

**The Pipeworks,
Hoxne, Suffolk
HXN 031 (ESF24110)**

Historic Building Record

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on behalf of
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The Pipeworks, Eye Road, Hoxne, Suffolk

(TM 175 767)

Historic Building Record

This report provides a record and analysis at English Heritage (2006) Level 2 of a group of redundant industrial buildings and is intended to fulfil a condition of planning consent for development (application 0397/13). It has been prepared to a specification issued on 9th June 2014 by Dr Richard Hoggett of Suffolk County Council's Archaeological Service.

Introduction

The report is accompanied by a CD containing a full photographic record in the form of 102 Canon 5D digital images of 21 megapixels (Appendix 1), but also includes 18 printed photographs of key features to illustrate the text. Each image is described in a separate schedule and wherever possible includes a scale rod with half-metre divisions in red and white. The site was inspected on 20th June 2016 but the photographic record includes 11 images supplied by the owner taken in 2012 and 2014 to illustrate features that no longer survive (nos. 92-102 in the schedule).

Summary

The old pipeworks lies in open countryside approximately 750 m south-west of Hoxne village on the eastern side of Eye Road. The site is internationally famous for the discovery by antiquarian John Frere of paleolithic tools during clay extraction in 1797, when the site operated as the brickworks of the Hoxne Hall estate (later renamed Oakley Park). An estate map of 1757 suggests that any earlier brick making occurred well to the north of the present buildings, which date from the 1930s and later.

Of the structures shown on the Ordnance Survey of 1927 only fragments of a 19th century brick shed still stand today and the adjoining kiln has been replaced by a large cement-block vehicle shed. The surviving complex was built in the 1930s and underwent many alterations before the production of bricks and land drainage pipes ceased in the mid 1960s. A small down-draught beehive kiln of 8 m in total diameter with a detached chimney is the best preserved structure on the site, retaining its eight fire holes and some of its cast iron equipment including dampers, grates and ash-pit doors. It is shown in operation in a photograph of 1954 and may have replaced the previous kiln in response to wartime air raid regulations like many similar examples elsewhere. A series of brick and corrugated iron machinery sheds which contained extrusion equipment and a diesel engine had been emptied prior to inspection, leaving only a drum sieve *in situ* together with a small number of wooden brick moulds. The extrusion machinery is understood to have been acquired by a local collector. A long drying shed was re-roofed after a fire which left its timber posts and tie-beams badly charred, and was largely rebuilt in brick when a hot air drying tunnel was inserted. Despite these alterations the shed retains good mid-20th century industrial archaeology in the form of three pairs of iron rail tracks for transporting the drying racks, a track switching trolley, a hand winch and a hot air blower linked to the kiln. Two drying racks with bogey wheels also survive, along with a hand trolley depicted in the 1954 photograph and the base of a pugmill. The buildings are therefore of great local interest but are not of sufficient age, rarity or completeness to be considered of national importance.

Documentary and Cartographic Evidence



Figure 1. Current site plan showing Eye Road to the west of the site and the linear drying shed interrupted by a later circular vehicle track. The large, square building to the east of the site had been demolished prior to inspection.

The old pipeworks lies in open countryside approximately 750 m south-west of Hoxne village and adjoins the eastern side of Eye Road. The site lies in a depression that appears to represent an extensive brick pit and is internationally famous for the discovery by local antiquarian John Frere of Palaeolithic tools during clay extraction in 1797. Excavations during the 1970s have established it as ‘arguably the single most important Middle Pleistocene archaeological site in Europe’ (to quote the Hoxne Heritage Group’s website). The earliest certain reference to brickmaking occurs in 1757 when Skynner’s map of Lord Maynard’s extensive Hoxne Hall estate (figure 2) showed an L-shaped range of drying sheds adjoining Eye Road to the north of the present buildings (i.e. to the north of the bend in the road in the area marked ‘Plantation’ on the Ordnance Surveys below). The site was labelled ‘Brick Kiln’ and a rectangular structure immediately opposite the side entrance to Hoxne Hall presumably represented the kiln. The area of the modern buildings between the bend and Fairstead Farm to the south was occupied by a separate enclosure called Christmas Pightle (pightle being a common 18th century term for a paddock), and appears to represent a later extension of the estate’s brickmaking site.

The parish tithe map of 1843 shows no buildings on the site, but the accompanying apportionment names the former brickworks to the north as a wooded ‘Plantation’ of just over 5 acres and the area to the south as ‘Brick Kiln’ – but describes it as a pasture of 3.5 acres (plots 408 and 409 respectively in figure 3). Plot 410 was a separate plantation containing a quarter of an acre. The site was held in hand by Sir Edward Kerrison as part of the Oakley Park estate (Hoxne Hall having been renamed shortly before), and it unclear whether brickmaking had ceased temporarily or whether any kiln and open-sided drying sheds were considered too insubstantial to depict on the map.



Figure 2. Skynner’s survey of the Hoxne estate drawn in 1757 for Charles Lord Maynard, showing Hoxne Hall (later renamed Oakley Park) on the left with the ‘Brick Kiln’ opposite its park. North lies to the left. The site of the present buildings is occupied by an empty paddock called Christmas Pightle with an L-shaped range of drying sheds and an apparently rectangular kiln to the north of the bend in Eye Road. (Suffolk Record Office HB 21 230/2.)

By the time of the First Edition 25 inch Ordnance Survey in 1884 an extensive complex of buildings was in place, with a series of irregular pits to the south, and was labelled ‘Brick Works’ (figure 4). These buildings included an ostensibly almost square kiln to the north-east, adjoined on the north by a rectangular building on an approximately east-west axis to the western gable of which a small projection was added between 1903 and 1927 (figures 5 and 6). The lower courses of this red-brick shed still survive, along with the projection which forms a porch adjoining its original entrance door, but the kiln has been demolished and its site is now occupied by a large cement-block vehicle shed (buildings 6 and 5 respectively in figure 11a). The rest of the 19th century buildings were demolished after 1927.

Research by local historian Stuart Greenwood published on the Hoxne Heritage Group’s website notes that ‘the brick and tile works in Hoxne were operated by Charles Robinson between 1883 and 1888, followed by the Hoxne Brickworks Company and finally Banham and Son between 1925 and 1937, with pipe manufacturing continuing until 1965. The small circular kiln on the site may be contemporary with Banham’s tenure, but was rebuilt for pipe making in the late 1950s or early 1960s. The drying shed, damaged by fire in the 1960s, has been partially reconstructed and extended to the east. The machine shed to the west has been highly modified in the late 20th century, but contained a brick maker and clay extruder (made in the Sheffield Brightside foundry) for drainage pipe making, powered by a Fielding and Platt diesel engine of *circa* 1929, in use until brick and pipe making ceased on the site. Since the 1960s the site has had a variety of uses including a concrete crushing plant and storage.’ It is not clear whether the kiln was rebuilt when Mr Greenwood suggests as what appears to be the existing structure is shown in a photograph dating from 1954 (figure 10) and its brick fabric is more consistent with the 1930s or 40s.



