CARLTON ROAD, WORKSOP, NOTTINGHAMSHIRE:

A POST-EXCAVATION ASSESSMENT REPORT

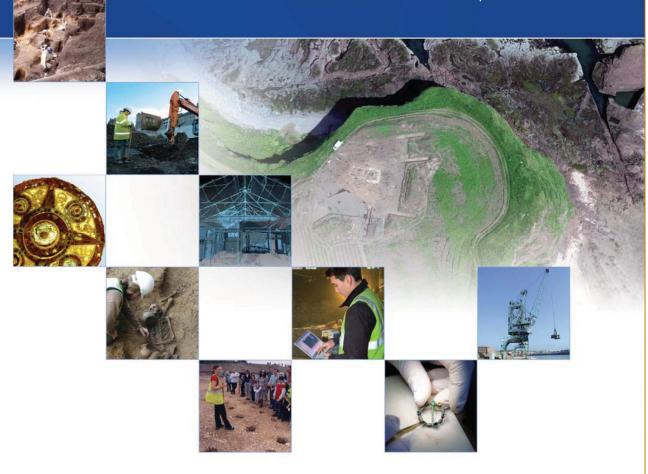
Planning Application Number: 02/03/00064

National Grid Reference Number: SK 5874 7978

AOC Project No: 30809

Site Code: CNW10

Date: September 2011





Carlton Road, Worksop, Nottinghamshire: **A Post-Excavation Assessment Report**

On Behalf of: **Santon Group Developments Ltd**

21 Knightsbridge

London SW1X7LY

National Grid Reference (NGR): SK 5874 7978

AOC Project No: 30809

Prepared by: **Chris Clarke**

Illustration by: **Jonathan Moller**

27th June to 22nd July 2011 Date of Excavation:

Excavation Team: Catherine Edwards

> **Cat Gibbs Kieron Power Angus Stephenson**

Date of Report: September 2011

This document has been prepared in accordance with AOC standard operating procedures.

Author: Chris Clarke Date: September 2011 Approved by: Melissa Melikian Date: September 2011 Draft/Final Report Stage: Draft Date: September 2011

> Enquiries to: AOC Archaeology Group

Unit 7

St Margarets Business Centre

Moor Mead Road Twickenham **TW1 1JS**

Tel. 020 8843 7380 Fax. 020 8892 0549

e-mail. london@aocarchaeology.com



www.aocarchaeology.com

Contents

| | Page |
|--|------|
| List of illustrations | 3 |
| List of Plates | |
| NON-TECHNICAL SUMMARY | 1 |
| 1 INTRODUCTION | 2 |
| 2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND | 3 |
| 3. GEOLOGY AND TOPOGRAPHY | |
| 4. METHODOLOGY | |
| 5 ORIGINAL RESEARCH AIMS | |
| 6 INTERIM SUMMARY OF RESULTS | |
| 7 SUMMARY OF SITE ARCHIVE AND WORK CARRIED OUT | |
| 8 SUMMARY OF FINDS AND ANALYSIS OF POTENTIAL | |
| 9 SIGNIFICANCE OF THE DATA | |
| 10 Review of the Research Aims | |
| 11 SUMMARY OF FURTHER WORK | 34 |
| 12 CATALOGUE OF FURTHER WORK | 36 |
| 13 BIBLIOGRAPHY | |
| Appendix A – Context Register | 9 |
| Appendix B – Specialist Report | 13 |
| Appendix C – OASIS Form | 30 |

List of illustrations

- Figure 1. Site Location
- Figure 2. Detailed Site/Excavation Area Location Plan
- Figure 3. Sections
- Figure 4. Period 3: Phase A Plan
- Figure 5. Period 3: Phase A, B and D Plan
- Figure 6. Period 3: Phase A and B Rooms 2, 3 and 4
- Figure 7. Period 3: Phase A and B Room 6

List of Plates

- Plate A. View of Room 1 Looking Southeast
- Plate B. View of Channel [739] Looking North
- Plate C. View of Rooms 2, 3 and 4 Looking South
- Plate D. View of Room 5 Looking South
- Plate E. View of Room 6 Looking South
- Plate F. View of Machine Bed [690] Looking North
- Plate G. View of Tunnel within Chamber
- Plate H. View of Mechanical Parts within Chamber
- Plate I. View of Capping Slab [675] Looking East
- Plate J. View of Room 8 Looking Northwest
- Plate K. View of Walls [663], [664], [665] and [666] Looking East
- Plate L. View of Channel [743] Looking North
- Plate M. View of Rooms 9, 10, 11 and 12 Looking West
- Plate N. View of Room 13 Looking Southwest
- Plate O. View of Opening [612] Looking West
- Plate P. View of Opening [616] Looking West
- Plate Q. View of Rooms 14, 15, 16, 17 and 18 Looking Southwest

NON-TECHNICAL SUMMARY

Between the 27th June and 22nd July 2011 a programme of archaeological excavation was undertaken by AOC Archaeology Group at Carlton Road, Worksop, Nottinghamshire, National Grid Reference (NGR) SK 5874 7978 on behalf of Santon Group Developments. The work was carried out ahead of a proposed development for the construction of a new supermarket and associated facilities.

