. The buildings include stores, offices, repair and specialist workshops, the lamp room, a locomotive shed, a powerhouse and the No. 3 Winder House. Also on the site are the only coalfield heritage assets protected by designation in the District, the Fan House and the No 2 Winder House, which are Grade II Listed Buildings. The remains of other

Figures 14 Colliery building at Snowdown

Figures 15-16

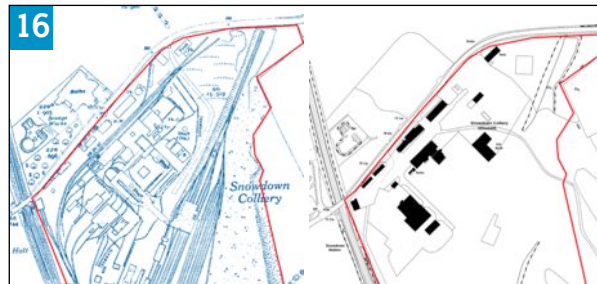
Snowdown Colliery seen on the 4th Edition Ordnance Survey map (blue) and modern Ordnance Survey with surviving buildings highlighted in black.

15



buildings will survive as buried archaeology on the site. The buildings are presently lying empty and derelict on the former colliery site awaiting plans for its redevelopment and regeneration.

16



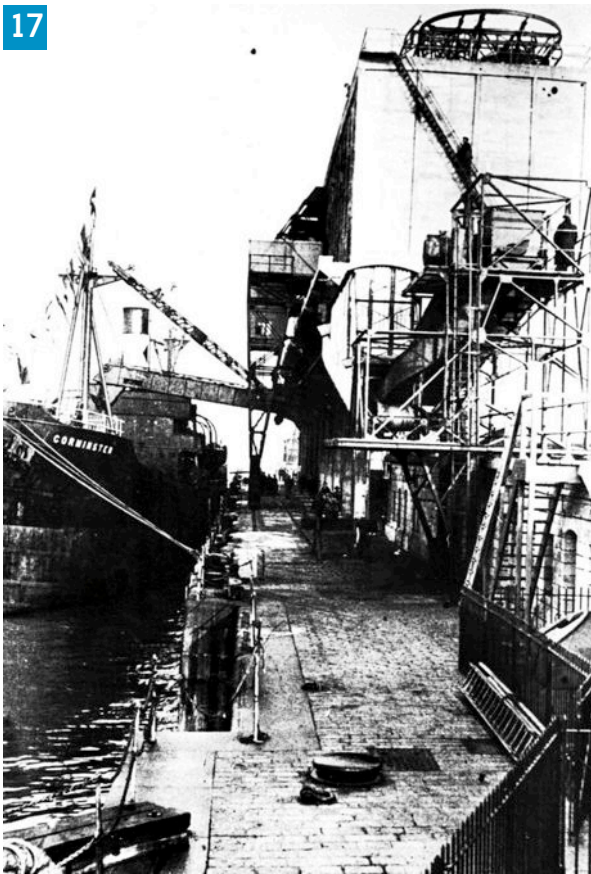
**10.22 Tilmanstone (aka East Kent Colliery)** was started in 1906 by the Foncage Syndicate near the village of Eythorne.

Through its early years the colliery suffered accidents and flooding which slowed sinking of the shaft. Coal was eventually reached in 1912 and the rich Beresford Seam in 1913 bringing a start to commercial production. The company suffered financially and went into receivership in 1926 whereupon it was purchased by Richard Tilden Smith and his Tilmanstone (Kent) Colliery Ltd. The rich Milyard Seam was hit in 1930.

**10.23** Smith's aim was to export coal from Dover. The only method of transport available was rail which was expensive. His solution was to construct an **aerial ropeway** from the colliery to a bunker on the eastern arm



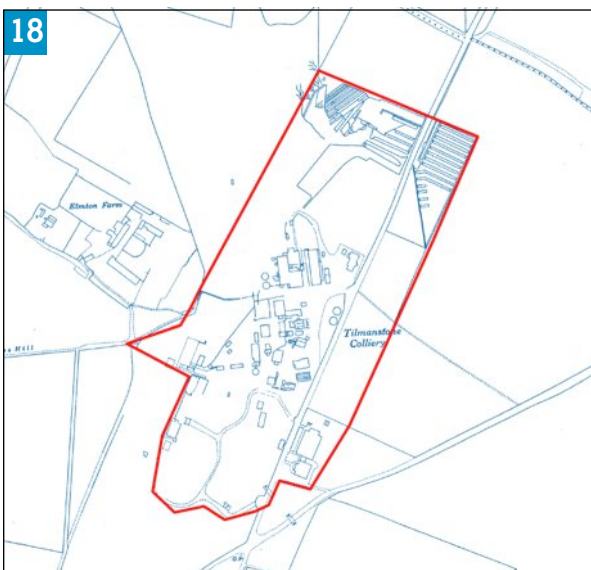
17



of Dover harbour. The ropeway was capable of moving 120 tons of coal per hour in buckets that let the colliery at intervals of 21 seconds. The first section of the ropeway was opened in 1929 between the colliery and East Langdon and the first vessel loaded in 1930.

10.24 The colliery was extensively modernised after nationalisation in 1947 but was considered as uneconomic by the NCB.

18



Figures 17 Loading 'Corminster' from coal hoppers on the Easter Harbour Arm. © Dover Museum (d02525)  
 Figures 18 Tilmanstone (aka East Kent) Colliery as seen on the 4th Edition Ordnance Survey map

It survived until its closure 1986 whereupon it was demolished. Today none of the Tilmanstone buildings survive and the only visible remains of the site is the elevated land of the extensive spoil heap. Part of the site is now partially occupied by the Pike Road Industrial Estate. The ropeway to the Eastern docks has mostly disappeared though visible remains survive on the harbour arm, the opening of the tunnel where it emerges from the Langdon cliffs and the engine house that was converted from one of the Maydensole Colliery buildings. The tunnel itself, though not accessible is thought to be largely intact. The aerial ropeway, seen in operation, has been preserved on film by British Pathé.

<http://www.britishpathe.com/video/coal-cable-car>

10.25 **Betteshanger Colliery** was the biggest of Kent's collieries and was founded by Pearson & Dorman Long who had bought up mineral rights to large areas of land in the Deal area in the hope of starting a considerable steel industry. They constructed a railway to their new mine and started to sink the first shaft in 1924. The flooding of the site was successfully kept under control by the cementation process and the sinking of the shafts progressed quickly, reaching coal by 1927. In a short space of time a large workforce of miners came to the area causing tensions with the local populous in the nearest town to the pit Deal where many of them lived. Pit head baths were opened in 1934 to allow miners to return home reasonably clean. Deputies houses were constructed in an area close to the pit and in 1929 the farmland at Mill Hill; Deal was acquired to construct an estate for the Betteshanger miners.

10.26 Betteshanger Colliery attracted a lot of blacklisted hard line miners fresh from the General Strike of 1926 and consequently developed a reputation as a militant colliery. Several strikes occurred at the colliery

including the only one in the Second World War and Betteshanger was the last pit to return to work after the 1984 miners strike. The colliery was the last operational pit in Kent and closed in 1989. The majority of the site has now been cleared save for one building, an office, ahead of its proposed regeneration by SEEDA. The former spoil tip has been transformed into Fowlmead Country Park. Archaeological investigations carried out during the clearance of the site by SEEDA exposed and recorded the buried remains of 'sinkers huts' demonstrating the potential for archaeological remains on the colliery sites.

### *East Kent Light Railway*

10.27 The East Kent Light Railway, built mainly between 1911 and 1916 principally to serve the coalfields ran from Wingham in the north, south to Shepherdswell with a branch to Richborough Port from Eastry and short branches to Guilford and Tilmanstone. There were plans to extend the railway in the 1920s but these were not realised and the railway never really achieved its intended success. By the 1950s only the part of the line between the colliery at Tilmanstone and the main rail

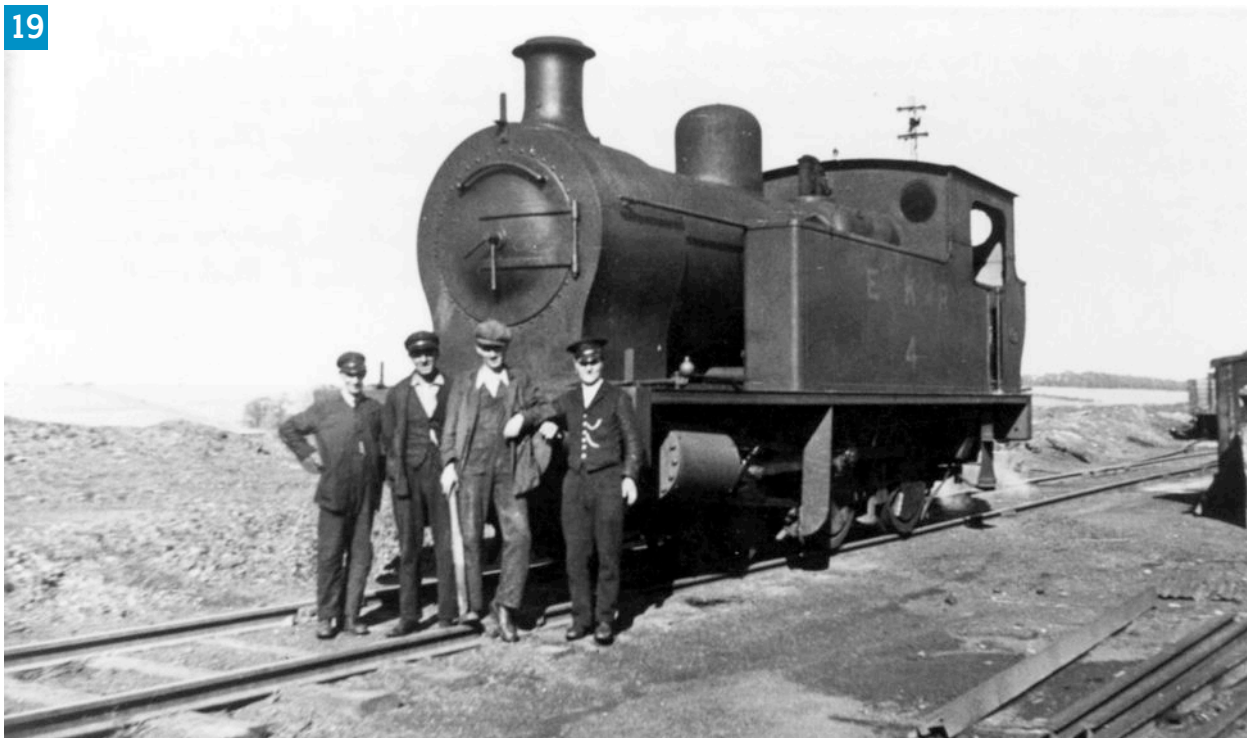
line at Shepherdswell remained in commercial use, finally closing in the 1980s.

10.28 While the railway may not have had a significant impact on the economy of the coalfield, its remains are a distinctive part of the rural landscape extending across the District. Much of the former rail corridor survives with areas of cutting, embankment, trackbed in places with surviving rail and sleepers, the occasional remains of platforms and the piers of bridges. The track between Shepherdswell and Eythorne has been preserved and is operated as a small heritage railway, the East Kent Railway, by enthusiastic volunteers (see also Theme 4.2).

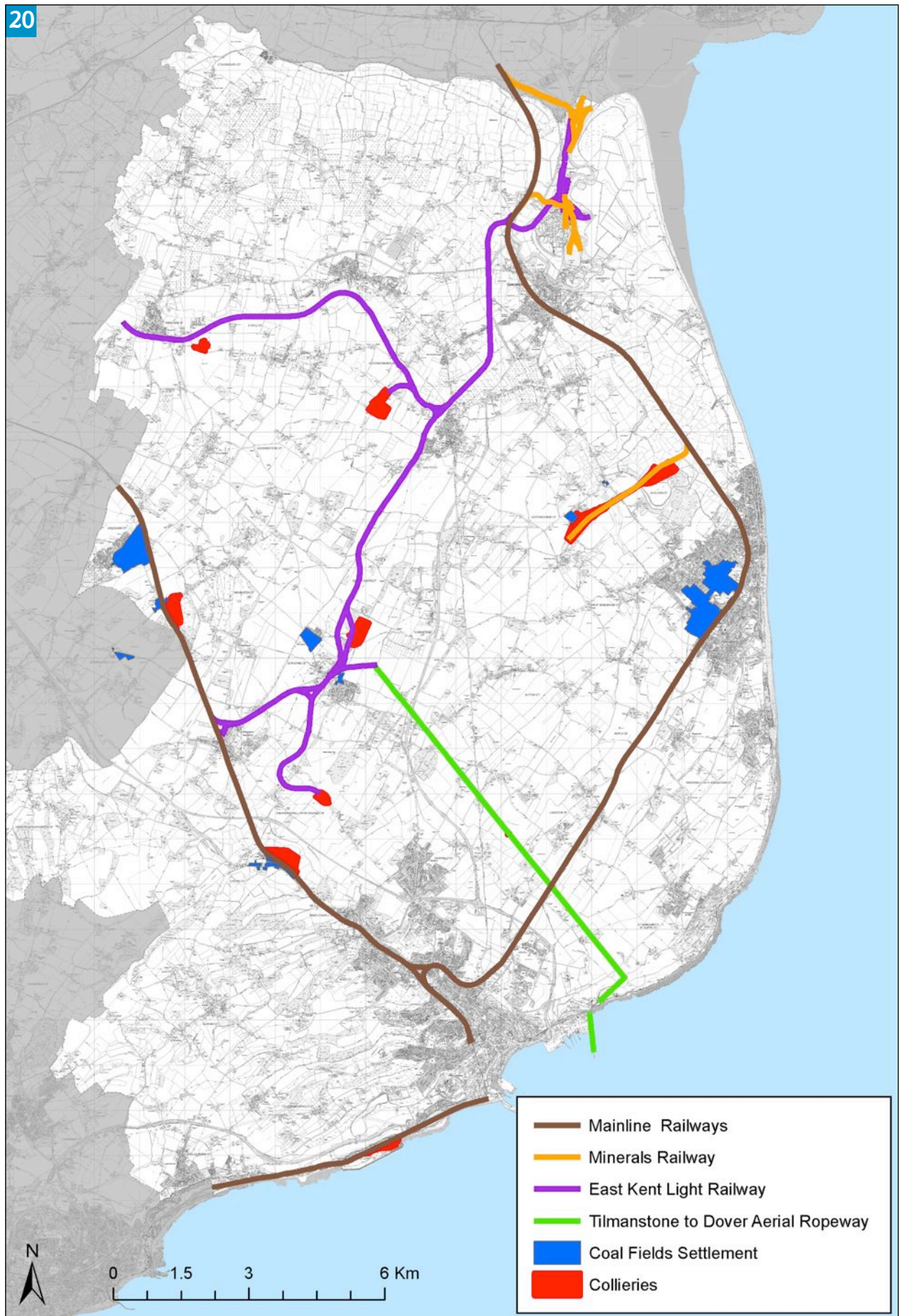
### *Miner's settlements*

10.29 The huge influx of miners into Kent established the need for new accommodation to house them and their families. At first miners resided in Dover and travelled to the pit at Shakespeare Cliffe and the other early colliery sites. Arthur Burr preferred to see his miners living close to the pits at which they worked. He leased **Elvington Court** near Tilmanstone and fitted it out with dormitories. Analysis of historic maps