Figure 3. The Hoxne tithe map of 1843 showing Hoxne village and Oakley Park to the north of the site (Suffolk Record Office).



Figure 3a. A detail of the 1843 map showing Fairstead Farm to the south. No brickmaking buildings are depicted, but plots 408 and 410 were described in the apportionment as 'Plantations' and plot 409 as 'Brick Kiln'. Both plots were held in hand as part of Sir Edward Kerrison's estate.

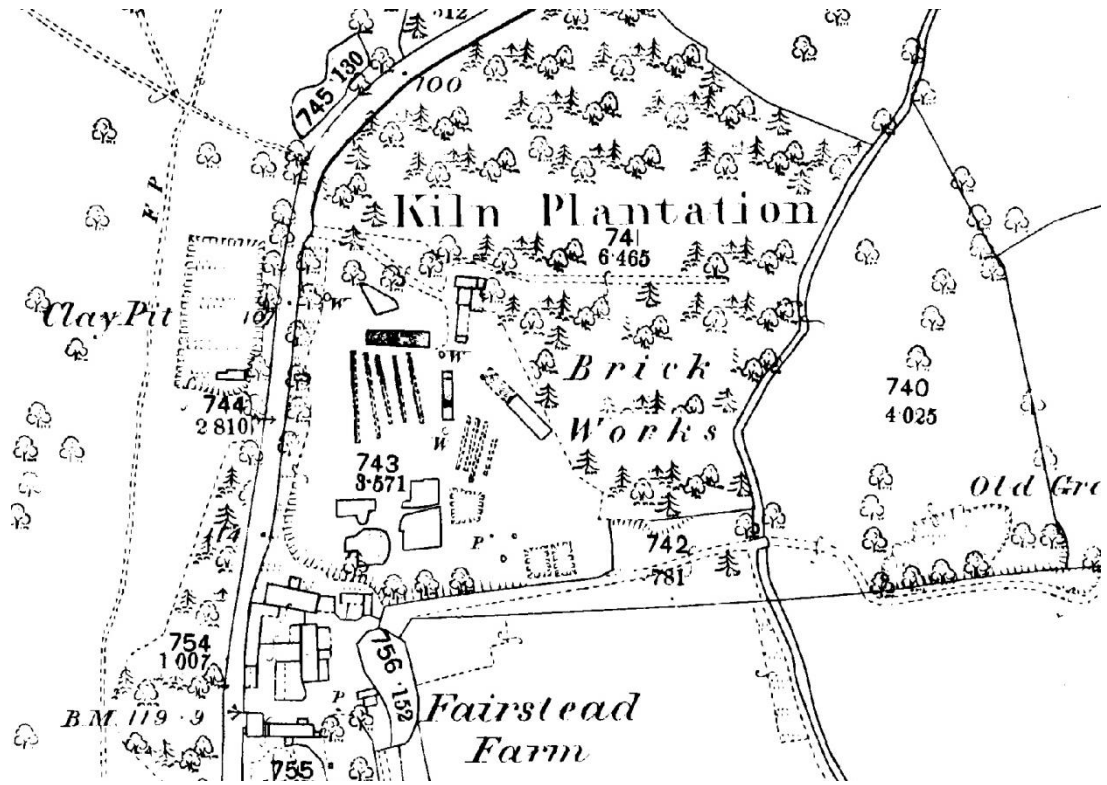


Figure 4

The First Edition 25 inch Ordnance Survey of 1884. A new 'Brick Works' had appeared since 1843 with a series of open-sided linear drying sheds to the south.

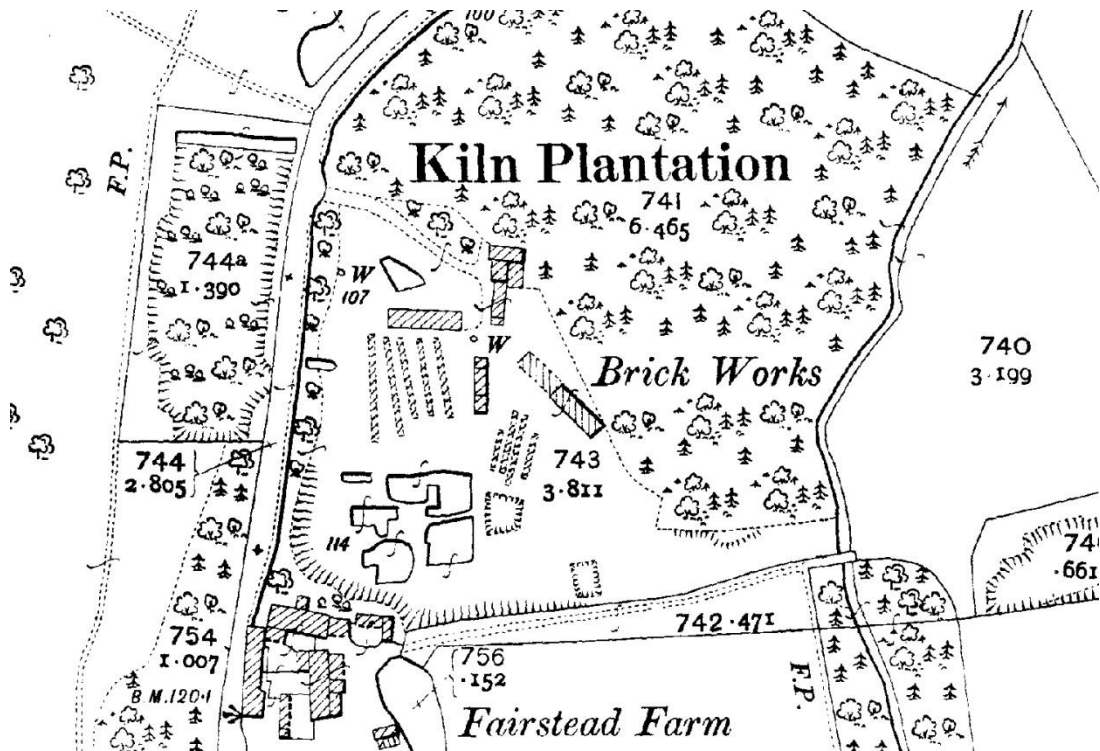


Figure 5

The 25 inch Ordnance Survey of 1903, showing little change since 1884.