The earliest activity identified on site consisted of several soil horizons pre-dating the 19th century. No diagnostic material was observed within these deposits restricting their ability to inform on activity pre-dating the construction of the 19th century industrial complex. These soil horizons purely represent the accumulation of undisturbed deposits over time.

All features identified during the course of the excavation were post-medieval or modern, specifically 19th to 20th century in date. The initial activity within this period was the construction of a substantial 19th century industrial structure consisting of a building complex dominated by four large processing rooms, which were associated with 10 smaller support rooms. Historical records indicate this building was for the malting of hops and barley for the brewing trade, owned by the company Clinton's. After the initial phase of construction significant alterations to the complex took place internally and externally during the late 19th and early 20th century, including subdividing the building layout to incorporate new rooms and machinery.

Activity at Clinton's Maltkilns appeared to continue until the mid 20th century when demolition of the 19th century structure was represented by a substantial depth of demolition debris across the site. Subsequently, the demolition debris was impacted by the construction of concrete structures associated with a later maltkiln complex built during the second half of the 20th century. By the late 20th century this later concrete maltkiln complex fell into disuse and was also demolished, with the rubble sealed by made ground. Abandonment of the site during the late 20th and early 21st century allowed a horizon of topsoil to accumulate across the site.

The remains of the Victorian Clinton's Maltkiln is thought to be of regional significance due to the high level of preservation and extensive area of investigation which has allowed a detailed understanding of the original layout of the maltkiln complex and how it was altered over time. This information can provide important evidence to how the malting industry developed during this late post-medieval/early modern period, both in the local area, and in the region in general. Evidence associated with activity during the second half of the 20th century was far more restricted and poorly preserved, limiting its significance to that of the immediate locality.

This report presents an assessment of the archaeological investigations undertaken at the Carlton Road site, summarising the stratigraphical sequence of archaeological remains, and describes the work undertaken on the archive. The principal objective of this report is to refine the research objectives of the project in light of the findings, and assess the potential of the archive to address these research objectives. Recommendations for further work include additional restricted analysis associated with the finds assemblages and the production of a journal publication.

1 INTRODUCTION

1.1 The Site

- 1.1.1 This document aims to summarise the results of the archaeological excavation, conducted by AOC Archaeology, at Carlton Road, Worksop, Nottinghamshire, on behalf of Santon Group Developments.
- 1.1.2 The site is situated immediately to the north of Worksop town centre, adjacent to Worksop Railway Station. The proposed development is centred on National Grid Reference (NGR) SK 5874 7978 (Figures 1 and 2). The site is within land bounded by the Sheffield to Lincoln Railway line to the south, by residential developments to the east and north, and by residential and commercial units along Carlton Road to the west. The area impacted by the development is irregular in shape measuring approximately 1.95ha.

1.2 **Planning Background**

- 1.2.1 The local planning authority is Bassetlaw District Council. Archaeological advice to the local planning authority is provided by Chris Robinson, Archaeological Officer to Nottinghamshire County Council.
- 1.2.2 The proposed development site has been granted planning permission for the construction of a new Tesco retail store, petrol filling station and associated car parking (Planning Ref: 02/03/00064). The work has been undertaken in accordance with PPS 5 Planning and the Historic Environment Guidance, issued by the Department of Communities and Local Government in 2010 (DCLG 2010).
- 1.2.3 The first stage in the archaeological investigation was the production of a desk-based assessment (AOC 2007). On the basis of that document a stage of intrusive archaeological evaluation trenching was recommended. Accordingly a Written Scheme of Investigation was prepared (AOC 2009) and the fieldwork subsequently reported on (AOC 2010) which identified well preserved remains in the southwest area of the site, associated with 19th to 20th century industrial buildings. Based on these results, the Archaeological Officer to Nottinghamshire recommended that further work, in the form of an archaeological excavation, should be undertaken prior to development. AOC Archaeology produced a Written Scheme of Investigation (AOC 2011) detailing the methodology that would be used while undertaking the excavation.
- 1.2.4 This Assessment Report conforms to the requirements of PPS 5 Planning and the Historic Environment Guidance and English Heritage guidance documents. It has been designed in accordance with current best archaeological practice and local and national standards and guidelines:
 - Department of Communities and Local Government Planning Policy Statement 5: Planning and the Historic Environment (DCLG 2010).
 - English Heritage Management of Archaeological Projects (EH 1991).
 - Institute for Archaeologists Standards and Guidance for the Archaeological Excavations (IfA 2008)
 - Institute for Archaeologists Code of Conduct (IfA 2010).