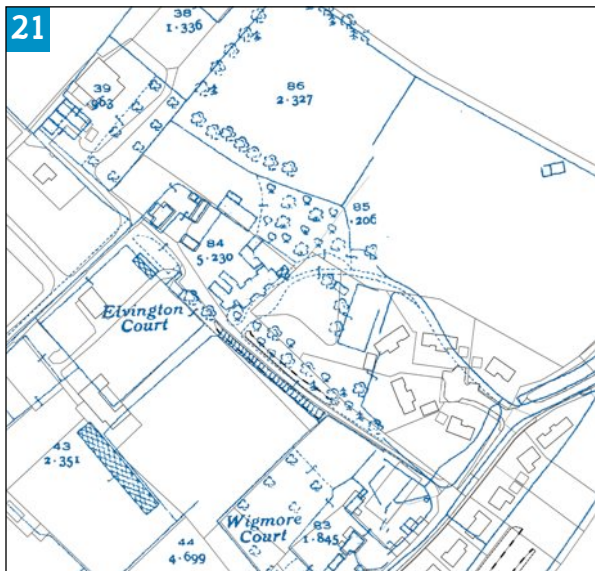
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Figures 19 East Kent Light Railway engine No 4 c. 1920. © Dover Museum (d34464)



Figures 20 Collieries and settlements of the East Kent Coalfield shown with railway and ropeway connections



suggests that Burr's work at Elvington Court did not involve the construction of new buildings and was probably limited to conversion of what was already there. Today the main court has been demolished and only three smaller buildings of the complex survive to the west of the main building and are known as Woodpecker Court. Whether traces of the original miner's dormitories survive within these buildings or as archaeological remains on the site of Elvington Court is not known.

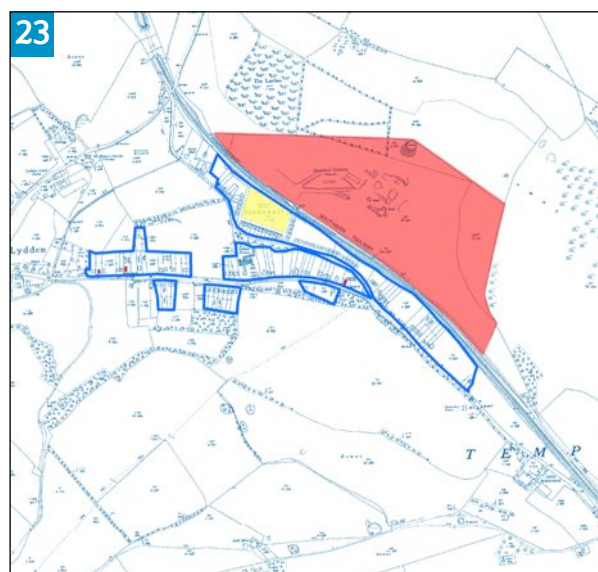
10.30 Burr then started to construct small estates at Elvington, Woolage, Stonehall and Snowdown. Within the present study it has not been possible to distinguish these early estate elements from later estate development of the 1920s in the mining villages of Elvington and Snowdown (see below). The settlements at Stonehall and Woolage have been mapped from the Fourth Edition Ordnance Survey.

10.31 The estate at **Woolage** involved the construction a new village on farmland. The Fourth Edition Ordnance Survey map shows a triangular estate of over 60 semi-detached houses that survive today. To the east of the village an area was set aside for a septic tank presumably intended for the site of a future sewage works on expansion of the village. To



the west a village green was provided and nearby but detached from the estate a hall and post office. The hall has been lost however the post office may survive within the present building on the site.

10.32 The miner's estate at **Stonehall** expanded eastwards from the earlier village and farm, south of the railway and the colliery site alongside the main Roman road from Dover. The estate comprised detached and semi-detached properties, some of which were bungalows, flanking two main roads. Allotments were provided in one area of the estate. A Methodist church and an Apostilic Church were established within the village as was a post office. An Apostilic Church still occupies the site of the original though this



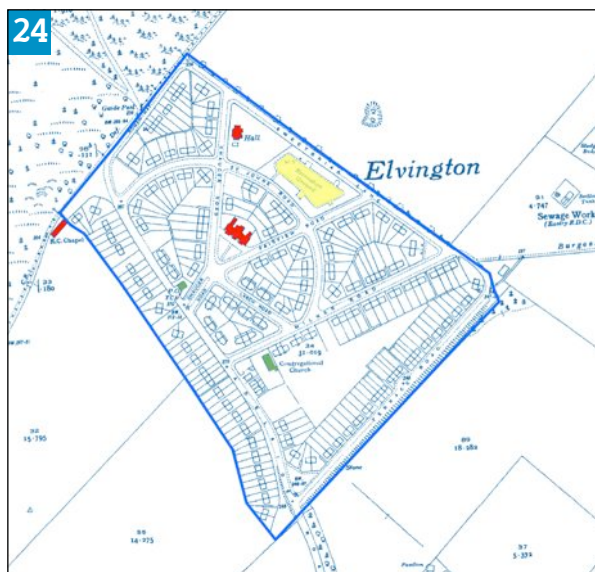
Figures 21  
Figures 22-23

Elvington Court as seen the the 4th Edition Ordnance Survey map overlain onto the modern map Woolage Village (22) and Stonehall (23) coalfield settlements (outlined in blue) on the 4th Edition Ordnance Survey map. Public open-space is highlighted yellow, surviving public buildings in green and demolished public buildings in red. The large red area at Stonehall is the colliery

appears to be a later building.

10.33 With the influx of miners in the 1920s new and expanded miner's settlements were built. A comparison of the Third and Fourth Editions of the Ordnance Survey illustrates the expansion of villages such as at **Eythorne** and the construction of new miner's settlements at Elvington, Betteshanger, Snowdown, Mill Hill and Aylesham. Fourteen areas of settlement have been mapped as part of this study; other smaller areas of miner's settlement may exist but have not been identified and mapped.

10.34 The colliery village of **Elvington** was built through the Tilmanstone Miners Dwellings Syndicate. This was a village of 230 houses built on farmland to the west of Tilmanstone Colliery. The village comprises mainly semi-detached and terraced houses. The street layout included the semi-circular wheel arrangement that it is characteristic of a number of the mining settlements in the area. At the core of the village was a club fronting onto a green and a hall and post office were also provided. The club has recently been demolished and the site redeveloped for housing. The post office building survives, but the original hall structure has been replaced by a modern community centre. A Congregational Church and a Roman Catholic Church were

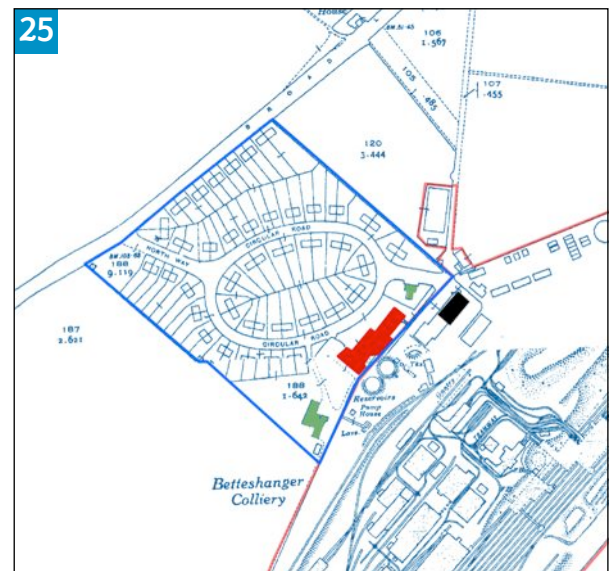


Figures 24-25

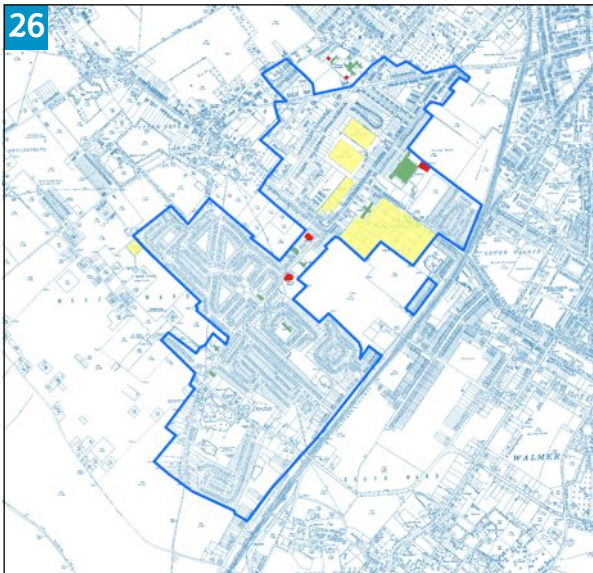
*Elvington (24) and Betteshanger (25) coalfield settlements (outlined in blue) on the 4th Edition Ordnance Survey map. Public open-space is highlighted yellow, surviving public buildings in green and demolished public buildings in red. Surviving colliery buildings are shown in black.*

established in the village; the Congregational Church survives and presently continues to be used as a church. A recreational ground was provided at the northern part of the village and this survives as open space. A sewage works was also constructed to the north east of the village.

10.35 At **Betteshanger** a new colliery village was built immediately to the north of the mine to house the colliery deputies. The village consisted of over 50 semi-detached houses, principally arranged around a circular road. A club and baths were provided adjacent to the colliery (the baths now demolished). A gatehouse to the colliery still stands at the entrance to the former mine.



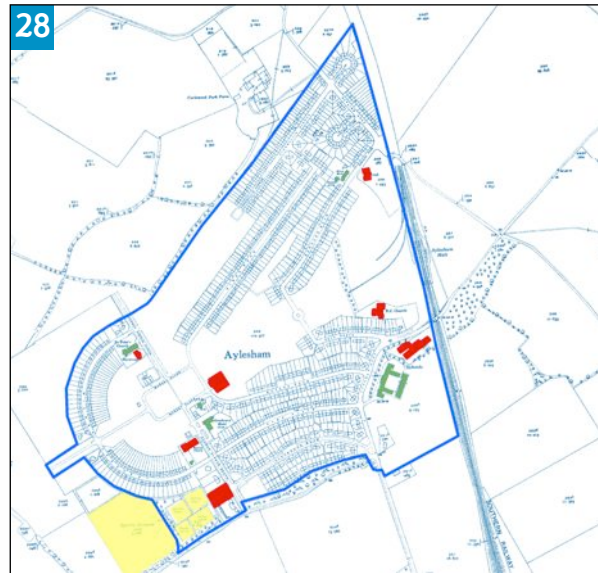
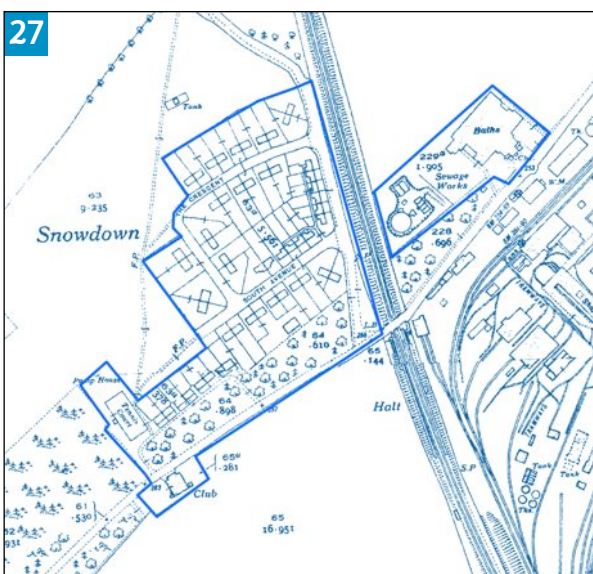
10.36 The majority of the miners working at Betteshanger lived in Deal amongst the local populace, a situation that, as has been described, caused significant tension in the town. It was not until 1929 that a purpose built estate of 950 houses was built for the miners on the outskirts of Deal when the Snowdown & Betteshanger Tenants Ltd purchased farmland at **Mill Hill**. An extensive estate was built complete with facilities such as schools, clubs, halls and public houses, churches, a cemetery, sports grounds and allotments. A new hospital (Victoria Hospital) was also constructed close by. Many of the



main features of the estate survive and retain their original use today. No buildings within the Mill Hill estate area are Listed Buildings.