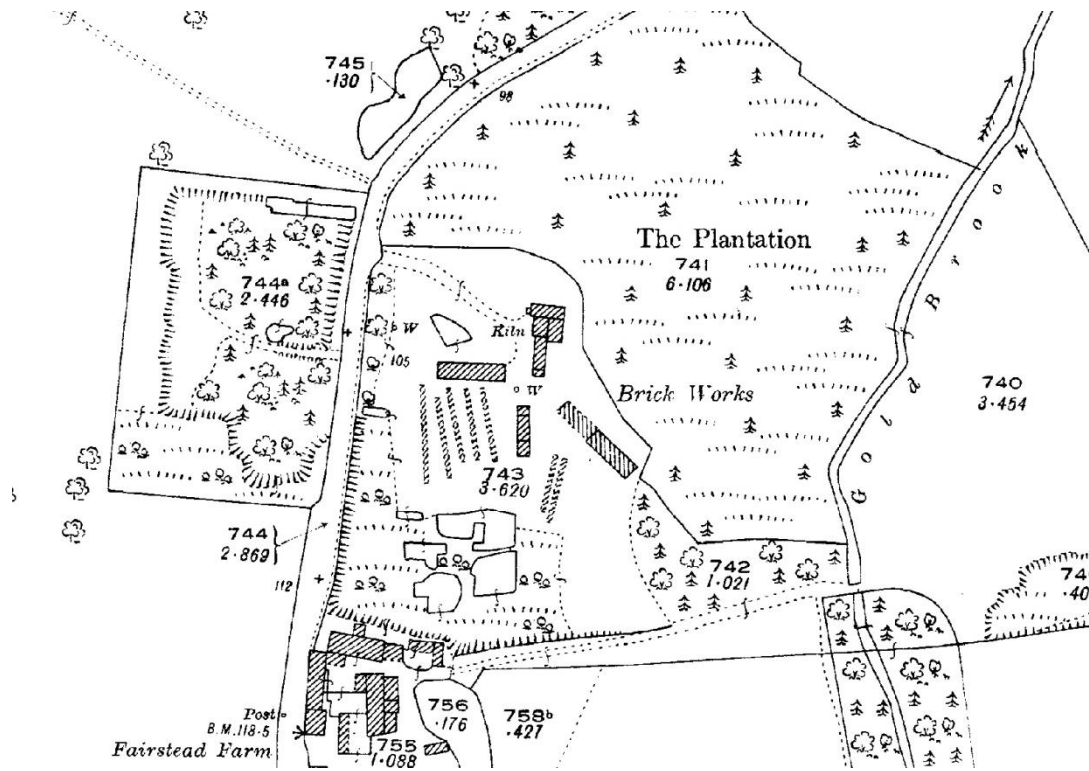


Figure 6
The 25 inch Ordnance Survey of 1927.

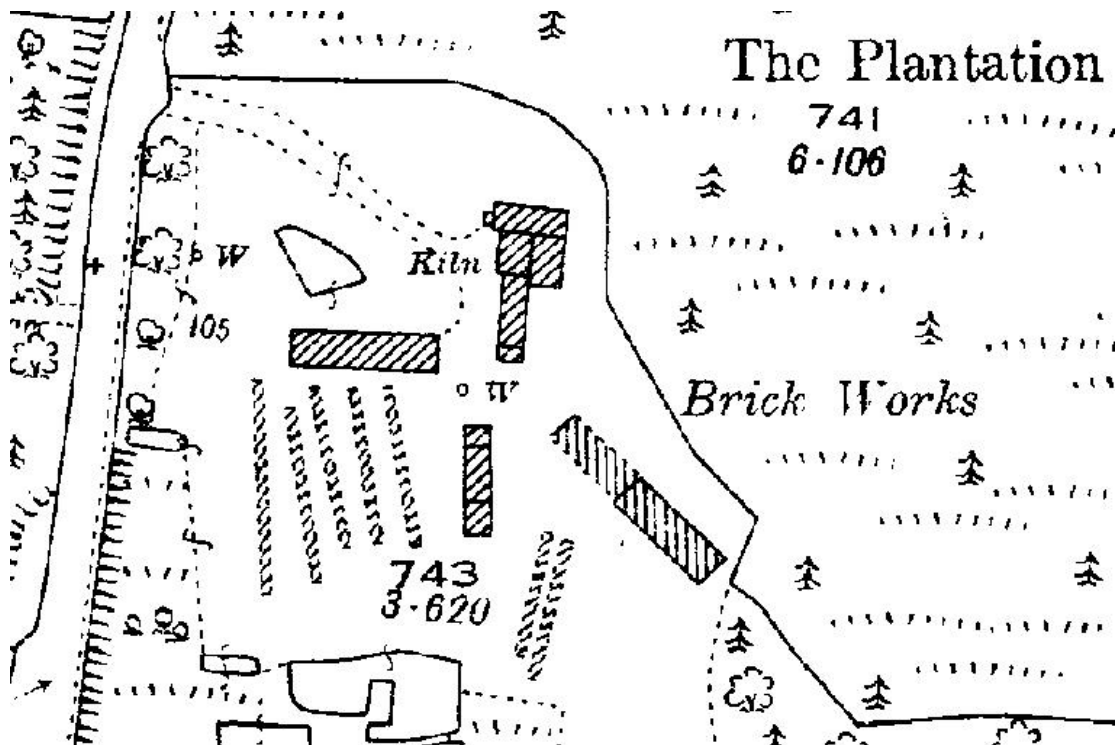


Figure 6a. A detail of the 1927 25 inch Ordnance Survey.

The kiln is indicated by name for the first time, and appears to be the almost square structure in the middle of the northern group. Only the adjoining rectangular structure on an east-west axis survives today, with a distinctive porch-like projection from its western gable. The central shed to the west of the well is aligned on a subtly different axis to its successor in the same position (i.e. the drying shed (4) in figure 11).

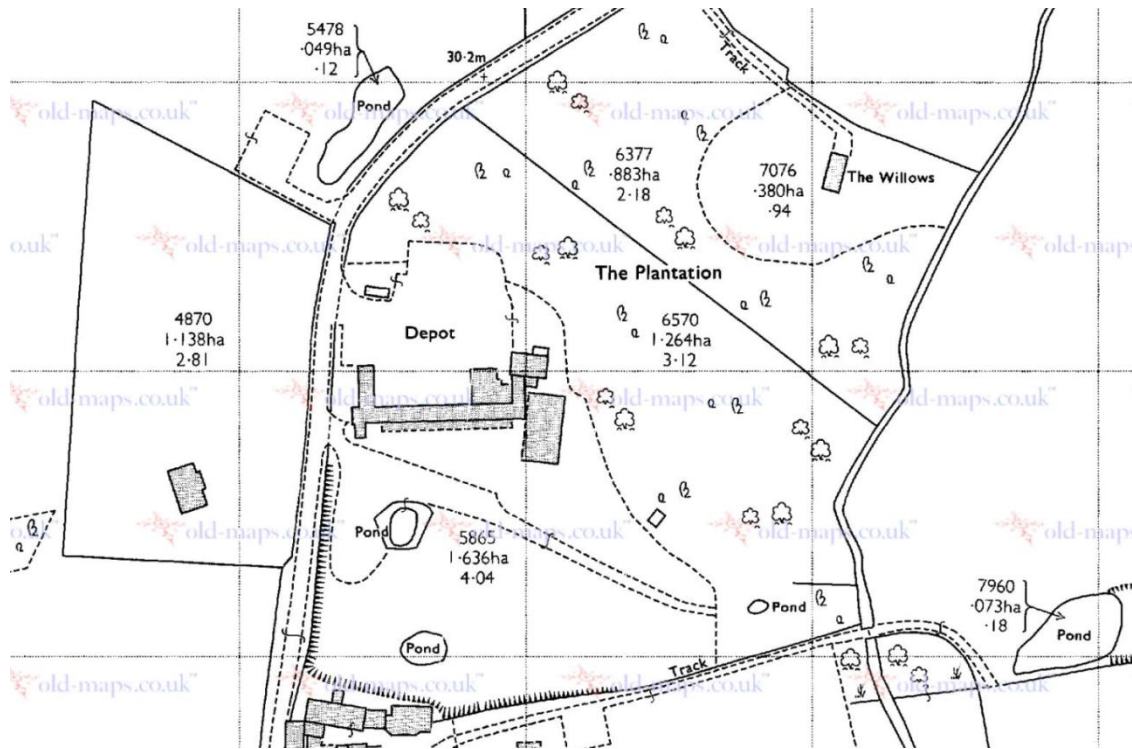


Figure 7. The 25 inch Ordnance Survey of 1977.