1.3 The Scope of the Report

- 1.3.1 The work was carried out under the site code relating to the first phase of evaluation (CNW10) which was created after consultation with Bassetlaw Museum. The research aims outlined prior to excavation are discussed with reference to the results, and the further work to enable full interpretation and publication are outlined. Quantification of the resources needed to fulfil this work has been undertaken in the light of the revised research objectives.
- 1.3.2 The site comprised of one extensive excavation area, Trench 6 (Figure 2), covering an area of approximately 0.32ha area in the southwest corner of the site. This area was determined after consultation with the 1st edition Ordnance Survey map of the locality in order to determine the full extent of the 19th century structure on site.
- 1.3.3 This assessment discusses the results of the main excavations which superseded the evaluation Trenches 1-5. The results of the evaluation are summarised in the archaeological background section only (see section 2.3.9).
- 1.3.4 On completion of the excavation and prior to the project's final archival deposition, the archive produced by the earlier phases of work conducted by AOC, will be integrated into the overall project archive. As part of the programme of post-excavation analysis, the interpretations reached and the dates attributed to the features recorded during the evaluations will be re-appraised.

2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 2.1 The following information is drawn from the Desk-Based Assessment (AOC 2007). For a more complete background refer to that document.
- 2.2 The earliest entry on the Nottinghamshire Historic Environment Record (HER) in proximity to the site is a ground and polished Neolithic axehead found at Eastgate institutions south of the site. There are three other artefact finds; a Bronze Age bronze axe, a Roman coin of Gordiannus III (AD 238 244) and an early medieval iron spearhead. According to the HER, it is known from documentation that the spearhead and coin were found in Worksop, and that the Bronze Axe is in a private collection at Osberton Hall (east of Worksop).
- 2.3 The modern settlement of Worksop has its origins in the early medieval period, although the only medieval entry in the HER is Worksop Mill, demolished in 1912. It is mentioned in a foundation charter of the priory in the 12th century, and evidence suggests that later mills were built upon this same site.
- 2.4 The place name of Worksop 'Werchesope' in the Domesday survey is of Saxon origin: 'hop' or 'hope' meaning ' enclosure, valley, remote place' and 'Weorc', either a man's name or 'work, a building or construction'. The original Saxon estate was held in 1066 by a thane called 'Elsi', and then granted to Roger de Builli by William I. There was approximately three carucates of taxable land, worth £8 pre-Conquest, suggesting a population of around two hundred.
- 2.5 The settlement developed during the Norman period and a supposed motte and bailey castle was erected at Castle Hill by William de Lovetot sometime in the early 12th century. The earthworks survive though the castle itself had a short existence and by 1540 a visitor to Worksop remarked that it was "clene downe and scant knowen where it was". It is