10.37 At **Snowdown**, the miner's village next to the colliery comprised mainly semidetached houses and two terraces to the west of the main rail line to Dover. A miner's club and tennis courts were provided at the west end of the village and pit head baths for the miner's on the opposite side of the railway outside the colliery gate. A sewage works was also constructed on the east side of the railway. None of the public buildings survive and the west end of the village has been completely lost.

10.38 Most of the miners at Snowdown



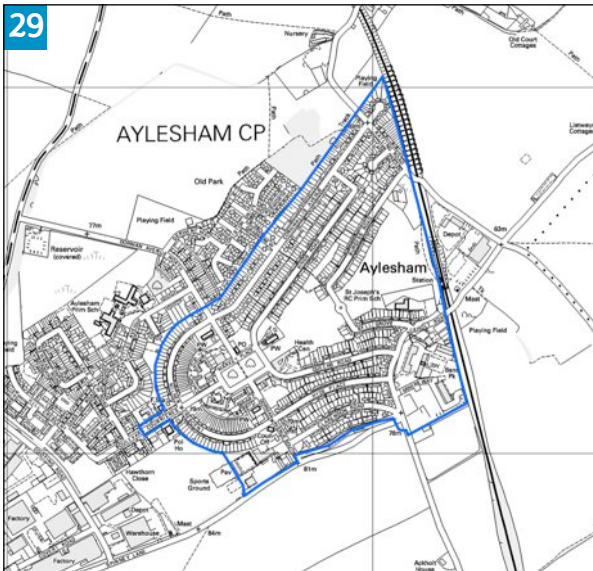
lived in Dover and the Nonington area until the Aylesham Tenants built a completely new village to the west called **Aylesham**.

Originally meant to serve a prospective mine at Adisham as well as Snowdown, Aylesham was an ambitious project designed to accommodate 3,000 families with all the facilities to make it self sufficient including shops, social clubs, schools, churches and sports and leisure facilities. The town was designed by Sir Patrick Abercrombie to an imaginative formal plan designed to reflect the shape of a pit head winding frame. In the end the full plan was not realised and only 650 houses were built. Many of the original features of the settlement survive though the town has expanded to about 1,800 houses, mainly to the north and west in a manner that is unsympathetic to the original planned intentions.

10.39 As part of the study emphasis has been on mapping the extent of the coalfield villages and estates and the feature buildings and open space that served the mining communities within their settlements. Many of these feature buildings survive today, some in fact retaining their original use by the miner's institutions that remain part of the modern-day communities. Together these buildings are an important element of the coalfield and mining history of the District. It

Figures 26-28

*Mill Hill (26), Snowdown (27) and Aylesham (28) coalfield settlements (outlined in blue) on the 4th Edition Ordnance Survey map. Public open-space is highlighted yellow, surviving public buildings in green and demolished public buildings in red.*



is worthwhile noting that none of the buildings has any form of protection from demolition or change.

### ***Mining Communities and Memories***

10.40 When the coalfields closed in the 1980's, the industry not only left behind its colliery landscape to dereliction but also the mining communities to poverty and deprivation. Not only had most of the miners lost their livelihoods but the communities also lost their means to support the social clubs and sports facilities that had been subsidised through levies.

10.41 The communities themselves have a distinct identity and a pride in their mining heritage. Institutions such as the collieries' brass bands, male voice choirs, welfare societies and sports clubs still play an active role in the communities. Many of the mining communities in the District have distinctive accents developed from the incoming miners from Wales and the North.

10.42 Since the mines have closed various government agencies and charitable trusts have worked towards redevelopment of the coalfields, assisting the communities to learn new skills, providing job opportunities and maintaining the facilities within the communities. Some of the major projects



have included the Aylesham Community Centre in the former village school, the Betteshanger Social Welfare Scheme Sports Club and the redevelopment of the colliery sites at Betteshanger and Tilmanstone. At Betteshanger the colliery has been prepared for redevelopment with a mixed industrial and leisure use by SEEDA. The former tip has been opened as Fowlmead Country Park. The Tilmanstone site has been developed with the Pike Road Industrial Estate which has brought much needed employment to the area. Plans for regeneration of the Snowdown site put forward by SEEDA that included the removal of the important collection of surviving buildings were not realised. The SEEDA proposals triggered a strong local reaction which led to the forming of a support group for the Snowdown Colliery remains known as Kent Coal and Community (KC2). As a result of their campaigning two of the buildings were Listed, and a study was presented in 2007 to Dover District Council setting out a case for conversion of the former colliery buildings to community, arts and environmental uses. These plans have



Figure 29 *The modern-day settlement of Aylesham*

Figure 30 *Former School, Aylesham*

Figure 31 *Betteshanger Colliery Welfare Silver Band. © B Hollingsbee collection (d50707)*

also yet to be realised.

10.43 With the regeneration of the coalfields, the remains of the industry are gradually being lost. To address this, the Coalfields Heritage Initiative in Kent (CHIK) project alongside the Aylesham Heritage Centre and Dover Museum has worked hard to record the heritage of the coalfield, including capturing the memories of the miners, their families and the communities. A large resource has been made available digitally on the internet and for use in schools (<http://www.dover.gov.uk/kentcoal/intro.asp>). Volunteers have been trained to lead guided walks, maintain footpaths and research the history of the coalfields.

10.44 The rich heritage and landscape of the former coalfield can be explored through a new walking and cycling trail 'The Miner's Way'. The 28 mile long trail has been developed by the White Cliffs Countryside Partnership in partnership with CHIK and Dover Museum. The trail links the collieries, the mining communities, the East Kent Light Railway across the otherwise rural landscape of the District.

## Statement of Significance

10.45 The heritage assets of the East Kent Coal Fields, which represent the remains of the only major industry that has transformed parts of the otherwise rural landscape of the District, are of **considerable significance**. The remains illustrate a short lived but intensive industry which has left its mark in the landscape, generated new areas of settlement and incoming communities with a distinctive character which has lasted beyond the closure of the collieries.

### Evidential Value

10.46 The industrial archaeology and the remains of the miner's settlements have considerable potential to illustrate the



endeavours to establish and expand a coal industry in East Kent and the considerable hurdles that the coalfield presented. Evidence of the early borings, the failed collieries and the development of the commercial collieries will help to evidence the struggle to exploit the coal resources of east Kent in what was one of the most challenging coal fields in the country. Archaeological evidence and evidence in the fabric of the settlements could provide important evidence on the lives of the miners, where they came from and the activities of the mining communities. The evidential value of the memories of the former miners, their families and the communities is also considerable in providing



Figure 32 The remains of Sinker's huts found at Betteshanger Colliery during redevelopment of the site  
Figure 33 Abutment for the East Kent Light Railway crossing Richborough Road



very personal experiences of working and living in the East Kent Coalfields.

### ***Historical Illustrative Value***

10.47 The historic assets of the East Kent Coalfields illustrate the entrepreneurial spirit of the early twentieth century and the push to generate a substantial industry in rural east Kent. It is a good illustration of the attempts to establish a coal industry and the considerable obstacles that the deep, flooded workings presented. The coal fields also illustrate the social tensions that the influx of new labour had on the indigenous populous and the attempts to control this through the development of new settlement and facilities such as pit head baths.

### ***Historical Associative Value***

10.48 The coal field has strong historic associations with the industrial unrest of the coal industry in the twentieth century, from the General Strike of the 1920s which saw mining communities flock to the expanding Kent coalfield to the Miners Strike of the 1980s which saw Betteshanger as the last colliery to return to work.

### ***Aesthetic Value***

10.49 The former East Kent Coalfield was set within a rural landscape that had seen little change since at least Saxon times. The coming of the coal industry in the early part of the twentieth century transformed areas

34



Figure 34 Architectural detailing on a colliery building at Snowdown

35



into a hive of industrial activity. Today these surviving remains of the collieries, the light railway and the miner's settlements stand as stark monuments to the industry though their visual impact at a landscape scale has been somewhat reduced by the clearance and regeneration of the colliery sites and landscaping of the colliery spoil heaps.

10.50 While the housing stock of the mining settlements has limited aesthetic value, there is some value within the planned form of the settlements and in particular the Abercrombie master plan for Aylesham. Within the collieries the aesthetic qualities of the pit buildings are limited by their functional designs though that being said many of them stand as powerful, imposing structures setting them apart from other buildings within the landscape. Many of the industrial buildings and structures have deliberate architectural detailing which adds to their aesthetic quality and illustrates a sense of pride in their original construction; brick plinths, round headed windows, circular fanlights, stepped brick eaves, contrasting plinths, recessed window bays are all in evidence. Similar detailing can be seen in some of the public and office buildings associated with the coal fields. The detailing is most evident in the earlier buildings within the coalfield while those later are more functional in their appearance. This possibly illustrates the change from initial optimism of the early coal field visionaries to the struggle of those who had to develop the industry

Figure 35 Observation platform at the former colliery spoil heap, Fowlmead Country Park. © Explore Kent

against the odds.

10.51 The spoil heaps and the former route of the East Kent Light Railway have in places reverted back to nature, both informally and formally such as the Fowlmead Country Park near Betteshanger which is based upon the former colliery tip and stands out as a distinctive landmark feature in the otherwise flat Lydden Valley.

### Communal Value

10.52 The heritage assets of the East Kent Coalfield have a strong communal value. The former mining communities have a strong sense of identity within the former industry and an interest in their origins. The coalfield remains provide both a means of commemorating the industry and providing the community with a physical link with its past. Much of the character of the coal field can be seen within the communities themselves. The housing stock and layout of

the residential areas and the individual communal buildings are all part of a strong sense of place valued by the community. The value which the community place upon the heritage of the East Kent Coalfield can be illustrated by the reaction to proposals for regeneration of Snowdown and the forming of KC2 by residents to seek an alternative future which includes the heritage assets. Projects focusing on the communities and the history of the coalfield have had considerable support and success as can be illustrated by the CHIK initiative. Many of the institutions that were founded by the early mining communities such as the colliery bands, choirs, clubs and sports clubs are highly valued by the communities today. The coalfield history is celebrated in the area through an annual Miner's Festival. The assets themselves have potential to tell the story of the coalfield and act as a focus for trails, interpretation, education and celebration.

36



Figure 36 Payday at Snowdown Colliery monument

## Vulnerabilities

10.53 The coalfield heritage assets are highly vulnerable to change as new uses are sought for the former colliery sites and the mining communities disperse into new areas of employment. It is worth noting that of all the assets of the East Kent Coalfield the only ones that are protected by designation are the Fan House and the No 2 Winder House at Snowdown Colliery which are Grade II Listed Buildings. These buildings were Listed following work by Kent Coal and Community and by the Industrial Buildings Preservation Trust in reaction to redevelopment proposals for the site that would have seen their loss.

10.54 Of the early failed collieries, Shakespeare has been completely lost but important buildings survive at Guilford, Wingham, Woodnesborough, Maydensole and Stonehall. The Winding House at Guilford has been converted into a prestigious residence but several of the others survive in a semi-derelict condition and are vulnerable to gradual decay. The buildings at Woodnesborough Colliery are particularly vulnerable since the closure of the Hammill Brickworks and may be lost if redevelopment of the site comes forward in a form that does not make use of the assets.

10.55 Other than at Snowdown, the remains of the commercial collieries have fared little better. Tilmanstone has been completely lost through the redevelopment

of the site for the Pike Road Industrial Estate and the buildings at Betteshanger, other than the former gate house and an office building have been cleared away for the regeneration of that site. The building remains at Snowdown are a regionally important group of surviving buildings which have so far, to a degree, survived the closure of the pit. The buildings however stand empty, vulnerable to the elements and have so far withstood at least one regeneration proposal that promoted their demolition. Until a viable reuse of the buildings can be found they will remain in a semi-derelict form and seeking such a solution should be a priority. Kent Coal and Community (KC2) have promoted an imaginative scheme that involves conversion of the buildings for community, arts and environmental uses as well as a focus for heritage interpretation in the coalfields (KC2 2007). Despite strong support this scheme has still to be realised.

10.56 The housing stock of the coalfield settlements is likely to survive better than the former collieries though detail of the buildings and the regular nature of the street character are likely to be lost through change to individual properties. The public and community buildings will be more vulnerable to change as their former uses vanish and they become redundant and subject to redevelopment. The coherence of the plan form of the mining settlements is vulnerable to being lost in the expansion of the villages. Already at Aylesham the intention of the

37



38



Figures 37 & 38 Snowdown's abandoned colliery buildings at risk of decay

Abercrombie design has been ignored in the development to the north and west of the village and the proposed future expansion of the village needs to pay particular attention to this to ensure that the mistake is not compounded.