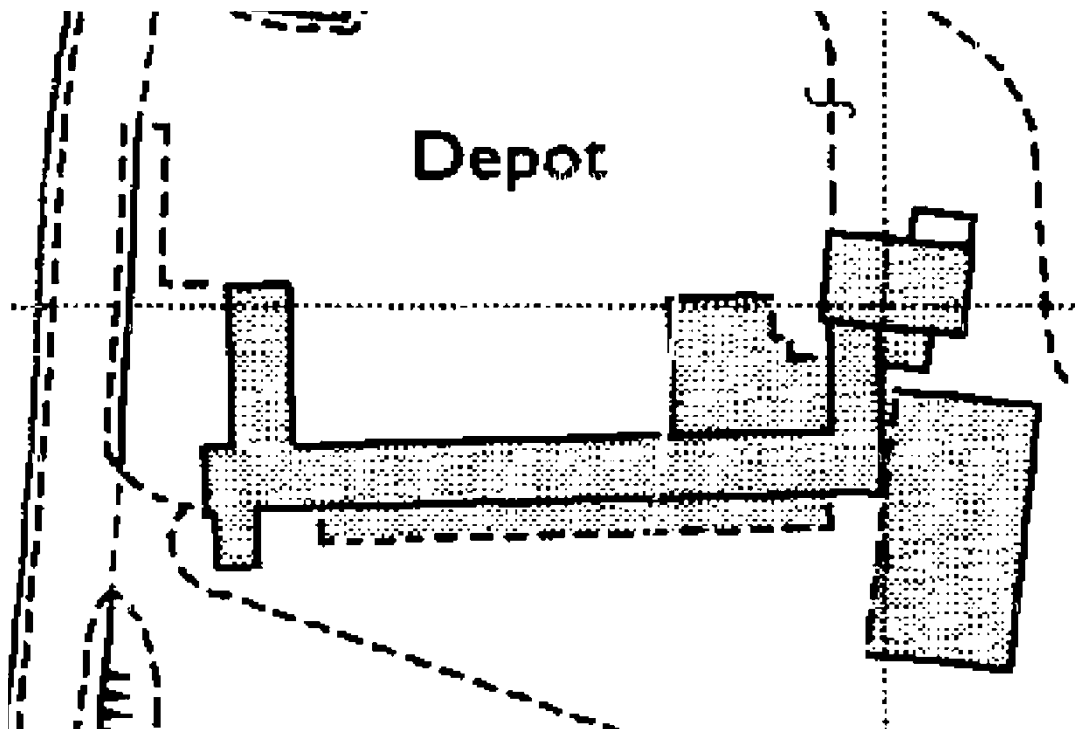


Figure 7a

A detail of the 1977 Ordnance Survey. The present circular kiln is disguised by an encompassing shed, as shown in figure 8. Note the difference of alignment between the vehicle shed (5) to the north-east, which respects the 19th century fragment to the north (not shown), and the new central drying shed (4) which had been entirely rebuilt since 1927 – along with the rest of the site.



Figure 8

An aerial view from the north taken in 1964 shortly before manufacturing ceased. Note the building encompassing the kiln (1) and the since demolished shed in the foreground to the right. Published on the Hoxne Heritage Group's website.



Figure 9

And aerial view of 2009 with north at the top showing the existing layout of the site with the drying shed cut by a circular vehicle track. The large building on the right was not present in 1964 and had been demolished prior to inspection.



Geoffrey Spencer Goddard, Jack Banham and Frank Miles unloading the present kiln on 1st September 1954. The trolley in the foreground (or one like it) survived in the drying shed at the time of inspection (illus. 12 below). The pile of bricks in the background suggests they were being produced in conjunction with land drains. The conveyor was powered electronically.



Jack Banham and Geoffrey Spencer Goddard photographed in what appears to be the making shed (3b) with its glazed windows in 1954.

Figure 10. Photographs from the Hoxne website, reproduced by permission.

Building Analysis

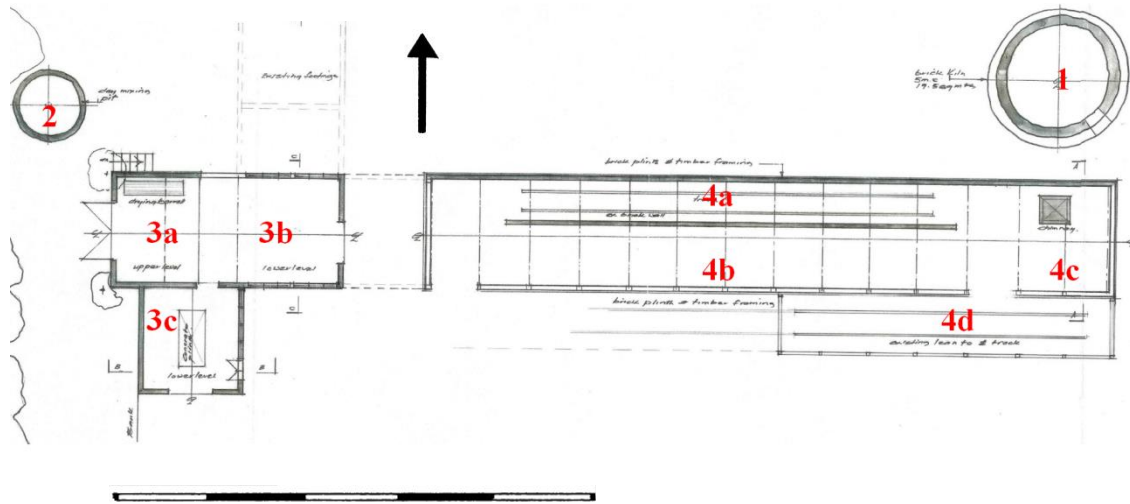


Figure 11
Ground plan identifying each structure with a number for ease of reference in the text and photographic record.
25 m scale in blocks of 5 metres.