- suggested Victoria County History that the name is misleading and the earthwork is of earlier date.
- 2.6 Another major Norman institution in the area was Radford Priory of the Augustinian order, founded by Lovetot in 1103, to the east of Worksop. Radford and Worksop developed as duel settlements through the medieval period, eventually merging by the 19th century. As well as the Priory, Radford held the weekly market. The priory was closed in 1538 during the Dissolution of the Monasteries, though the nave and gate house survived, the nave continuing to be used as parish church.
- 2.7 Through the Elizabethan period the town developed, with the construction of Worksop manor, which played host to James I on his way to London during his accession to the English throne, and for his mother, Mary Queen of Scots, who was held there in 1583, confined to her bed chamber. The manor was destroyed by fire in 1761 during renovations, and only one wing of an impressively large rebuild was ever completed.
- 2.8 In 1636, John Harrison was commissioned to carry out a survey of the town. His survey suggests Worksop was a thriving town with a population of approximately 1000 people, a variety of buildings and the beginnings of early industry two blacksmiths, a locksmith, nailmaker, saddler, joiner, brewer and charcoal maker, two sawyers, two masons, a dye house, a kiln, a malthouse and three corn mills. Agriculture was still present, particularly six 'liquorice gardens'; liquorice having been grown in this area since the monks occupied Radford Priory.
- 2.9 The 18th century saw dramatic change in the town. The population rose from around 1,500 in 1743 to 3,291 by 1800. The town plan expanded, with re-fronting, infilling and new buildings in brick. In 1777 the Chesterfield canal was completed, opening new opportunities for trade and industry such as maltkilns and textile mills. There are 11 HER entries that directly relate to the canal: seven wharves; two locks; a weir on the canal feeder channel; and an earthwork bank running along the south side of the canal. Of Worksop's industrial past there are three timber yards and a sawmill, an iron and brass foundry, a smithy and several malthouses. Two breweries are recorded, the Worksop Union Workhouse, the 1850 Worksop Railway Station, a warehouse and cottages on the canal, and Cannon Malt Kiln.
- 2.10 This growth in industry continued into the 19th century, with a working population shift from agriculture to mining and industry. The railway was opened in 1852. The same year a Local Board of Health was elected, which was replaced by an Urban District Council in 1894 and then by a Mayor and Town Council in 1931. Population during this period leaped from 3,291 to 16,455.
- 2.9.1 In 1852, Clinton Maltkilns were erected on the proposed development site by Mr. J. M. Threafall. They were the largest in the town, with an impressive 300 quarters of malt wetted down every four days for nine months of the year. The maltkiln finally ceased production in 1976 and was demolished in the early 1980s. In close association with Clinton Maltkilns was 'Old Sand Pit', located immediately to the north of the maltkilns. Other sandpits are marked to the west of the site on the far side of Carlton Road, to the east, and to the north of the football ground.

Previous Archaeological Investigation

2.3.9 In May 2010 AOC Archaeology undertook an archaeological evaluation on site consisting of five trenches excavated in different areas of the site (AOC 2010). Trenches 1, 2 and 3, located in the southwest corner of the site (Figure 2), identified well-preserved archaeological features consisting of tiled floors, concrete surfaces and multiple wall lines, representing at least two phases of industrial activity. It is likely that the earliest phase of industrial activity relates to the remains of the 19th century maltkilns known to be present on site. No features of archaeological significance were encountered in Trenches 4 and 5.

3. GEOLOGY AND TOPOGRAPHY

- 3.1 The British Geological Survey map (BGS 1994) of the sites base geology indicates that the site sits on the border two sandstone formations; Eddington Formation Sandstone in the south part of the site, and Nottingham Castle Pebbly Sandstone formation in the north part of the site.
- 3.2 The site lies at a height of approximately 40m above sea level at its south-east point, climbing to approximately 49m above sea level at its north-west point.
- 3.3 Geotechnical investigations undertaken by Pinnacle Consulting Engineers Ltd (2002) indicate variable types and depth of deposits occurring across the full area of the site. Natural deposits were recorded in the northern and southern areas of the site and range in depth between 1.7m and 10.10m, overlain by made ground deposits. In the central area of the site made ground deposits were record to a depth of between 3.5m and 6m. In the southwest area of the site concrete surfaces were consistently identified at a depth of between 0.6m and 1.7m.

4. METHODOLOGY

- 4.1 The archaeological excavation took place between 27th June and 22nd July 2011.
- 4.2 An excavation sampling strategy was defined in the Written Scheme of Investigation (AOC 2011), defining the minimum extent of excavation required for different categories of feature, such as structures, ditches, and postholes. In addition, the Written Scheme of Investigation defined the environmental sampling strategy.
- 4.3 In this report masonry features are shown in square brackets '[000]' and fills and layers are shown in rounded brackets '(000)'. Room numbers have been allocated to different parts of the same structure to aid in the descriptions of the features encountered.
- 4.4 On completion of the excavation, and prior to the projects final archival deposition, the evaluation results will be intergrated into the overall project archive. As part of the programme of post-excavation analysis, the interpretations reached and the dates attributed to the features recorded during the evaluation will be re-appraised.
- 4.5 The excavation was supervised by the author and monitored by Melissa Melikian (General Manager) for AOC Archaeology, and Chris Robinson for Bassetlaw District Council.

5 ORIGINAL RESEARCH AIMS

- 5.1 The aims of the excavation were defined as being:
 - To excavate, and preserve by record, any archaeological remains that will be disturbed
 or destroyed during the course of the proposed development works.