10.57 The communities themselves are subject to change as their mining times, now more than twenty years past, become more distant in memory. As populations become ever more mobile, former mining families are moving out of the area to follow new employment opportunities and with the proposed expansion of settlements such as Aylesham there is considerable potential for the mining communities to dilute. The importance of projects such as CHIK can not be overstated in their importance of capturing the memories of the mining communities while they are still readily available

## Opportunities

10.58 The coal field heritage assets in Dover District are an important link between the present communities and their recent past, providing a considerable opportunity to focus and strengthen social cohesion and a source of community pride. The assets provide an opportunity for the community to present and engage with their heritage. Support for projects such as Coalfield Heritage Initiative in Kent should continue and opportunities provided to the communities to continue to be involved.



Figure 39 Betteshanger Colliery Building put to new a use  
Figure 40 Miner's Way Board, Aylesham



Likewise support for the mining institutions that have survived the closure of the pits will ensure a continued link between the communities and their mining past.

10.59 The potential to develop trails through the points of interest in the coalfield is to some extent limited by the present accessibility of the main assets. Much of the industrial resource is on private land and inaccessible. Regeneration of the colliery land at Snowdown should seek to redress this. The important group of surviving buildings could potentially provide a strong focus for the presentation of the history of the coalfields and potential for better public access to the assets. A priority must be finding a beneficial use for the buildings which both ensures their conservation and realises their potential for illustrating the history of the East Kent Coalfield. If realised the KC2 proposals for Snowdown would result in the imaginative reuse of the historic buildings and help to raise access to and interpretation of these important assets and the wider coalfield and its story.

10.60 Emphasis should be given to conservation of the remaining assets of the coal field and in particular the remains of the colliery buildings and those buildings in the settlement areas that provided a focus for the community. Good examples of reuse that has helped to preserve the historic buildings can be demonstrated for example the community buildings at Aylesham and the Winding House at Guilford. With only the single Listed Building at Snowdown protected through designation there is considerable risk that the remaining assets will be lost through lack of adequate control over the process. Consideration should be given to widening the national designation of key heritage assets within this theme and to the development of a local list and/or Conservation Areas for those assets that do not meet national criteria but are none the less important at a District or regional level.

10.61 With the expansion of Aylesham there is an opportunity to create a master plan for the new development that is sympathetic to the original intentions for the village in the Abercrombie design.

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## Key Heritage Assets

Asset	Form	Designation & Protection	Accessibility	Interpretation
Shakespeare Colliery	Landscape feature	None	Samphire Hoe open space	? Samphire Hoe
Borings	Archaeology	None	Unknown	None
Guilford Colliery	Historic Buildings Archaeology	None	Private Land	None
Wingham Colliery	Historic Buildings Archaeology	None	Private Land	None
Woodnesborough Colliery	Historic Buildings Archaeology	None	Private Land	None
Maydensole Colliery	Historic Buildings Archaeology	None	Private Land	None
Stonehall Colliery	Historic Buildings Archaeology	None	Private Land	None
Tilmanstone Colliery	Archaeology Landscape feature	None	Private Land	None
Tilmanstone to Dover Aerial Ropeway	Historic Structures Archaeology	None	Private Land Dover Harbour Farmland	None
Betteshanger Colliery	Historic Building Archaeology Landscape feature	None	Fowlmead Country Park & Private Land	Statue of a miner at Fowlmead
Snowdown Colliery	Historic Buildings Archaeology	Listed Buildings	Private Land	None
Elvington Court miners dormitories	Historic Buildings Archaeology	None	Private Land	None
East Kent Light Railway	Earthworks Historic structures Archaeology Working Railway	None	Farmland, Private Land Public footpaths Heritage Railway	Heritage Railway
Woolage Village	Historic Buildings Historic planned	None	Private land Public Space	None
Stonehall Village	Historic Buildings Historic planned settlement	None	Private Land	None
Eythorne	Historic Buildings	None	Private Land	None
Elvington Village	Historic Buildings Historic planned settlement Archaeology	None	Private land Public Space	None

Asset	Form	Designation & Protection	Accessibility	Interpretation
Betteshanger Village	Historic Buildings Archaeology Historic planned settlement	None	Private Land Public Space	None
Mill Hill	Historic Buildings Archaeology	None	Private Land Public Space	None
Snowdown	Historic Buildings Archaeology Historic planned settlement	None	Private Land Public Space	None
Aylesham	Historic Buildings Archaeology Historic planned settlement	None	Private Land Public Space	None
Mining Communities	Oral history Documentary Institutions Archaeology	None		CHIK and other digital sources Oral history collection Events

Appendix 1:  
Theme 10.2 – Dour Mills & Industry

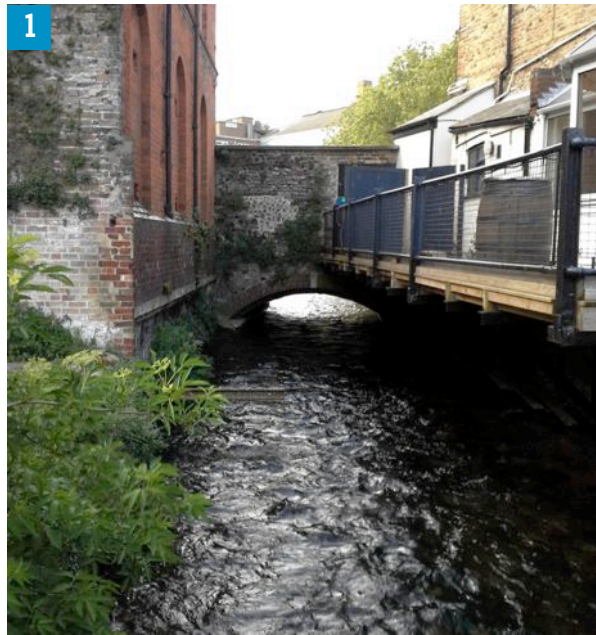




# Theme 10.2 – Dour Mills & Industry

## Summary

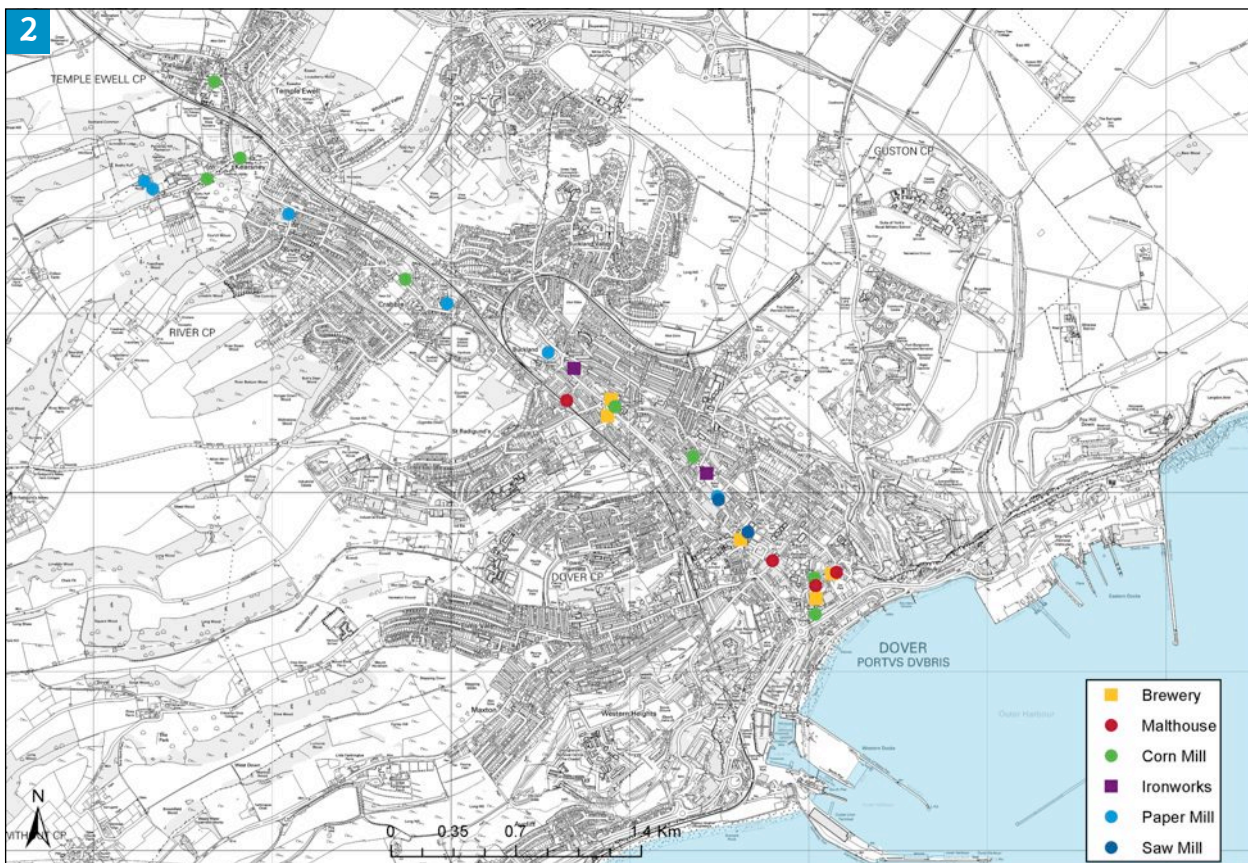
10.62 The River Dour has provided power and a water supply for a wide range of industries that sprang up along its banks. Corn mills produced flour for the domestic market as well as serving the large number of troops often garrisoned in the town; paper mills made use of the high quality waters of the Dour to produce paper for the London market; and breweries used the fine hard water, filtered through the chalk geology to produce high quality pale ales. Whilst the industries on the Dour have largely closed they have left a number of historic mill buildings, mill races and evidence for water management along the length of the Dour.



The Dour and its heritage assets contribute significantly to the character of Dover, particularly by preserving the line of the river that gave the town its origin.

## Introduction

10.63 The river Dour, which probably gave its name to the town of Dover, is a relatively



Cover

Crabble Corn Mill

Figure 1

River Dour runs through Dover Town Centre

Figure 2

Map of the mills along the River Dour, Dover

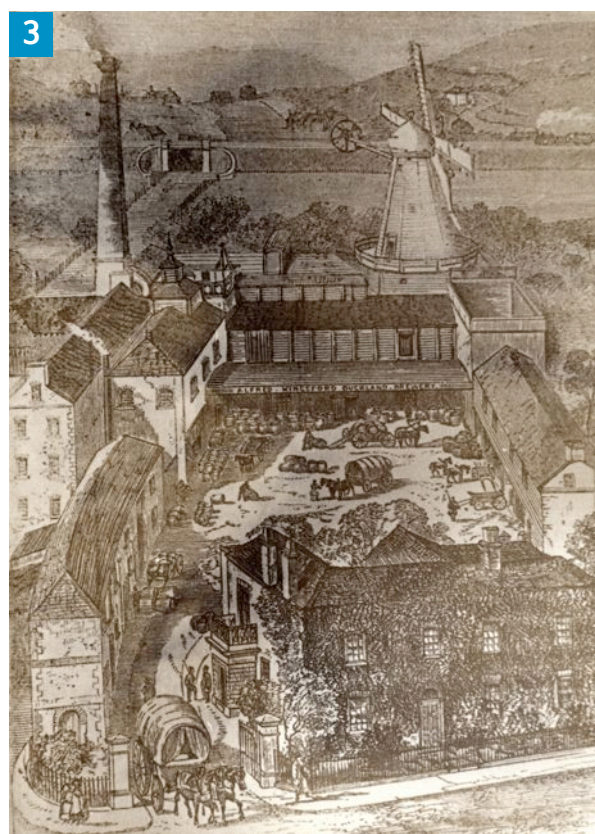
short spring-fed chalk stream only c. 6.5 km. in length. It rises at Temple Ewell in the vicinity of Watersend although in earlier times there may have been other sources including in the Alkham valley. Today, the only sign of this westerly source are the lakes at Bushy Ruff. From Kearsney Abbey the river runs south-east until it reaches Pencester Gardens in Dover where it turns due south to empty into the Wellington Dock.

10.64 Despite its short and narrow flow, the Dour has played a considerable role in the industrial development of Dover. In AD 762 a mill, the first recorded corn mill in Britain, was recorded on the Dour, probably at Buckland. Further mills were created during the medieval period and by the seventeenth century paper was being made on the Dour. During the eighteenth and nineteenth century more than a dozen mills were established for paper-making and grinding corn.

*'The river which runs through the valley of Dover is remarkable for the quantity of water it discharged after so short a course, it being three miles from the sea to the head of the spring, in which short distance it drives several capital corn and paper mills.'* (Horne 1817:79)

### Corn-milling

10.65 The Domesday Book recorded that Kent had over 300 watermills in 1066. As noted above, the earliest was recorded at Buckland in AD 762 and numerous corn mills were built along the Dour during the medieval and early post-medieval periods. Demand for corn in the area fluctuated, often rising significantly when the army moved into Dover. During the Napoleonic Wars the army ordered a series of large flourmills to be built along the Dour. The new mills included Crabble Corn Mill, built in 1812, Stembrook Mill, Lower Buckland Mill, Charlton Mill and Dover Town Mill. At other times demand could fall steeply and several corn mills were



forced to cease operating during downturns.

10.66 Moving from north to south, there were two corn mills at Temple Ewell with a watermill and a steam mill. There were two more mills at Kearsney, one within the Kearsney Abbey grounds and a second, slightly to the north, part of Kearsney Manor. The mill within the grounds of Kearsney Abbey seems to have been the remains of the town mill, relocated between 1820 and 1822 to pump water to the house.