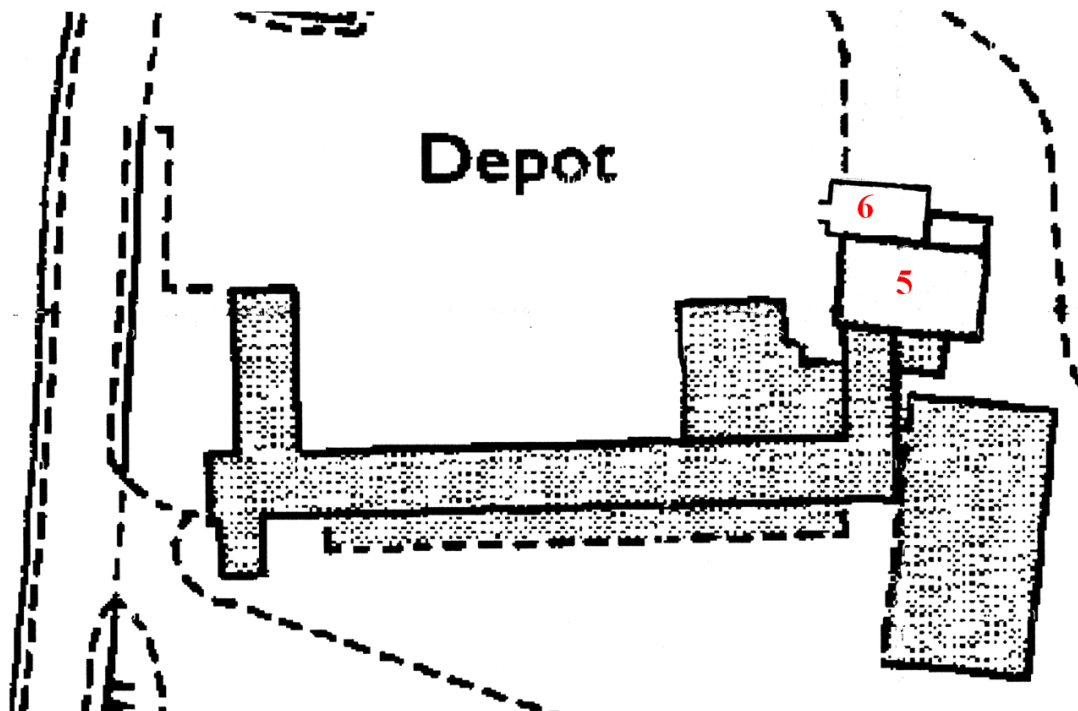


Figure 11a
Ground plan adapted from the Ordnance Survey of 1977 showing the vehicle shed (5) to the north-east of the kiln and the adjoining fragmentary 19th century brick structure depicted on the Ordnance Survey of 1927 (6).

Key to figure 11

1. Kiln

The circular kiln extends to a total of 8 m in diameter (26 ft) with 1 m thick walls at ground level and an internal diameter of 6m. It represents a standard beehive down-draught kiln with iron straps as shown in figure 12, a detached chimney to the south and an entrance to the south-east. A total of eight fire holes line the walls, each with two separate arched apertures: an upper arch containing the fire on an iron grate with adjustable iron dampers suspended from the exterior (illus. A2.6), and a lower arched ash pit with a hinged iron door similar to that of a bread oven. These fire holes would have been ‘bagged’ or walled internally to direct the heat upwards, and a single brick bag remains in place or – more probably – has been reconstructed to illustrate the kiln’s *modus operandi* (A2.7). The floor now consists of bricks but is understood to have consisted formerly of pierced malting-kiln tiles to allow air to reach a series of under-floor channels leading to the chimney. The entire kiln and its adjoining concrete coal bunkers were formerly enclosed by a shed, as shown in figure 8, but no trace of this remains. The kiln was not present in 1927 (figure 6) and is said by local historian Stuart Greenwood to have been rebuilt in the late-1950s or early-60s, but the present structure appears to be shown in a photograph of 1954 and its brickwork is more consistent with the second quarter of the 20th century. Like many similar kilns elsewhere, including that of the Watson pottery at Wattisfield, it may have been built in or soon after 1940 to meet the new wartime regulations which restricted the showing of light to enemy aircraft. Many older kilns were open-topped and had to be rebuilt accordingly.

2. Pugmill

A small brick pugmill lies on the higher ground near the road to the west of the site (A2.13 and 17). Extending to 3 m in internal diameter it retains its central iron pivot but has lost its machinery, retaining only parts of the smooth cement surface where its wheels would have run. Clay would have been broken down and mixed here before transfer to the fining and extrusion shed (3a).

3. Machinery sheds: Extrusion shed (3a), Making shed (3b) and Engine shed (3c)

A series of sheds consisting in part of Fletton brick and in part of studwork clad in corrugated iron adjoins the high ground to the west. Absent from the Ordnance Survey of 1927 these structures are consistent with an origin in the 1930s, as suggested by Mr Greenwood, although the brickwork of the engine shed appears later and may have been added or rebuilt. The two-storied shed to the west is entered from the higher ground at road level by means of double doors that open onto a fining area which retains a drum sieve (A2.14). A series of iron girders to the east supported extrusion machinery that had been removed before 2012 (from which photographs survive) and all that remained of the engine at the time of inspection was a concrete pad with the outline of a large wheel to the west. Mr Greenwood notes that ‘the Field and Platt diesel engine was located in the brick-built wing and had a 7.5ft flywheel attached. Through an array of belts and pulleys, the engine powered the drive-shafts of the brick-maker and clay extruder housed in the east-west range (i.e. 3a). The machinery dates from the 1920s or later. Both the engine and the extrusion equipment are undergoing restoration and will be housed at the Dougie McMahon Collection of Local Industrial Equipment.’ This private collection is based at Street Farm in nearby Denham, Suffolk. The single-storied shed to the east of the extrusion machinery contains glass windows to north and south and presumably served as the ‘making shed’ where products were trimmed and finished before moving on to the adjoining drying shed. A series of wooden brick moulds occupied this area at the time of inspection (A2.16).