- To produce a post-excavation assessment report outlining the results of the excavations and proposing any further recommendations for further analysis, publication and dissemination of the work to the public.
- 5.2 The specific aims of the excavation were:
 - Determine the presence of any activity pre-dating the construction of 19th century maltkiln. How does this earlier activity relate to the 19th century industrial activity?
 - Clarify the full nature and extent of the 19th century maltkiln works. How closely does the archaeological evidence compare to contemporary cartographic sources?
 - Identify any evidence associated with the development of the 19th century maltkiln complex. Do the multiple phases of activity identified during the evaluation represent extensive alterations or localised modifications/repairs?
 - Identify and record any fixtures and fittings found in association with the 19th century structures. Can these fixtures and fittings be directly associated with the industrial activities taking place?
- 5.2 The final aim is to make public the results of the investigation, subject to any confidentiality restrictions.

6 INTERIM SUMMARY OF RESULTS

During the course of the excavation at the Carlton Road site, three different periods of activity were recognised. Incorporated into this were six individual phases associated with the 19th to 20th century structures.

6.1 Period 1 – Natural

- 6.1.1 The natural deposit was present across the full area of the site, and was identified as firm, orangey brown, sand deposit (738) (Figures 3 & 4). The natural sand had experienced significant levels of truncation throughout the area of excavation due to the construction of later structures.
- 6.1.2 The only location where undisturbed natural sand was observed was in the southeast corner of the site where the natural was recorded at a height of 43.90m Above Ordnance Datum (AOD). The highest point at which the natural was record was in the northeast corner of the excavation area at a truncated level of 46.28m AOD. The general topography of the site incorporates a gentle gradient rising up from south to north which is reflected in the recorded level of the natural.

6.2 Period 2 – Pre-19th Century Deposits

- 6.2.1 The earliest deposits recorded on site, designated as Period 2, pre-dated the later 19th century structures on site as indicated by their stratigraphic position (Figure 3, Section 12),. These deposits were limited in extent, only surviving in the southeast corner of the excavation.
- 6.2.2 Overlying natural sand (738) was a firm, yellowish brown, silty sand subsoil deposit (757) which covered an area 5m in length by 1.50m in width. Subsoil deposit (757) was up to 0.35m thick and did not contain any finds. Immediately above subsoil deposit (757), and covering the same extent in plan, was a firm, dark brown, clayey sand buried topsoil deposit (758) measuring up to 0.25m thick. Topsoil was recorded at a height of 44.50m AOD. No

finds were identified within this deposit. Buried topsoil (758) was truncated by mid to late 19th century wall [623].

Period 3 – 19th to 20th Century Structures 6.3

- 6.3.1 The majority of features encountered on site were associated with Period 3 which were distributed across the full area of the excavation. These features represent significant industrial activity taking place on site, initially consisting of Clinton's Victorian Maltkiln complex which was subsequently replaced by a modern maltkiln complex. This range of activity based on documentary evidence and the dating of construction materials used, is known to date from the 19th century through into the 20th century.
- 6.3.2 Period 3 represents the earliest known evidence for human activity on site, but due to the substantial nature of the structural remains associated with this period, it is a strong possibility that this activity has removed any evidence for earlier activity.
- 6.3.3 Assessment of the dating evidence available and the stratigraphic positioning of the features appear to represent six phases of activity within Period 3; Phases 3a to 3f. Phases 3a to 3c relate to the construction, use and demolition of the Clinton's Maltkiln, while Phases 3d to 3f relate to the construction and demolition of the modern maltkiln, followed by the site's subsequent abandonment.

Phase 3a & Phase 3b - Clinton Maltkilns

Phases 3a and 3b both relate to activity associated with the Clinton's Maltkiln buildings 6.3.4 known to be on site (Figures 3, 4, 5 and 6). Phase 3a relates to the construction and initial use of the maltkin complex in the second half of the 19th century, while Phase 3b relates to later alterations made to the building complex during the early 20th century. Due to the detailed survival of the building plan and features within each room, discussion of the phasing will take place after the individual description of each room.

Room 1

6.3.5 Room 1 was located in the west area of Trench 6 covering an area of 40.80m north-south by 16m east-west. To the north Room 1 was defined by external wall [645] which was cut into natural sand (738) (Figure 4 and Plate A). The wall was aligned east-west extending for a distance of 24.50m to be incorporated into the construction of Rooms 2, 3 and 4., The wall was rerecorded as having a maximum width of 0.50m. To the west, wall [645] extended beyond the limit of excavation, probably continuing for a distance of 1.50m before encountering the site's western boundary wall. On inspection the western boundary wall, which forms the rear wall of the residential properties fronting onto Carlton Road, incorporates lower courses which appear to be constructed in the same fashion as wall [645] and may represent the return line of the wall. Wall [645] was constructed from roughly dressed sandstone blocks bonded together to form regular courses using a pinkish brown, soft, sandy mortar. The sandstone blocks used had a maximum size of 400mm by 230mm by 230mm. The interior southern face of the wall had been plastered and subsequently whitewashed. Wall [645] survived to a height of 45.84m AOD.