10.67 There has been a corn mill at Crabble since at least 1227. The current mill, built by Pilchers, dates from 1812 and operated commercially until 1893 when, unable to compete with modern steam powered mills, it was closed. The family who purchased the mill in 1845, the Mannerings, closed it to consolidate all their activities into a single mill, Lower Buckland Mill. This latter was built in c. 1815 and then converted to steam power in 1876. It finally closed in 1957. Charlton Corn Mill, another of the Napoleonic mills, was located further to the

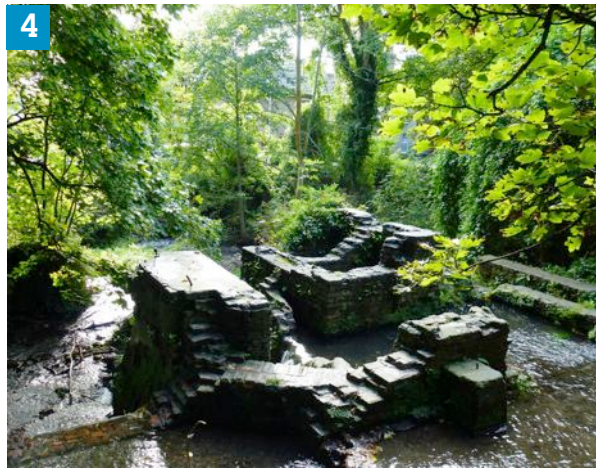
south. Stembrook Mill was built close to Castle Street and the southernmost mill, Town Mill, on Mill Lane.

### **Paper-making**

**10.68** Paper-making was first introduced into England at the end of the fifteenth century and the first commercially successful paper mill established at Dartford in 1588. Exactly when the industry appeared on the Dour is unknown but a marriage record of 1638 refers to a paper-maker from Buckland. The main attraction of the Dour for paper-makers was its relatively fast flow and clean water. The flow drove the mills while the water quality improved the effectiveness of the process. Paper was originally made from fibres extracted from rags so the proximity of a major settlement was another requirement. The road network of east Kent and the harbour facilities would also have been helpful in transportation of both raw materials and the finished product.

**10.69** Six paper mills were constructed along the Dour. Some were built as paper mills but others were converted from corn mills. There was an early paper mill at River where a paper mill was certainly in existence by 1689. Mills were established at Buckland (built as a corn mill and converted to a paper mill by 1638), Lower Buckland (c. 1755), Crabble (1788), Bushy Ruff (c. 1791) and Charlton (c. 1825). As time progressed most were updated with steam power (from c. 1830s) and, periodically, with new paper-making machines.

**10.70** The fortunes of the mills seem to have been variable. Buckland Mill suffered two significant fires, one in 1750 and another in 1814. On both occasions the mill was rebuilt and enlarged. By contrast, Lower Buckland was converted to a brewery after only 90 years operation and Charlton Mill survived for less than 30 years, closing in the mid-1850s. The same decade saw the closure



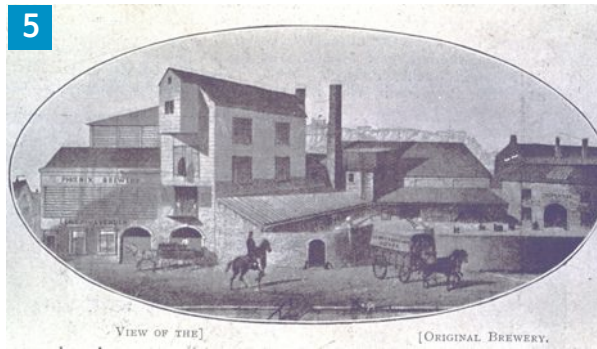
of Bushy Ruff although Crabble Mill survived as a paper mill until 1894 and River until 1918. Buckland Mill was the last to close in 2000 after a continuous history of paper making of almost 300 years.

### **Brewing**

**10.71** The fine quality of the Dour's water, moderately hard and filtered through chalk, was highly suitable for brewing, producing particularly fine pale ales. The heritage of the brewing industry along the Dour falls into two main areas – malthouses, dating primarily from the post-medieval period, and breweries, in which the principles of malting were developed on an industrial scale, in the eighteenth century and onwards.

**10.72** There are at least four known malthouses along the Dour, though others may well have existed. A malthouse by the Biggin Gate dated back to medieval times. By 1874 a maltings at Biggin Street, Dover, was owned by T. Huntley whose family retained it until 1892. A second malthouse operated at the corner of Castle Street and Dolphin Passage. It was in use by the 1860s and was probably associated with the nearby Phoenix Brewery. A short distance to the east a malthouse was located on the site of the Castle Brewery. Further up the Dour a windmill is known to have been processing malt by 1798 at the site that later became Buckland Brewery.

Figure 4 River Mill ruins. © Explore Kent



**10.73** The Maison Dieu brewery was leased from the crown in 1535, and became a brewery for the victualling yard in 1588. The Phoenix Brewery on Dolphin Lane operated from c. 1740, being improved with the installation of a steam engine in 1808. The brewery continued to thrive, owning some 160 public houses in east Kent and Sussex by the early twentieth century. In 1927 the owners, Messrs Leney & Co amalgamated with Fremfils of Maidstone and brewing ceased though some operations such as bottling continued at the Dover site for some years. Most of the buildings were eventually demolished in the 1960s, but the brewery offices still stand on Dolphin Lane.

**10.74** Buckland (Kingsford Windmill) Brewery on Union Road (now Coombe Valley Road) began brewing in c. 1832 and continued until late in the century, finally ceasing operation in around 1889. Wellington Brewery on London Road was established in c. 1846 in buildings formerly used as the Lower Buckland Paper Mill. It too ceased operating before the end of the century, closing sometime around 1890. Poulter's Castle Brewery on Russell Street was established in c. 1859. It operated into the twentieth century, closing by the 1930s.

### **Iron Working and Saw Mills**

**10.75** In addition to the most notable industries, the Dour provided power for a range of smaller-scale industrial activities. There were at least two ironworking sites along the river at the Dover Iron Foundry

and the Buckland Iron Works. At least three saw mills were also established together with Dover Tannery immediately south of Pencester Gardens.

### **Water Management features**

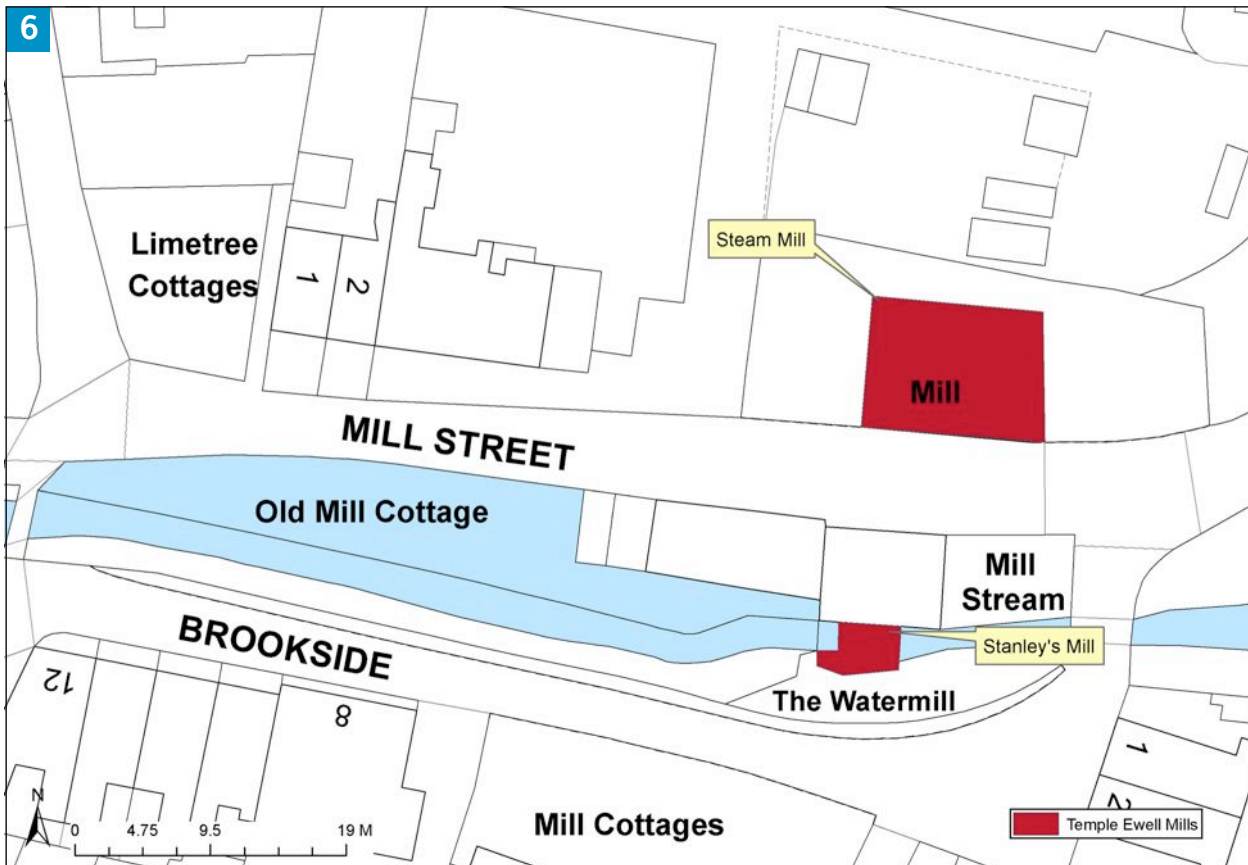
**10.76** The development of the range of industrial uses of the Dour required considerable modification of the Dour itself. The Dour is a relatively shallow river for such intense industrial use and although swift flowing, to develop its potential for industry, significant improvements needed to be made. Millponds, millraces and sluices were constructed throughout its length. Many of these are still visible and are identified below. However, in addition to modifications made for industrial purposes, the Dour has been modified for ornamental reasons in the vicinity of Bushy Ruff and Kearsney and modifications may have been made for other purposes (e.g. flow regulation or flood prevention).

## **Description of the Heritage Assets**

### **Corn Mills**

**10.77** Both of the two mill buildings at **Temple Ewell** survive substantially. 'Stanley's Mill' is a fine weather-boarded private house with an intact waterwheel while the Steam Mill directly across the lane is the home of Dover Operatic & Dramatic Society. Upstream of the watermill is a substantial millpond. Neither building is Listed though both lie in the Temple Ewell Conservation Area.

**10.78** It is not thought that there are any above ground surviving remains of either of the buildings of **Kearsney Abbey Corn Mill** (located next to the car-park opposite Russell Gardens) or **Kearsney Manor Corn Mill** (located immediately south of Kearsney Pond) although for both mills the original



millraces survive, as might buried archaeological remains.

**10.79 Crabble Corn Mill** and its related water management structures including a millpond and weir survive largely intact and are accessible to the public as part of Dover’s tourism offer. It is an exceptionally fine breast-shot mill built during the Napoleonic Wars at the turn of the eighteenth/nineteenth centuries. There are three weather-boarded storeys, with lucam (a projecting structure containing a winch that allowed loads to be lifted clear of the building), above three brick storeys, with a breast-shot wheel. Inside are five pairs of stones with governors and extensive auxiliary machinery. Crabble Corn Mill is a Grade II\* Listed Building.

**10.80** A complex of mill buildings developed at Lower Buckland, these include an eighteenth century paper mill (discussed below) on the north bank of the Dour and a Flour Mill built c. 1814 on the opposite bank.

**Buckland Flour Mill** was one of several mills built on the Dour during a period of heightened demand associated with the Napoleonic Wars. The mill was a five storey rectangular building, with brick on the ground floor and weatherboard above. As with Crabble Mill it features had a lucam for



Figure 6 Temple Ewell Corn Mills showing surviving mill buildings, millpond and stream  
 Figure 7 Crabble Corn Mill and millpond



raising and lower materials and featured an over-shot wheel (subsequently removed). Following the end of the Napoleonic Wars the mill seems to have fallen into a period of decline and the mill passed through a number of hands in the mid-nineteenth century. In the 1870s substantial improvements were made to the mill and between 1865 and c. 1874 the mill complex was expanded and in 1876 a five storey brick extension was constructed containing a new steam powered mill. The mill finally closed in 1957. The surviving buildings of the mill complex, which include the original 1814 watermill and later steam mill, are Grade II Listed and have been converted to residential use.

**10.81** Neither **Stembrook Corn Mill** nor **Charlton Corn Mill** appear to have surviving visible remains although archaeological remains of Charlton Corn Mill are likely to lie buried beneath the car park of the superstore on Granville Street. The Dour appears to have been modified in the area, both upstream and downstream of the mill and this was presumably related to milling activities. Similarly, the **Town Mill**, located on Mill Lane, was rebuilt in 1803, ceased milling in 1899 and was demolished in 1953. Remains of the mill may survive in the riverbed adjacent to Mill Lane.

### **Paper Mills**

**10.82** The layout of **Bushy Ruff** paper mill is unknown although a diagram is available



from 1825. It was located on the Dour about 1.6 km. upstream from River Mill. The only surviving buildings that relate to the mill are part of a complex now known as 'The Stables' and in private ownership. **Bushy Ruff House**, a Grade II Listed Building on Alkham Road, was built by William Knocker, once owner of the mill. It is possible that further mill buildings survive in archaeological form. The millpond survives in more or less its original form upstream of The Stables and the millstream flows past the building. Downstream of The Stables the millstream has been much altered as part of the **Kearsney Court** gardens (a Registered Park and Garden).