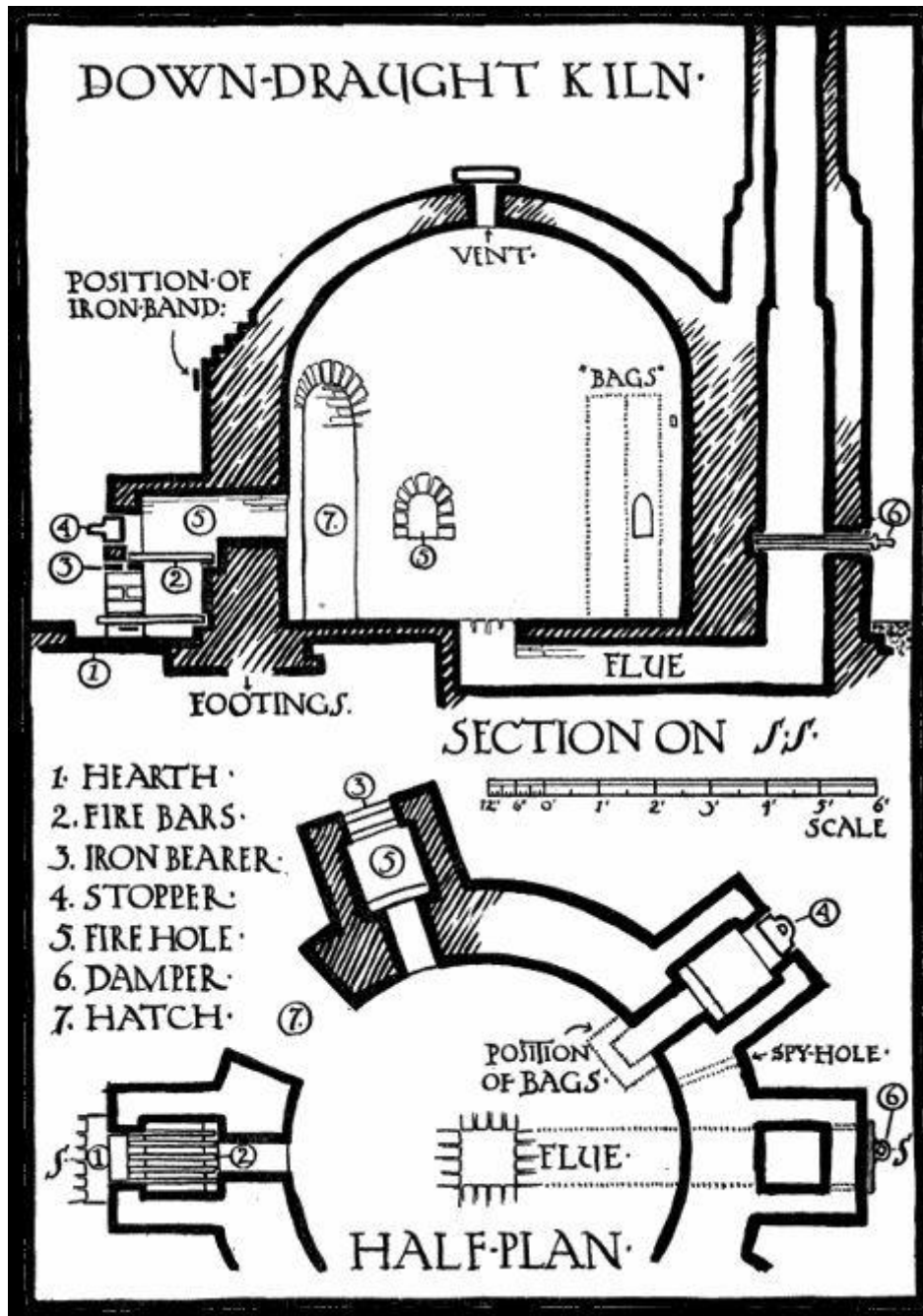


Figure 12

Diagram showing the principle of down-draught kilns (published online without source).

4. Drying Shed.

The drying shed and making shed were formerly a single structure of brick and studwork clad in corrugated iron but have been separated by a late-20th century vehicle turning circle as shown in figures 8 and 9. They originally extended by 46 m eastwards in length (from the two-storied extrusion shed, 3a) by 6 m in width, excluding an additional open-sided lean-to adjoining the southern elevation which has since been truncated (4d). The original softwood king-post roof structure survives beyond the kiln chimney to the east (4c) but the rest was lost to a serious fire in the 1960s (according to Mr Greenwood) and the tie-beams and wall studs are badly charred beneath the rebuilt roof to the west. The central section to the west of the chimney contains a later brick partition which defines a narrow tunnel (4a) heated by a hot air blower at its eastern

end. All three channels (4a, 4b and 4d) contain iron rails 1.2 m apart (4 ft) on which drying racks were transported on bogey wheels. A pair of racks was still *in situ* in the hot air tunnel at the time of inspection (A2.11). A sunken track at right-angles to the east retained the original trolley by which these racks were transferred from one rail to another, and an iron hand winch attached to the chimney pulled the racks through the tunnel by means of a steel hauser. The shed had been stripped of its former roofing of corrugated asbestos at the time of inspection but a short section of pantiles adjacent to the chimney probably represents its original covering. The building's alignment differs significantly from the shorter shed depicted on much the same site in 1927 and there is nothing to indicate that any fabric pre-dates the 1930s. With the exception of its plinth the brickwork of the northern elevation appears to be of later origin, and probably replaced studwork when the hot air tunnel was inserted a decade or two later.

5. Cement-block vehicle shed/store

A large cement-block shed to the east of the site is likely to have been newly built when depicted in 1964 (figure 8) and was probably designed as a vehicle shed and/or warehouse. It now contains an office at its eastern end with a rebuilt timber-clad lean-to on the north.

6. Fragmentary walls of 19th century red-brick shed

The only building on the site depicted on the Ordnance Survey of 1927 is a fragmentary 19th century red-brick structure adjoining the cement-block vehicle shed (5) on the north. Only its lower courses remain to a maximum height of 1.5 m, with an original western doorway to the south of its centre flanked by projecting baffle walls resembling a porch. This porch-like addition was clearly shown in 1927 and allows the structure to be identified with certainty. The kiln lay on the site of the vehicle shed and has been demolished without trace. The remaining building extends to 16 m in length by 3.5 m in width and a degree of blackening to its internal walls suggests it may have operated as a fuel store.

Historic Significance

There is evidence of brick making to the north of the present site in the 18th century but nothing to suggest activity began to the south until the 19th century. With the exception of a fragmentary brick structure none of the existing buildings were shown on the Ordnance Survey of 1927 and they probably date from the 1930s. The drying shed was badly damaged by fire and largely rebuilt in brick when a drying tunnel was inserted, but retains good mid-20th century industrial archaeology in the form of three series of rails for the drying racks, a track switching trolley, winch and blower. The rest of the machinery had been removed prior to inspection but is understood to survive in a private collection elsewhere. The down-draught beehive kiln is a good example of its kind which remains largely intact, although most of its iron doors and dampers have been lost, and may have replaced the previous kiln nearby in response to wartime air raid regulations. The buildings are therefore of great local interest but are not of sufficient age, rarity or completeness to be considered of national importance.

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Leigh Alston is a building archaeologist and architectural historian who lectures in the Department of Archaeology at Cambridge University but also undertakes commissions on a freelance basis for the National Trust and various county archaeological units. Publications include 'Late Medieval Workshops in East Anglia' in 'The Vernacular Workshop' edited by Paul Barnwell & Malcolm Airs (Council for British Archaeology and English Heritage, 2004) and the National Trust guidebook to Lavenham Guildhall (National Trust 2004).

Photographic Schedule and Appendix follows on pp. 14-19

Appendix 1 (on accompanying CD): Full Photographic Record

Descriptions of Photographs in Appendix 1

Photograph no.