Plate A. Room 1 Looking Southeast

- 6.3.6 The eastern limited of Room 1 was originally defined by a consist series of segmented internal wall sections on a north-south alignment [636], [704], [744], [745], [746], [750], [751], [752], [753] and [754]. The wall segments varied in length between 0.25m and 3.80m, with a consistent width of 0.50m. Each wall section was constructed in the same manner using both red and yellow handmade un-frogged bricks measuring 230mm by 110mm by 70mm, bonded using a form, pink, sandy mortar. This type of brick was manufactured between the late 18th and 19th centuries. Bullnosed bricks had been incorporated into the corners of each wall section. The most northerly wall section [746] had been keyed into east-west aligned wall [645]. The four most northern wall sections [636], [744], [745] and [746] were the best preserved, surviving to a height of eight courses at 45.72m AOD, revealing the western face of the wall had at once been whitewashed. The remaining wall sections only survived to floor level. The openings created by the wall sections varied in width between 0.70m to 2.30m.
- 6.3.7 The segmented wall sections covered a distance of 31m north-south, with the remaining length of the eastern limit of Room 1 formed by wall [707], which returned to the west as wall [706] for a distance of 16m forming the southern limit of Room 1. Walls [706] and [707] were built using the same materials and technique as north-south orientated segments of wall, with the only variation being their thinner width at 0.40m wide.
- 6.3.8 The presence of internal structural features within Room 1 was limited to two limestone foundation pads [762] and [763] in the southern half of the room. Foundation pads [762] and [763] were trench cut into natural sand (738) and both were well dressed, cut to a shape measuring 0.70m by 0.70m in plan by at least 0.20m thick. The upper surfaces of the foundation pads were at 45.22m AOD.
- The internal area of Room 1 was dominated by tiled floor (640) extend north-south for 30m 6.3.9 before being truncated by later demolition activity, and covering the full width of the room. Floor (640) extended for a further 7.50m to the east occupying the northern area of Room 5. The red ceramic quarry tiles used were 180mm by 180mm by 50mm in size, stamped 'COWLING', and set into a bed of hard light grey cementious mortar. The tiles had been laid in offset northwest-southwest orientated rows. The tiled floor survived at a fairly uniform height of 45.32m AOD.

- 6.3.10 In the southern limit of Room 1, abutting walls [706] and [707], was skimmed concrete floor (705) (Figure 5). The concrete floor extended for 16m east-west by 2m north-south and appeared to have been laid over he limited remnants of an earlier tiled floor surface.
- 6.3.11 Another later addition to Room 1 was concrete drainage channel [739] which had been cut through floor (640) and ran the width of the room adjacent to wall [645], continuing on into Room 2 (Figure 3, Section 14, Figure 6, and Plate B). Channel [739] was 0.40m wide, vertically sided with a rounded base. The depth of the channel consistently increased in depth up to 0.70m creating a gentle gradient at base from east to west. Metal fittings for unknown attachments were present in the side walls of the drain, in addition to the presence of hinged grills attached to wall [645] which would have once acted as a cover for the drain (Plate B).



Plate B. View of Channel [739] Looking North

6.3.12 As part of the instillation of channel [739] a 0.55m high rendered red brick chamfer [749] was built occupying the area between wall [645] and channel [739]. The chamfer abutted wall [645] and ran the full width of the room.

Room 1 Phasing

- 6.3.13 The majority of contexts described in association with Room 1 were related to Phase 3a; the original construction of the maltkiln building. This includes walls [645], [636], [704], [706], [707], [744], [745], [746], [750], [751], [752], [753] and [754]; and floor (640) (Figure 4). All of the walls were built using the same late 18th to 19th century bricks with the exception of wall [645], although wall [645] is bonded into wall [746] implying they are contemporary. The date of the bricks, and the lack of any further significant modification, suggests they are part of the original construction. The lack of structural modification also implies that foundation pads [762] and [763] were also associated with this phase as well. With regards to floor (640), that fact it abuts the majority of these Phase 3a walls and extends into the northern area of Room 5 where it is truncated by later Phase 3b activity also means it is strongly associated to Phase 3a.
- 6.3.14 Later Phase 3b alterations were limited to the construction of northern channel [739] and the laying of southern floor (705) which can be stratigraphically indentified as later activity (Figure 5). Channel [739] clearly truncates earlier floor (640), whereas floor (705) overlies a suspected earlier tiled surface. This evidence is supported by the use of concrete as a

building material which is more akin to 20th century building techniques, post dating the original mid 19th century construction of the building.