**10.83** **River Paper Mill** was located on Minnis Lane at the junction with Lower Road. The site is located within **Kearsney Abbey** gardens and although all the buildings have been demolished the footings of the old mill can still be explored. The Dour continues on the east side of Minnis Lane and it is possible that **River Cottage**, which straddles the stream, may be associated with the former paper mill.

**10.84** The remains of **Crabble Paper Mill** are among the most extensive remains of the paper-making industry along the Dour. Although the original mill occupied ground both north and south of the Dour, the site was re-modelled after a fire in 1906 such that the buildings were predominantly located

*Figure 8 The water wheel at Crabble Corn Mill*  
*Figure 9 Buckland Paper Mill*

north of the river. The two main buildings that survive today, 'Riverside' and 'Mill House' have been converted to residential use. Neither is Listed but both are prominent buildings and integral to the River Conservation Area. There are also two ponds at the site, one of which may represent a former millstream.

**10.85 Buckland Paper Mill** closed in 2000. The complex once occupied around four hectares and although most of the site has now been cleared substantial buildings still survive in the form of a range of late nineteenth century buildings that front London Road to the south east of the site. To the north of the mill complex, Buckland House, a Grade II Listed Building, was built in 1820 by the Horn family who operated the mill. As with Crabble Mill the Dour is extensively modified in the vicinity of Buckland Paper Mill with millraces and sluices controlling the direction and flow of the river. Water management features may survive at the site, indicated by a straightening and widening of the river.

**10.86** The Lower Buckland mill complex stood on both banks of the river Dour. The **Lower Buckland Paper Mill** stood on the northern bank of the Dour and is understood to date to the eighteenth century. On the opposite bank of the river was the Flour Mill (described above), with the two mills being in shared ownership in the early part of the nineteenth century. The Paper Mill was sold sometime around 1846 after which it was converted into a brewery. At the same time as its sale the older paper mill also lost its right to draw power from the river. The buildings of the old paper mill continued to be used as the Wellington Brewery until its closure in the mid-twentieth century. The brewery complex, including the paper mill buildings were demolished in 1963 and only limited elements survive as footings.



## Breweries

**10.87** It is not thought that anything survives of either the Castle Street Maltings or the **Biggin Street Maltings**. The **Dolphin Passage Maltings** has been largely demolished with the High Street end portion replaced by an office building of early twentieth century date. The rest of the building has been gutted and refronted with a flint-clad office building, probably earlier in date than that at the Castle Street end. The north and east walls have been retained, preserving a four bay section of the maltings which appears to have three or four storeys high. Blocked windows can be seen in the east wall, some low enough to suggest a basement level. The division of the three buildings that replace the maltings could suggest the kiln having been at the west (Castle Street) end or in the middle of the building. The **Buckland Malthouse** appears to survive largely intact. The building is currently used as a social club 'Rowleys'.

**10.88** The **Phoenix Brewery** on Dolphin Lane was largely demolished in the 1960s and given the scale of the buildings now on the site it is unlikely that much survives. It is possible that some buried archaeological remains associated with the brewery may survive. **Poulter's Castle Brewery** has been entirely demolished and no buildings remain.

Figure 10 Walling of the former Phoenix Brewery surviving in the Dover Town Investment Zone

The **Maison Dieu**, dating in parts from the thirteenth century, still stands and is a Scheduled Monument. **Buckland Brewery** was eventually converted to a coachbuilder and has now been entirely demolished. **Wellington Brewery** (formerly used as a paper mill) was also demolished in the 1960s and none of its original buildings survive.

### **Iron Works**

10.89 The **Dover Iron Foundry** has now been entirely demolished and replaced with a superstore. The **Buckland Iron Works** appears to have been extensively cleared and although it survives as an industrial plot in an otherwise residential area and it is not thought that any historic structures survive.

### **Saw Mills**

10.90 **Charlton Saw Mill**, formerly on the site of Charlton Paper Mill, has been replaced with a car park and it is unlikely that any historic remains survive. It is also unlikely that any remains of the **Maison Dieu Saw Mill** survive.

### **Dover Tannery**

10.91 The **Dover tannery** was located immediately south of Dieu Stone Lane. It seems to have ceased operation during the early twentieth century and the site is now occupied by the Pencester Court residential development. It is unlikely any structures survive at the site.

## **Statement of Significance**

10.92 The River Dour, and the industries that sprang up along its banks, have had a significant effect on the development of Dover town, providing employment for its people and shaping the expansion of the settlement area in the post medieval and industrial periods. The Dour is also of major amenity value for Dover providing an attractive heritage focus in the north of the

town and offering potential for improving the environment of the town in the area close to the sea front. The heritage assets associated with the Dour Mills and Industries are considered to be of **moderate significance**.

### **Evidential Value**

10.93 At many of the sites, including those with no standing structures, there is the potential for archaeological remains that will provide evidence for the development of industrial uses of the river Dour. Although little is known archaeologically of the early mills on the Dour many of the sites of later mills have the potential to contain buried evidence for earlier incarnations. Documentary evidence associated with the Dour Mills and Industries are held in a number of locations, some of which remains un-catalogued and this could provide important information on the history and development of the individuals mills as well as evidence for the development of the Dour industries as a whole.

### **Historical Illustrative Value**

10.94 At most of the sites along the Dour only components of the original sites remain. At Crabble Corn Mill and Temple Ewell mills in particular, however, substantial proportions of the original complexes remain that illustrate how mills were established in the early nineteenth century. Many of the surviving buildings still stand in a close relationship with the Dour with its millraces and water management features thus demonstrating the combination of factors that underpinned the industries and the developments and modifications needed to support them. The number of mills located on the short length of river illustrates the nature and scale of activities along the Dour.

### **Historical Associative Value**

10.95 The development of industry along the Dour and its gradual evolution and



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improvement was associated with the growth of industrial technologies and improved communications in the Dover area including water transport between Dover and London. It is also associated with the international political situation, particularly the changing role of Dover as a garrison town. The need to supply soldiers with food during the Napoleonic Wars was the driver for the construction of a number of mills on the Dour, including Crabble and Lower Buckland Corn Mills. Lower Buckland Mill also provides a good illustration of the development of new technologies, with the buildings of the watermill and steam mill lying side-by-side.

### Aesthetic Value

10.96 In the northern part of its route the Dour is a relatively open landscape set within what is in most places a densely occupied urban area. The relationships between the industrial structures and the river are visually

apparent and provide an attractive contrast with the residential streets that surround them. Several buildings have been attractively converted to residential use and the mill buildings in particular are aesthetically pleasing, especially those with extant waterwheels. Further south, in the heart of Dover, the Dour is increasingly culverted and often invisible, and the aesthetic benefits are greatly reduced.

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Figure 11 Attractive buildings at Crabble Corn Mill

Figure 12 Fundraising for Crabble Mill. The mill complex hosts a number of community events through the year



### *Communal Value*

10.97 The main communal value of the River Dour industrial sites is as an aesthetically pleasing landscape running directly into the heart of Dover that is, in places, publicly accessible. Individual elements of the heritage can also be accessed such as the footings of River Paper Mill, Crabble Corn Mill and the Maison Dieu. Crabble Corn Mill in particular is a fully-fledged element with Dover's tourism landscape. Several of the buildings also play a wider role in the community such as at Temple Ewell (Dover Operatic & Dramatic Society), Crabble Mill (music venue and talks), Buckland Malthouse (social club) and Maison Dieu.

10.98 It is also intended to create a walking and cycle path along the Dour from Buckland to the town centre. This will further enhance the area and bring its industrial heritage to new prominence.

### **Vulnerabilities**

10.99 The industrial heritage of the River Dour includes some structures that are protected by Scheduling or Listing and others that are given some protection by being located within Conservation Areas. Numerous other buildings and features have no protection at all. In part this stems from a lack of detailed assessment of the Dour and its features for although major mill buildings have been identified it is possible that other as yet unidentified ancillary structures may survive. In particular, the water management features along the Dour may be vulnerable, as these have not been assessed for their heritage importance and are subject to a separate management regime. Buried archaeological remains associated with the Dour Mills and Industries are also vulnerable, particularly to new development. Detailed assessment of the water management features as well as the remaining structures

Figure 13 Overgrown Buckland Paper Mill

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and archaeological remains along the Dour is required.

## Opportunities

10.100 The role of the Dour as a semi-natural routeway into the heart of Dover is well appreciated and developments such as the new cycle and walking route will continue this. To develop the potential of the industrial heritage, however, additional research and

assessment will be needed so that the relationships between the water management features, industrial features, buildings and archaeology can be properly understood and effectively conserved, developed and presented.

## Sources Used & Additional Information

Lawson, T. & Killingray, D. (eds.), 2004: *An Historical Atlas of Kent*. Chichester: Phillimore.

The Dover Kent Archives website (breweries section) available at <http://www.dover-kent.com/Breweries/Brewers.html#Leney-Phoenix-Brewery>

The River Dour Website available at <http://www.technologyenterprise.co.uk/rdp/rivertrail.html>

The Kent Historic Environment Record available at [www.kent.gov.uk/HER](http://www.kent.gov.uk/HER)

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Figure 14 Regeneration at Buckland Paper Mill

Figure 15 Former mill buildings at Crabble Paper Mill converted to residential units

## Key Heritage Assets

Asset	Form	Designation & Protection	Accessibility	Interpretation
Bushy Ruff Paper Mill	Buildings and archaeology	None	None (Private)	None
Bushy Ruff House	Building	Grade II Listed Building	None (Private)	None
River Paper Mill	Archaeology	None	Public access within	None
Crabble Paper Mill	Buildings ('Riverside' and 'Mill House')	Conservation Area	None (Private)	None
Buckland Paper Mill	Buildings	None	None (Private)	None
Buckland House	Building	Grade II Listed Building	None (Private)	None
Lower Buckland Mill	Building, archaeology	Grade II Listed Building	None (Private)	None
Temple Ewell Corn Mill	Buildings ('Stanley's Mill' and 'Steam Mill')	Conservation Area	None (Private)	None
Crabble Corn Mill	Building	Grade II* Listed Building, Conservation Area	Public access	Yes
Town Mill	Archaeology	None	None	None
Dolphin Passage maltings	Building	None	None	None
Buckland Malthouse	Building	None	None	None
Maison Dieu victualling office	Building	Scheduled Monument, Grade II* Listed Building, Conservation Area	None	None
River Dour	Water management structures	None	Occasional along route	Yes

# Appendix 1: Theme 10.3 – Quarrying



# Theme 10.3 – Quarrying

## Summary

**10.101** Quarrying activity in the District has been relatively localised in nature and sites are often small scale and largely below ground. Nevertheless there are some sites, such as Stonar Pit and the former Hammill Brickworks which are particularly visible and offer significant challenges and opportunities. Even smaller scale quarries can provide local markers of Dover's historic past.

## Introduction

**10.102** People have extracted minerals from the earth in Dover District for many centuries. In prehistoric times the minerals could be used for flint tools (although no flint mines have been found in Kent and the needed flint nodules were probably collected from the surface). More recently, minerals have been extracted for fertilizer (chalk), fuel (coal) and construction (stone, chalk, clay, sand and gravel). It is likely that the process began during the Roman period, if not before, but within the District there is no clear evidence of mineral extraction prior to the medieval period.

### *Chalk extraction*

**10.103** It is probable that the earliest of the extractive industries practiced in Dover District was chalk extraction. Chalk is particularly common in east Kent and has a range of uses. In north and west Kent, chalk was extracted on a large scale for cement manufacture but this was not a significant feature in Dover. In Dover the major use was for fertilizer through lime burning but it was also used as part of the construction industry. More than 270 chalk pits are known from the

District, indicated on the 1st edition Ordnance Survey map of the 1860s. There were three main types of extraction site. The most common was a simple shallow quarry. Where the chalk was easily accessible on the surface it was simply dug out of the ground. The quarry might be accompanied by ancillary buildings, often including a limekiln where the chalk was reduced to lime for fertilizer. The second site type was a true mine where the chalk was extracted from the ground in galleries below the ground. The third type was the 'denehole' where chalk was quarried by sinking a short shaft into the ground with usually two or three excavation chambers radiating off to the side.