1. General view of site entrance from Eye Road to north-west.
2. General view of site entrance from Eye Road to west showing recently renovated mid-20th century bungalow to left.
3. General view from north showing kiln (1) & vehicle shed (5) to left with drying shed (4) in centre & making shed (3) to right.
4. General view from south-east showing kiln (1) & vehicle shed (5) to right with drying shed (4) in centre & making shed (3) to left.
5. Southern exterior of recently restored mid-20th century bungalow adjoining Eye road to left.
6. External western gable of cement-block vehicle shed (5) showing remnant of 19th century red-brick shed (6) left & kiln (1) right.
7. Southern exterior of cement-block vehicle shed (5) showing kiln (1) to left.
8. Exterior of vehicle shed (5) from north-west showing lower walls of 19th century shed (6) partly covered by spoil heap in foreground.
9. Interior from east of cement-block vehicle shed (5).
10. Interior from west of cement-block vehicle shed (5) showing office partition adjoining eastern gable.
11. South-western external corner of 19th century brick shed (6) adjoining cement-block vehicle shed (5) to the right.
12. South-western external corner of 19th century brick shed (6) showing closers defining edge with cement-block vehicle shed (5) to the right.
13. Fragmentary southern internal wall of 19th century red brick shed (6) adjoining northern wall of cement-block vehicle shed (5).
14. Internal south-western corner of brick shed (6) showing cement-rendered 'porch' projecting from original entrance doorway to right.
15. Internal western gable of brick shed (6) showing original entrance doorway flanked by projecting walls of 'porch'.
16. Interior from west of 19th century brick shed (6) adjoining 20th century cement-block vehicle shed (5) on right.
17. Drying shed (4) from east showing kiln (1) and chimney to right with engine shed (3c) in rear to left.

18. Drying shed (4) from north showing stripped roof with interruption for later vehicle track to right.
19. Detail of northern exterior of drying shed (4) showing Flemish Bond with two courses of bricks on edge above ostensibly earlier plinth.
20. Downdraught beehive kiln with eight fire holes (1) from west showing tarpaulin cover with chimney and drying shed (4) on right.
21. Exterior of kiln (1) from east showing entrance door on left and narrow coal shovel to left of fire hole.
22. Concrete coal bunker to west of kiln (1) seen from south.
23. Detail of kiln (1) from west showing twin iron bands and arched fire holes with ash pits beneath.
24. Detail of fire hole in kiln (1) showing furnace above with ash pit beneath.
25. Later aperture in northern wall of drying shed (4) showing chimney with kiln (1) to left.
26. Detail from east of chimney in eastern section of drying shed (4c) showing proximity to kiln (1) on right.
27. Kiln (1) and chimney in eastern section of drying shed (4c) seen from east.
28. External detail from east of fire hole in kiln (1) showing intact iron furnace door with air vent beneath.
29. External detail from east of fire hole in kiln (1) showing iron door to ash pit with fire grate above.
30. Exterior of kiln (1) from concrete coal bunker to north.
31. Interior from south of concrete coal bunker to north of kiln showing cement-block vehicle shed (5) on right.
32. Exterior of kiln (1) from south-east showing original entrance doorway with iron surrounds.
33. Interior of kiln (1) from west showing domed vault with entrance doorway on right.
34. Interior of kiln (1) from north showing domed vault with entrance doorway in centre.
35. Interior of kiln (1) from north-east showing domed vault with entrance doorway in 1 m thick wall fabric on left.
36. Interior of kiln (1) from east showing domed vault with brick baffle in situ to right.
37. Interior of kiln (1) from south showing domed vault brick fire baffle in situ to left.
38. Detail of vaulted roof of kiln (1) showing vents and heat scars from eight furnaces.

39. Detail of central vent at apex of kiln vault (1) surrounded by smaller damping vents.
40. Detail of iron fire grate within brick baffle of kiln (1).
41. Brick floor of kiln (1) from north showing narrow under-floor flues leading to chimney.
42. Detail from north of under-floor flues in kiln (1) leading to chimney.
43. Interior from east of eastern section of drying shed (4c) showing chimney and kiln (1) to right.
44. Detail of king-post roof structure and tall-sectioned softwood rafters of eastern section of drying shed (4c).
45. Southern exterior of drying shed (4) showing chimney & remaining section of pantiles to right with engine shed (3c) on left.
46. Interior of drying shed (4b) from east showing southern lean-to (4d) on left and drying tunnel (4a) on right.
47. Interior of drying shed (4b) from east showing northern drying tunnel (4a) now lacking its ceiling on right.
48. Detail from the south of the turning trolley at the eastern end of the drying shed (4b) showing the rails of the lean-to (4d) on the left.
49. Detail of the land drains stored on the tracks of the lean-to drying shed (4d).
50. Interior from the east of the southern lean-to drying shed (4d) showing its intact iron trolley rails.
51. Detail from the east of the iron rails for transporting drying racks in the lean-to drying shed (4d).
52. Detail from the south-west of the turning trolley at the eastern end of the drying shed (4b).
53. Detail from the south of the turning trolley running on sunken rails at the eastern end of the drying shed (4b).
54. Detail from west of the turning trolley at the eastern end of the drying shed (4b) showing the hot air tunnel blower bottom left.
55. Detail of the hand cranked winch with steel hawser for moving drying racks attached to western side of chimney to east of drying shed (4b).
56. Detail from south of hot air blower in trench at eastern end of drying tunnel (4a).
57. Interior from east of hot air drying tunnel (4a) retaining rails but without ceiling showing sunken blower at bottom.
58. Eastern end of drying tunnel (4a) from west showing fan blower below rails and winch adjoining chimney in rear.

59. Detail from west of hot air blower at eastern end of drying tunnel (4a).
60. Interior from west of drying shed (4b) showing truncated brick wall of hot air tunnel (4a) on left with drying rack on rails.
61. Interior from west of hot air drying tunnel (4a) showing two drying racks in situ.
62. Detail from west of drying racks on bogey wheels in hot air tunnel (4a).
63. Detail from west of bogey wheels and rails of drying racks in hot air tunnel (4a).
64. Western end of drying shed (4b) from east showing fire damage and truncated brick wall of hot air tunnel (4a).
65. Interior from west of drying shed (4b) showing hand trolleys & fire damage to wall posts and tie-beams with replaced softwood rafters above.
66. Exterior of making shed (3b) showing secondary interruption for vehicle track with drying shed (4) to right.
67. Exterior from south-east of pantiled engine shed (3c) showing making shed (3b) on right.
68. Later track separating drying shed (4) to left from making shed (3b) on right as seen from north.
69. Making shed (3b) from north showing two-storied fining and extrusion shed (3a) to right with floor of demolished shed in foreground.
70. Brick pugmill (2) from north showing making and extrusion sheds (3) in rear.
71. Circular brick pugmill (2) with central iron pivot seen from north.
72. Detail of pugmill (2) from north-west showing iron pivot and concrete track for rollers of mixer.
73. External western gable of extrusion shed (3a) showing entrance to clay fining area at road level.
74. Internal western gable of extrusion shed (3a) showing clay fining area at road level with drum sieve to right.
75. Detail from south of drum sieve to north of western entrance to clay fining area in extrusion shed (3a).
76. Northern interior of clay fining area at road level (3a) showing drum sieve and position of missing extrusion machinery to right.
77. Southern interior of clay fining area at road level (3a) showing wooden hopper & position of missing extrusion machinery to left.
78. Detail from north of detached wooden hopper to south of western entrance to clay fining area in extrusion shed (3a).