Room 2

6.3.15 Room 2 was located centrally at the northern end of the building, with Room 1 lying immediately to the west (Figure 6 and Plate C). The room measured 7.50m by 2.50m in plan. To the north Room 2 was defined by the eastern extent of wall [645], while to the west Room 2 was defined by two distinct elements. The first element was the four segmented wall sections [636], [744], [745] and [746] dividing Room 2 from Room 1. The openings between the wall sections had subsequently been blocked by three short lengths of brick work [637], [638] and [639]. These three sections of blocking brickwork varied in length between 1.10m and 1.65m dependent on the width of the opening, with a consistent width of 0.40m. The red bricks used in their construction were double-frogged measuring c. 225mm by 115mm by 75mm, manufactured between the late 19th to 20th centuries. Some of the bricks were stamped 'WILKINSON ELLAND'. The bricks bonded using a firm pale grey, cementious mortar in an English bond. Of interest was the incorporation of a simple squared opening 0.40m wide at the base of wall [639] to allow channel [739] to pass between Room 1 and Room 2. This is in addition to the 0.70m wide doorway included into brickwork [638], initially raised above floor level by two courses, and subsequently raised again by the height of another two courses by a flush stone block. All brickwork had been whitewashed.



Plate C. View of Rooms 2, 3 and 4 Looking South

- 6.3.16 Wall [647] formed the eastern limit of the room measuring 6.60m in length by 0.50m wide. The red bricks incorporated into the wall were 230mm by 110mm by 70mm, bonded by a hard, mid grey, cement mortar in an English bond pattern. These bricks were stamped 'COCKING DONCASTER' and were made between the late19th and 20th century. Mid way along its length, wall [647] incorporated a raised doorway 0.90m wide. The doorway had been constructed three brick courses above floor level and had been lined by concrete slabs 90mm thick. The western face of the wall had been plastered and whitewashed.
- 6.3.17 The southern end of wall [647] had been keyed into east-west orientated wall [643], which was 0.35m thick and covered a distance of 5.30m, forming the southern limit to Rooms 3 and 4. The western end of wall [643] abutted earlier wall segment [636]. Wall [643] was built using double frogged red bricks measuring c. 220mm by 100mm by 75mm stamped 'WILSON', which were made in the late 19th and 20th century. The northern face of wall [643] within Room 2 had been whitewashed.

- 6.3.18 The main feature in Room 2 was concrete machinery platform [642], which was located against the west wall of the room abutting wall segment [744] and blocking brickwork [637]. Machinery platform [642] measured 1.50m by 0.60m in plan and reached a height of 0.25m above floor level at 45.49m AOD. Two shallow parallel grooves traversed the upper surface of platform [642] and had two sets of paired metal attachment points set within each of the grooves.
- 6.3.19 Concrete surface (641) and (654) made up the floor of Room 2, straddling channel [739], at a height of 45.25m AOD. A slight gradient was incorporated into the floor (641) in the area adjacent to channel [739], inclining from north to south.

Room 2 Phasing

- 6.3.20 Wall sections [636], [645], [744], [745] and [746], due to their common association with Room 1 are all assigned to Phase 3a, the original construction of the complex (Figure 4).
- 6.3.21 Brickwork [637], [638] and [639], and walls [643] have been assigned to Phase 3b due to their later construction demonstrated by their abutment to walls [636], [744], [745] and [746] as well as the later 19th to 20th century bricks used in their construction. Wall [647] is integrated into this structure and uses the same types of bricks, so clearly contemporary. The relationship between channel [739], platform [642] and floors (641) and (645) show that they immediately post date the construction of the Phase 3b walls and integral into the design of later modified Room 2 (Figure 6).