**10.104** As might be expected all the chalk extraction sites are located south of the Wingham – Worth line which marks the northern extent of the chalk geology in Dover District. **Chalk pits** vary greatly in size with some being over 150 m. in their longest axis and others only 15-20 m. There are a few groups of particularly large pits at Dover, Deal, Eastry and Staple. By contrast all the pits in the area south of Knowlton, west of Ripple and north of Whitfield are uniformly small. In the case of the smaller pits this is probably explained by the intended use of the pits – to serve the agricultural needs of small rural communities. The larger pits close to Dover and Deal were industrial scale operations that produced chalk needed for the rapidly expanding towns and their infrastructure. The working life of a pit would depend on the size of the pit and the intensity of use. Some smaller rural pits may only have been in use for a few years. Others may have lasted for generations, but were perhaps only worked seasonally. The larger industrial pits, by contrast, were often exploited for many years. Few of the pits have been studied and most are only known from historic Ordnance Survey maps. For most, therefore, the date of first extraction and date of closing are unknown, as are the

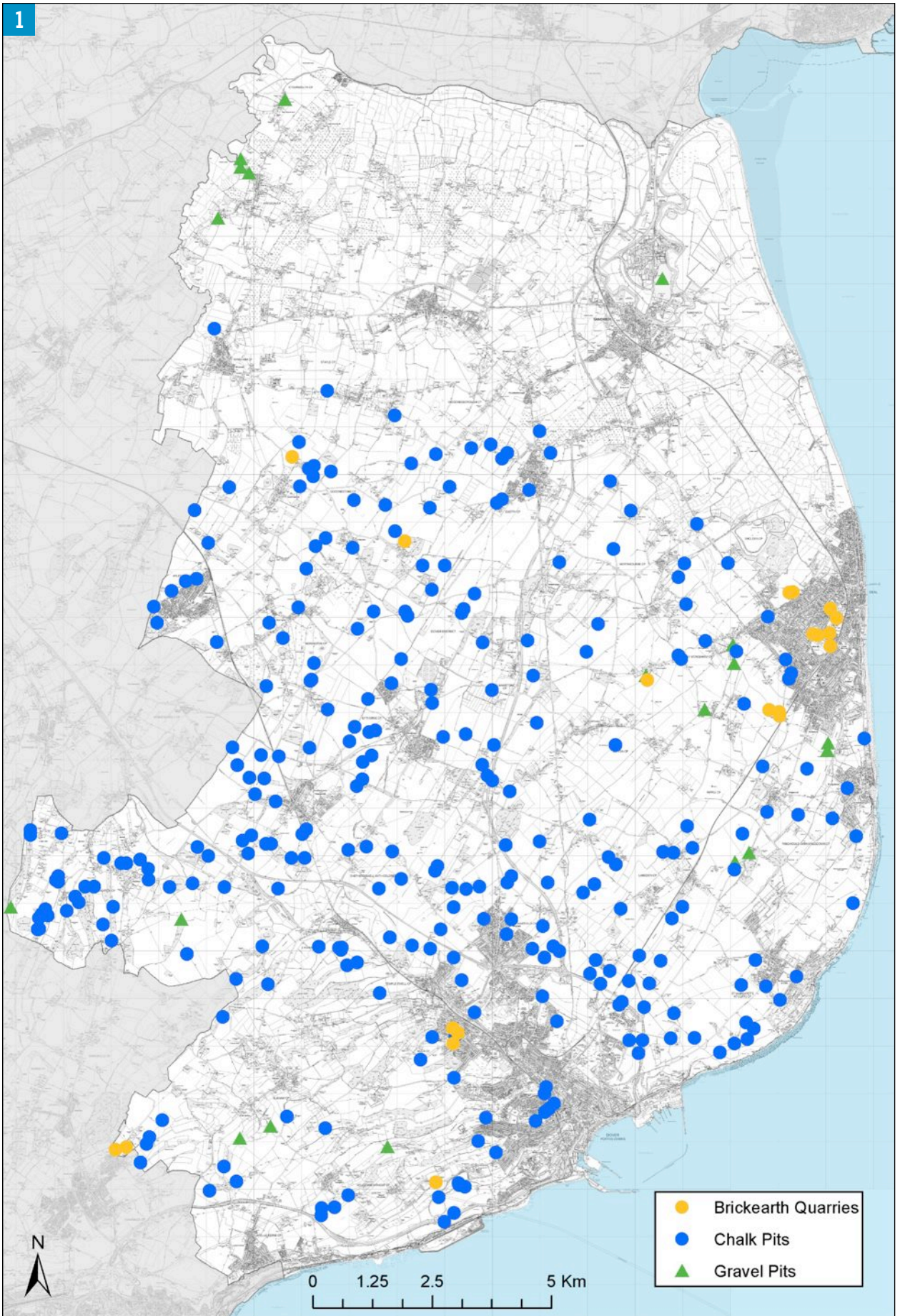


Figure 1 Map of Quarry Sites in Dover District

circumstances of their operation.

**10.105** The largest pits in the Dover area all lie north of the Folkestone Road and west of the High Street. They include the Winchelsea Road pit, which also includes important Second World War air-raid shelters (see Themes 3.6 and 3.7), three large pits south of Tower Hamlets and two large pits to the north of Tower Hamlets at Anstee Road and High Meadow (the latter not established until the end of the nineteenth century).

**10.106** The most substantial pit in Deal was at Pope's Hole, Mongeham Road. It was noted on the 1st edition OS map as an 'Old Chalk Pit' so probably pre-dates the map by some time. It may date to the early nineteenth century. A second large pit was excavated at what is now Fairview Gardens, Deal. It consisted of a large 'C' shaped pit around a series of limekilns. It existed by the 1839 tithe map and was one of a series of quarries excavated on the Mill Hill chalk ridge. The quarries have now been infilled.

**10.107** A series of moderately large quarries (by Dover's standards) existed between Staple and Eastry at the northernmost extent of the chalk. The largest was south of Barnsole at Chalk Farm. In common with many of the larger pits it included at least one limekiln. The site is now given over to gardens. A second site existed to the south east near Hammill at Green Lane. It also included a limekiln, now believed lost. A third pit was at Little Tickenhurst Farm. Here a single limekiln was built in an elongated quarry by 1868. A small part of the kiln pot and the draw arch remain, recently damaged by the collapse of a mature yew growing on top of the kiln. The kiln itself was set into a rough platform of chalk rubble. The largest chalk pits near Eastry were at the junction of Herondon Road and Thornton Lane where two large pits were constructed, both of which contained ancillary buildings, possibly

including limekilns.

**10.108** The dimensions of **chalk mines** were often impressive. Passages could be up to 8 m. high and 5 m. wide tapering at the top. Pillars of chalk might be left for support. The chalk itself was excavated by pick and shovel. The usual mining technique was to cut 'benches' into the chalk that allowed several men to work at the same time. The excavated chalk was thrown back onto the lower benches for collection. The only substantial chalk mine in Dover was at Eastry Chalk Mine (at the corner of Gore Road and Woodnesborough Lane, Eastry), which operated from 1811 to 1914. In Dover, a number of chalk pits in the Winchelsea Road/Priory Hill area are now connected by tunnels but these were mostly excavated during the First and Second World Wars.

**10.109** **Deneholes** are very small chalk mines where a central shaft was dug vertically into the ground, often 15-30 m. deep and 1 m. wide, depending on the depth of the chalk below the ground. At the bottom the shaft would be widened into a number of caves radiating away from the central shaft. The majority of deneholes date to the medieval period and later but some may date back to prehistoric times though none of this age is known for certain in Dover District. Ten locations in the District have produced evidence of deneholes, mostly in the west of the District but also a distinct group around Woodnesborough. A double trefoil type denehole exists at Hammill, near Eastry. Another group of three deneholes were discovered at Lydden in 1906.

**10.110** **Limekilns** were once very numerous in Kent. The Kent Historic Environment Record lists 123 records of these structures but historic OS maps suggest that there must once have been many hundreds in the county. They were used to convert chalk to quicklime (for use as fertilizer) or, with the addition of water to the process, slaked lime



(in which form it can also be used for mortar). Limekilns found in rural context were generally used for quicklime and those in urban pits are more likely to have been used for producing slaked lime for construction. The lime kiln, in its most basic form, consists of a chamber in which the chalk or limestone was placed and one or more draw holes below where the fire was lit and lime extracted.

10.111 In Dover District, the Kent Historic Environment Record records ten limekilns – certainly an underestimate of the original total. Of these, however, only one is known to survive in any substantial form, this being at Little Tickenhurst Farm (see above).

### Gravel extraction

10.112 Gravel extraction appears to have played only a minor role in the historic economy of East Kent, though little research has been conducted into this niche of Kent's industrial heritage. Gravel is primarily extracted for use in the construction industry, notably as a construction aggregate in concrete. Within Dover District there are three sites of notable size: Stonar, Preston, and Ripple. There are also a number of smaller extraction pits, whose small size suggests small scale local use only.

10.113 Gravel was being extracted at Stonar before 1894, with one small pit and one larger, apparently disused pit, shown on the 1st Edition Ordnance Survey map. The gravel of the Stonar Bank became a much sought

after resource for use in the massive construction of the naval harbour at Dover in 1898. The main contractor for the harbour works were S. Pearson & Son Ltd who constructed a mineral railway from the mainline at Richborough to the Stonar Bank and started excavation works for the quarry that today is left as Stonar Lake.

10.114 The two World Wars led to massive demand for gravel, in particular for use by the nearby Port and Supply Depot of Richborough, and the Stonar site expanded greatly. Despite much of the site being flooded in the 1950s when the River Stour burst its banks, extraction continued. By the 1960s the smaller gravel had been exhausted, leaving just larger 'blue stones', which were utilised in the Staffordshire potteries until the 1970s. The mineral railway sidings in the quarry were used for the storage of locomotives after the Second World War and with the flooding of the quarry in the 1950s it is rumoured that some locomotives were lost under the water and were never recovered.

10.115 Gravel was extracted at Preston at two sites, on a moderate scale. The sites appear to have been active from before the 1st Edition Ordnance Survey map to the 1940s, but are shown as disused by the time of the 1956 Ordnance Survey map. A similar sized site is located at Ripple, which appears from the Ordnance Survey maps to have operated from the mid-nineteenth century onwards. About a dozen other small sites are scattered across the District; their small size



Figure 2 1880 watercolour by J L Roget of gravel digging on Stonar Beach. © Dover Museum (d21716)

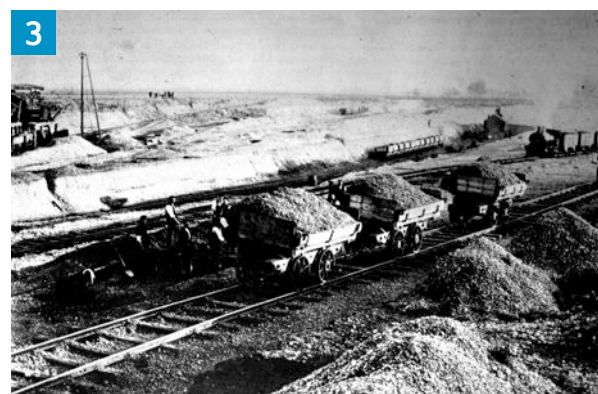


Figure 3 Loading ballast at Stonar, Richborough Port in 1903. © Dover Museum (d25800)



suggests local use of the gravel or perhaps short-lived cottage industries.

### ***Brickearth & Clay extraction***

10.116 Brickearth is a wind-blown dust deposited under extremely cold, dry, peri- or post-glacial conditions. It is a superficial deposit of loam or silt and requires little or no mixing with other materials to render it suitable for the manufacture of 'stock bricks', hence its name. Brickearth typically occurs in spreads, about two to four meters thick, overlying chalk, Thanet Beds or London Clay. There are extensive Brickearth deposits in Kent, particularly on the North Downs dip slope and on the Hoo peninsula, and along sections of the Medway and Stour valleys. The mineral content of Brickearth is critical for brickmaking which requires precise proportions of chalk, clay, and iron.

10.117 Clay is formed from the deposition of extremely fine particles which have been worn away from earlier rock structures. Its plasticity and chemical composition are the properties of most economic interest. There is, however, relatively little suitable clay within

Dover District.

### ***Brickworks***

10.118 The weight of the materials involved and the corresponding transport costs meant that historically bricks tended to be manufactured close to the raw material. The extraction sites are therefore often accompanied by kilns and associated structures. During the post medieval and industrial periods the growing towns of Dover needed a continual supply of bricks and so both Dover and particularly Deal have several brick pits in the vicinity. The Construction of the Western Heights would have required vast quantities of bricks and may have acted as a stimulus to local brickmaking.

10.119 At Deal, the furthest brickfield from the centre was located at Manor Farm in Little Mongeham. The pit covered an area of some 150 m. x 50 m. and was accompanied by at least four kilns and ancillary buildings. Coldblow Farm, Upper Walmer, was significantly larger. An area of about two hectares of Brickearth was excavated in the

early years of the twentieth century. A complex of surface buildings was laid out that included four kilns. At Church Meadows towards Sholden an area of c. 120 m. x 150 m. was excavated in the first half of the twentieth century. Some service buildings were constructed although it is not known if these included kilns. The largest pits in Deal, however, were along Mill Road. To the south west, two large pits stood along either side of Mill Road at what are now Milldale Road and the South Deal Primary School. Extraction began before the 1st edition Ordnance Survey map of the 1860s but had ceased by the time the 3rd edition map was published in the early twentieth century. Although a large building was built within the pit now occupied by the school, it has long since been demolished and no structures are thought to survive on either site. A hundred metres to the east, immediately north of the cemetery, another large pit was opened in the latter part of the nineteenth century. It was extended by the time of the 3rd edition Ordnance Survey map and still stands open today as part of Castle Community School although no structures relating to the brickworks exist. A short distance to the south, immediately adjacent to the cemetery, a relatively small and short-lived pit was opened in the early twentieth century. The site remains open today as allotments though the only structure that was constructed has been demolished.

10.120 The largest extraction pits in Deal stood closer to the centre of the town, either side of the junction of Mill Road and Park Avenue. The largest pit, Dennes Pit, occupied the whole of what is now Victoria Park and even included part of the leisure centre site. It was already a substantial operation by the time of the 2nd edition Ordnance Survey map (1897-1900) being excavated in three discrete compartments and accompanied by a number of buildings including a kiln. The three compartments had been unified by the 3rd

edition map and the pit was still operating in 1921 when some prehistoric flints were discovered but the site was identified as a recreation ground by the mid twentieth century. All the structures on the site have been demolished. On the west side of the Park Avenue / Mill road junction stood another early pit. It was established by the 1st edition Ordnance Survey map of the 1860s. By the end of the nineteenth century structures and an access road had been constructed within the pit which had grown significantly. By the 3rd edition map the site had contracted and the western part was given over to orchards and by the mid twentieth century extraction had ended, the buildings were demolished and the entire site was occupied by orchards. Today the western half of the site is under housing along Lister Close but the eastern half remains open as allotments.