79. Interior from west of extrusion shed (3a) showing drop from fining area at road level to making shed (3b) and position of missing machinery.
80. Interior from north of extrusion shed (3a) showing position of missing machinery with concrete platform of clay fining & loading area to right.
81. Interior of extrusion shed (3a) from east showing iron supports of missing extrusion equipment.
82. Interior from south of extrusion shed (3a) showing position of missing machinery with concrete platform of clay fining & loading area to left.
83. Interior from west of making shed (3b) from position of missing extrusion machinery showing drying racks with wooden brick moulds.
84. Internal eastern gable of making shed (3b) showing drying racks with wooden brick moulds to left.
85. Drying racks in making shed (3b) containing wooden brick moulds.
86. Detail of wooden brick moulds in making shed (3b).
87. Detail of wooden brick moulds in making shed (3b) with frog bricks to left and chamfered plinth bricks to right.
88. Interior from south of engine shed (3c) showing concrete block for missing diesel engine in centre and door to extrusion shed (3b).
89. Interior from north of engine shed (3c) showing concrete block for missing diesel engine in centre and missing southern gable.
90. Interior from east of engine shed (3c) showing concrete block for missing engine with door to extrusion shed on right.
91. Detail from west of engine support block in engine shed (3c) showing profile of large flywheel.
92. 2012 photo of site from south showing corrugated asbestos roof of drying shed (4) with since demolished vehicle shed to right.
93. 2012 photo from south of since demolished vehicle shed to east of drying shed (4).
94. 2014 photo of site from pugmill (2) to west showing intact roof coverings of corrugated asbestos.
95. 2014 photo of site from east showing intact corrugated asbestos roofing of drying shed (4).
96. 2014 photo of making and extrusion sheds (3) from east showing intact roofing of corrugated iron and plastic.
97. 2014 photo of concrete pads for missing machinery adjoining northern exterior of extrusion shed (3a).

98. 2014 photo of kiln (1) from north without tarpaulin showing domed roof and multiple iron straps.
99. 2014 photo of kiln (1) from east without tarpaulin showing domed roof and multiple iron straps.
100. 2014 photo from south of hot air blower showing tunnel (4a) to left and vent from kiln in rear.
101. 2014 photo of interior of drying tunnel (4a) from east showing intact ceiling and rails.
102. April 2016 photo of interior of drying shed (4b) from east showing intact roof of corrugated asbestos.

Photographic Appendix 2 follows on pp. 20-28

Appendix 2 (pp. 20-28): Selected Printed Photographs



Illus. 1. A general view of the site from the north showing the kiln (1) and cement-block vehicle shed (5) on the left with the drying shed (4) in the centre and the extrusion machinery shed (3) to the right.



Illus. 2. A general view from the south-east showing the kiln (1) and vehicle shed (5) to the right with the drying shed (4) in the centre and the extrusion shed (3) to the left.



Illus. 3. The tarpaulin-covered kiln (1) and chimney from the west with the cement-block vehicle shed (5) on the left. The remnant of the 19th century brick shed (6) adjoins the latter's left-hand corner and represents the only standing structure to pre-date the Ordnance Survey of 1927 (illus. 4 below).



Illus. 4. The south-western external corner of the 19th century brick shed (6) adjoining the cement-block vehicle shed (5) on the right. The ivy-covered lower courses of a narrow 'porch' flank the original entrance on the left and correspond to the northernmost structure depicted on the 1927 Ordnance Survey –proving the earlier kiln stood on the site of the vehicle shed (5).



Illus. 5. The mid-20th century draught beehive kiln with eight fire holes (1) from the west showing its tarpaulin cover with the detached chimney and drying shed (4) on the right. A concrete coal bunker is visible in the foreground. (See illus. 18 for an earlier view without the tarpaulin.)



Illus. 6. A detail of the kiln (1) from the east showing one of the eight fire holes with an intact iron damper plate suspended from above. A cast iron fire grate is visible at the top of the arched ash pit beneath, which lacks its door.



Illus. 7. The interior of the kiln (1) from the south showing its domed vault with a brick fire baffle or bag wall *in situ* to the right of the scale rod. These bags enclosed the fires and directed their heat upwards. The loose bricks in front of the scale have been removed to expose the under-floor flue channels leading to the chimney. The central vent is surrounded by smaller apertures used to damp the kiln.



Illus. 8. The interior of the roofless drying shed (4b) from the east showing its open-sided southern lean-to (4d) on the left and the drying tunnel (4a) on the right. Each of the three compartments contains iron rails to transport the drying racks with a sunken trolley in the foreground which runs on lateral rails to transfer the racks from one track to the next. The land drains on the left were presumably made on the site.



Illus. 9. Another view of the drying shed (4b) from the east showing the enclosed northern drying tunnel (4a) from which the ceiling has been removed on the right. A large blower lies beneath the iron sheets in the foreground, and would have forced hot air beneath the suspended rails.



Illus. 10. The eastern end of the drying shed (4b) showing the switching trolley with a hand winch adjoining the chimney on the left. This winch was used to pull racks through the hot air tunnel (4a). The blower is visible in the pit at bottom left.



Illus. 11. The hot air drying tunnel (4a) from the west showing two drying racks on bogey wheels. The brick partition adjoining the central range (4b) on the right has been truncated by a later concrete floor and is a secondary insertion to the original shed.



Illus. 12. The drying shed (4) from its western gable showing its charred tie-beams and wall posts with a later softwood roof above. This area contains a wooden hand trolley and two sack barrows along with an office desk.



Illus. 13. The circular brick pugmill (2) from the north showing its central iron pivot with the corrugated iron roof and cladding of the two-storied extrusion shed (3a) in the rear. This upper storey of this shed is entered from the higher ground at road level on the right.



Illus. 14. The interior of the extrusion shed (3a) from the south. The concrete platform on the left is entered by double doors at road level in the western gable to the extreme left, and retains a drum sieve for ‘fining’ sand and clay. The void on the right retains a framework of iron girders that supported the missing extrusion machinery that was presumably loaded from this upper level.



Illus. 15. The lower level of the extrusion shed (3a) from the south showing the position of the missing machinery in the centre with the concrete platform of the loading and clay fining area on the left and the ‘making shed’ (3b) on the right. A demolished additional structure extended northwards from this part of the structure.



Illus. 16. A detail of the wooden moulds in the making shed (3b). The mould on the left is for bricks with frogs but no manufacturer’s name and that on the right for chamfered bricks with diagonal edges to form plinths and copings.



Illus. 17. A 2014 photograph of the site looking east from the pugmill (2) showing the corrugated asbestos roof covering of the drying sheds with the uncovered kiln (1) in the rear. Note the concrete blocks for missing machinery adjoining the extrusion shed (3a) on the right.



Illus. 18. A 2014 photograph of the kiln (1) from the north without a tarpaulin showing its domed roof and multiple iron straps.