10.121 The pits at Dover were significantly smaller and fewer than in Deal. The largest area of extraction was between Cowper Road and Common Lane in River, west of the Dour. By the end of the nineteenth century a substantial brickworks and a large pit (c. 160 m. x 80 m.) had been constructed close to some old limekilns. By the 3rd edition map the pit had been substantially extended to the south, but by the mid twentieth century the site had closed and all the structures demolished. The only other pit at Dover was at Farthingloe Close along the Folkestone Road where a small brickworks with a probable kiln was established. It expanded between 1900 and c. 1930 but by the mid twentieth century had been abandoned and the buildings demolished.

10.122 The largest brickworks in Dover district was undoubtedly at Hammill 1.7 km. north-west of Eastry. Hammill brickworks are sited on the former Woodnesborough Colliery site. Works associated with the coal mining started at the site in 1910, but the

colliery operation never progressed beyond the sinking of two test shafts and the construction of surface buildings including an engine house, workshops and a chimney. In 1923, after the First World War, the mine was sold to Pearson & Dorman Long, owners of Betteshanger Colliery. In due course the site was sold on to the Hammill Brick Co. who built a brickworks on the site using some of the old colliery buildings and working clay extracted from a nearby clay seam within the Thanet Beds geology. The brickworks opened in June 1927 and continued in operation until 2006 when they were wound down. When the brickworks opened a two foot gauge line was built parallel to the East Kent Light Railway standard gauge line and ran between the brickworks and a clay pit around 500 m. to the north-east of the brickworks (another clay pit is indicated c. 800 m. to the north-west). Despite attempts to keep the site working the brickworks finally shut in 2008.

## Description of the Heritage Assets

### *Chalk extraction*

**10.123 Winchelsea Road Chalk Pit** in Dover was established before the 1st edition Ordnance Survey map of the 1860s. It was gradually expanded until by the early twentieth century it was more than 1.1 ha. in size and contained at least two works buildings. It is not likely that any traces of the structures still survive although the outline of the quarry is still preserved in form. The main heritage interest lies in its later use as air-raid tunnel shelters during the Second World War. A network of tunnels were excavated leading east from the quarry, under the land north of the Westmount Centre and linking with the quarry that now forms The Abbots residential street. The tunnels consisted of four parallel corridors with two connecting passages. There were entrances in the quarry and two more at the far end of the tunnel network.

The quarry entrances are now used as workshops and the other two entrances have been sealed. One was located behind the Westmount building and the other was located in the chalk pit where The Abbots is now located. According to ARP records of the time, the shelter was designed to accommodate just over 1,000 people. Some wartime photos still remain of people sheltering in these tunnels as well as many dated etchings on the chalk walls (see also Themes 3.6 and 3.7).

**10.124** The chalk pit at **Barnsole** is a good example of a small rural pit, presumably excavated to serve the building and agricultural needs of the local community. It was probably excavated well before the 1860s as the 1st edition OS map describes it as an 'Old Chalk Pit' and shows it to have been half reclaimed by vegetation. It also shows the pit with a limekiln in the centre. There was no expansion in the pit after the 1st edition map and it retained its original size of around 160 m. x 60 m. Today, the pit retains its original form although it is not known if any traces of the limekiln survive.

**10.125** A lime burning business was carried on by the Foord family at Eastry from 1811 -1914. Beneath their house, 'Beckets' at the corner of Belmont Terrace and Woodnesborough Lane, **Eastry Chalk Mine** was developed on several levels. Access was originally by shaft but an inclined tunnel was later driven to the surface to emerge by a limekiln. The lateral extent of the mine is unknown but it was finally abandoned following pressure from villagers who were worried that their houses were being undermined. It was subsequently turned into a folly and village festivities were held underground. During the Second World War the long gallery was used by the Home Guard as a rifle range and the workings were later opened to the public as a show cave for a short time. It was during this period that

two elaborate paintings resembling stained glass windows were placed on the walls. The mine is now on private property and access is strictly controlled but the owners have preserved the workings.

**10.126** A double trefoil type denehole was discovered in 1935 at Hammill, near Eastry, by employees of the Hammill Brick Co. Ltd. during Brickearth operations. Antler pick markings are said to have been found on the vaults of the bays. The denehole has now been filled in.

**10.127** The **Lydden deneholes** were near the top of the hillside north-east of the village. They are sunk through about 0.7 m. of clay-with-flints into the chalk. The first consisted of a shaft about 8.0 m. in depth and 1.5 m. in diameter with chambers visible at the bottom. The second was a collapsed double-trefoil chambered denehole consisting of a shaft, 1.5 m. in diameter and 4.5 m. in depth, the south side of which has been destroyed by a partial collapse of two of the chambers. In 1906 the depth from the surface to the bottom of the shaft was given as 7-8 m. A third, collapsed denehole has also been noted but not investigated.

### **Gravel extraction**

**10.128** The first gravel extraction at Stonar was already taking place by the time of the 1st edition Ordnance Survey map in the 1860s. Two sites were being excavated. To the north was a long linear pit of 100 m. x 15 m. dimensions while a smaller pit to the south was only 10 m. square. Over the next 100 years the pit expanded enormously until it occupied an area of some 1200 m. from north to south by around 300 m. east-west. This area included much of the former medieval town of Stonar that was destroyed by the sea in 1345-6 (see Theme 2.1). The gravel pit is now divided in two. The Pfizer's complex now lies over the northern third of the site and it is not likely that much of the

old quarry survives. The southern two-thirds of the site, by contrast, were flooded in the 1950s. It is not likely that many historic features related to the extraction period survive at the site but the lake provides a dramatic representation of the scale of extraction that took place here and the landscape before the construction of the Pfizer's site. It is worth noting however that there are accounts of locomotives and quarrying plant surviving in the bottom of the lake that were lost at the time of its flooding.

### ***Brickearth & clay extraction***

**10.129** The brickworks at Hammill are located about 1.6 km. south-west of Woodnesborough. It was originally sited to take advantage of the Woodnesborough Colliery buildings which were suited to its purposes, local communications including the East Kent Light Railway and nearby clay resources. The site itself occupies a roughly rectangular site c. 400 m. x 130 m. with the long side fronting Hammill Road. By 1914 at least 6 colliery buildings had been constructed, mostly to the south of the site, including an engine house, chimney (later demolished) and workshops. Development at the site then paused until after the First World War by which time the colliery project had been abandoned. When the brickworks were established, opening in 1927, it re-used the colliery buildings. Today a number of buildings of heritage interest survive at the site. The original colliery engine house was later used by the brickworks to house the brick kiln. It is still in good condition as are two long (40 m. x 10 m.) brick sheds in the centre of the site. Other buildings may be of heritage interest though without proper assessment it is difficult to be definitive. At the southern end of the site are a group of six Nissen huts which possibly relate to military occupation of the site.

**10.130** The largest building at the site is the 200 m. x 50 m. main building, which is shown

on the 4th edition Ordnance Survey map. There are also two circular structures at the southernmost extent of the site. Each is about 10 m. diameter and they are placed next to each other. They are now water-filled. Their original function is unknown although it has been suggested that they may be open shafts from the colliery experiment. Finally, there is a brick building close to the road at the northern end of the site, probably originally built as an office or administration building and present on the 4th edition Ordnance Survey map. There are no surviving traces of the East Kent Light Railway connection, the two foot gauge railway or the clay pit to the north east although all may survive archaeologically.

## Statement of Significance

**10.131** The extraction industry of Dover is important evidence of both agricultural practices in the region and of the industrial growth of urban centres and the corresponding need for chalk, lime, gravel and brick for building purposes. The extraction sites can often be key features in the landscape as at Stonar gravel pit and many of

the local chalk extraction sites. Nevertheless, with the exception of Hammill Brickworks, very few of the original industrial buildings survive. Many of the sites have been heavily landscaped and re-developed. As such the extraction industry in Dover District is considered to be of only of **low to moderate significance**.

### *Evidential Value*

**10.132** The industrial archaeological sites relating to the extraction industries of Dover provide evidence of agricultural and industrial practices during the medieval, post medieval and industrial periods. They evidence the techniques used to improve the fertility of fields and efficiency of agriculture. They demonstrate the range of techniques and technologies available to small rural communities. The sites also evidence the resources required by urban centres that still depended on local sites for brick manufacture and the production of mortar and building chalk, as well as the techniques used to produce these resources.

### *Historical Illustrative Value*



**5** *Figure 5* A gault clay brick made by Nightingale and Bushell, Dover. © Dover Museum (d80180)



10.133 The heritage assets illustrate the extractive processes for chalk, gravel, Brickearth and clay, and through associated structures such as limekilns and brick kilns, the means by which the raw material was converted into a useful product. They illustrate how these processes were integrated into both small local communities and, through sites such as Hammill Brickworks into regional and national supply networks.

### **Historical Associative Value**

10.134 The extraction industry of Dover is also associated with a range of other industries such as the construction industry, agriculture and road and rail communications. The industry is therefore also linked with the process of urban growth and has key associations with military and civil defence due to the use of several quarries as shelters, whether for defence from air attack or as cover for other military activities or defence points.

### **Aesthetic Value**

10.135 Heritage assets related to the extraction industry rarely have much aesthetic value until a considerable period has passed. Time gradually softens the edges of quarries as well as allowing the re-colonisation by flora and fauna. This can make them attractive semi-natural assets. In the case of Stonar gravel pit the flooding of the

pit has created an attractive lake.

### **Communal Value**

10.136 The assets will be of mixed communal value. Stonar gravel pit is now mostly a lake and a valued local asset for its wildlife and scenery. A public footpath also runs alongside the lake. Many of the smaller rural chalk pits will also be assets to local communities because of the wildlife that they attract. Some of the sites are, however, quite dangerous. Deneholes can be dangerous for those who enter them but can also open up suddenly causing subsidence. Other extraction pits will have steep or hidden sides and will be hazardous.

### **Vulnerabilities**

10.137 The quarrying assets are vulnerable in a variety of ways. Many of the quarries in Dover district were small operations of no great depth. It is easy for their outlines to be eroded over time, particularly during large-scale redevelopment. The industrial structures that accompanied the quarries such as kilns, workshops and limekilns were often ephemeral and utilitarian. Many sites need proper assessment but it seems that other than at Hammill Brickworks virtually no original quarrying industry structures survive in Dover. Any structures that are discovered, therefore, are particularly rare and worthy of appropriate recording and/or conservation.

10.138 The exact nature of any re-use of the sites can also greatly affect the survival of historic features. The lake at Stonar for example, has secured the survival of the outline of much of the gravel pit but the flooding has destroyed any remaining structures or other features within the pit. Elsewhere in the UK quarries have been used as landfill sites which would probably obliterate all traces of the former industrial activity. The re-use of quarrying sites should be for purposes that are sympathetic to their

Figure 6 Stonar Quarry Lake seen from the site of the medieval port

needs as heritage assets.

## Opportunities

10.139 The quarrying assets have significant potential for the local community. Where accompanying structures survive they can be conserved to help tell the story of the district, particularly during the industrial age. Quarries sites have a multi-disciplinary value, acting as both heritage assets and as biodiversity assets. For example, in other parts of the south-east deneholes have been conserved as bat roosts while at sites such as the Oare Gunpowder works an industrial site has been conserved as much for its biodiversity as much as its heritage value. Due consideration should be given to preserving and conserving small-scale quarry sites as they are important reflections of the small-scale historic extractive industries in the District and have an additional benefit of providing recreational and environmental benefits.

10.140 The Winchelsea Road quarry, linked as it is to a network of tunnels, has significant potential to contribute to the understanding of Dover during the Second World War. It is doubtful whether the site would benefit from

being opened as a tourist attraction but if it could be opened on an occasional basis it would be useful to help link the military and industrial heritage of the area.

10.141 Hammill Brickworks is an important example of a twentieth century colliery and brickworks and still contains a number of historic buildings in good condition. Any development at the site should be preceded by appropriate desk-based and field assessment and should seek to find sustainable alternative uses for the historic buildings at the site.

## Sources Used & Additional Information

Eve, D., 1998: *The Lime Burning Industry in Kent*. Maidstone: Kent County Council.

Lawson, T. & Killingray, D. (eds.), 2004: *An Historical Atlas of Kent*. Chichester: Phillimore.

The Kent Historic Environment Record available at [www.kent.gov.uk/HER](http://www.kent.gov.uk/HER)

The Dover – Lock and Key of the Kingdom website available at <http://www.dover-kent.co.uk/>



## Key Heritage Assets

Asset	Form	Designation & Protection	Accessibility	Interpretation
Winchelsea Road chalk pit (includes WW2 tunnels)	Pit Archaeology	None	Private	Unknown
Chalk Farm Pit, Barnsole	Pit Archaeology	None	Private	None
Little Tickenhurst Farm chalk pit and limekiln remains	Pit Archaeology	None	Private	None
Eastray Chalk Mine	Mine Archaeology	None though building above is a Listed Building and entrance in a Conservation Area	Private	Unknown
Hammill deneholes	Denehole	None	None	None
Lydden deneholes (Chalk Walls Farm)	Denehole	None	None	None
Stonar Gravel Pit	Lake (Landscape feature) Archaeology	None (although the site lies adjacent to the Stonar Scheduled Monument)	Yes	Unknown
Hammill Brickworks	Buildings Archaeology	None	Private	None