Room 3

- 6.3.22 Room 3 was located centrally in the northern area of the trench between Rooms 1 and 4, covering an area measuring 7.50m by 1.90m (Figure 6 & Plate C). The earliest feature in Room 3 is interpreted as concrete machinery platform [646] located centrally at the southern end of the room, measuring 2.35m by 2.10m wide in plan, with the upper surface of the platform set at 45.81m AOD, 0.55m above floor level.
- 6.3.23 Three walls abutted platform [646], wall [647] to the west, wall [648] to the east, and wall [643] to the south. Wall [648] was orientated north-south covering a distance of 6.35m and varied in thickness between 0.25m and 0.90m due to features incorporated into the wall present in Room 4. The wall had built using double frogged red bricks measuring c. 220mm by 105mm by 75mm stamped 'WILSON', dating to between the late 19th and 20th century. The southern end of wall [648] was keyed into east-west wall [643], with the materials and construction of wall [648] identical to that of contemporary walls [643] and [647]. All three walls appeared to have been constructed to contain the significant size of platform [646]. The width of walls [647] and [648] narrowed at their southern end to accommodate the width of platform [646], while the length of wall [643] abutting platform [646] was built to a height of four courses in order to create a large opening between Room 3 and Room 5. The height of this opening was later reduced with the insertion of concrete block [747] 2m long, 0.40m wide and 0.40m thick, at the base of the opening obscuring the upper surface of wall [643].
- 6.3.24 Aligned east-west and keyed into walls [647] and [648] was wall [649], which measured 1.90m in length by 0.25m wide. The bricks and construction technique used was the same as contemporary walls [647] and [648]. It appears that wall [649] was constructed to be flush with the concrete floor (740) of Room 3 at 45.25m AOD.

Room 3 Phasing

6.3.25 All contexts present in Room 3 have been directly incorporated into the same phase of construction as Room 2, with the exception of wall [645], representing later alterations to the maltkiln complex to subdivide this centrally northern area of the building during Phase 3b.This is supported by identical building materials utilised in Phase 3b construction is both Rooms 2 and 4 (Figures 4 and 6).

Room 4

- 6.3.26 Room 4 was located immediately to the east of Room 3, predominantly measuring 7.50m by 2.80m in plan (Figures 4 and 6, Plate C). Wall [645] defined the northern limit of Room 4, while the eastern limit of the room was defined by north-south internal wall [650]. Overall, wall [650] ran for a distance of 40m and was 0.50m wide. The wall was built using red and yellow bricks measuring 230mm by 110mm by 70mm, using firm, pink sandy mortar with an English bond pattern. The northern end of the wall had been keyed into wall [645], while the western face of the wall had been plastered and whitewashed.
- 6.3.27 Abutting wall [650] to the west was ceramic tiled floor (741) covering an irregular area throughout the floor plan of Room 4. Floor (741) had been constructed using red ceramic tiles measuring 180mm by 180mm by 50mm set into a bed of hard, light grey, cementious mortar, and laid in offset northwest-southwest orientated rows, and identical to floor (640). Floor (741) was at a height of 45.35m AOD.
- 6.3.28 The western side of floor (741) had been heavily truncated by the construction of multiple features abutting or incorporated into internal wall [648] which formed the western extent of Room 4. At the southern end of Room 4 was partially defined the remains of wall [643] which extended a distance of 1.10m along the southern boundary of the room. This suggests a large opening, 1.70m wide, would have been incorporated into the southern elevation of the room.
- 6.3.29 The most southern of the features to be incorporated adjacent to wall [648] was a rectangular concrete surface (653), set at floor level measuring 1.80m long by 1.50m wide. The area where concrete surface (653) met wall [648], was lined with highly fired, grey bricks measuring 225mm by 112mm by 70mm, suggesting some high temperature process was being undertaken in association with concrete surface (653). The bricks had been stamped 'METAL' and were dated to the late 19th and 20th century. Immediately to the north of concrete surface (653) rectangular alcove [652] had been incorporated into wall [648]. Alcove [652] measured 0.60m by 0.40m in plan and had a floor made of red bricks measuring 230mm by 110mm by 70mm. Bolted to the exterior of alcove [652] was the remains of a cast iron L-shaped feature (661) framing the eastern opening of the alcove. The presence of one half of a barrel hinge at the base of frame (661) indicates the alcove would have been enclosed by a cast iron door. Overlying the brick floor of alcove [652] was a 0.10m thick dark ashy burnt deposit (729), which strongly implies alcove [652] was used as a fire box. Adjacent to alcove [652] was a concrete platform [655] which abutted wall [628] to the west. The platform covered an area 2.70m by 1.90m in plan with its upper surface at a height of 45.59m AOD. Abutting platform [655] to the south was concrete surface (810) set 0.10m lower than adjacent floor surface (741). Each surface covered an area 1.20m by 0.60m and was lined using the same heat resistant bricks lining the southern extent of wall [648]. East-west orientated wall [654], partially built into, and of the same construction as, wall [648], defined part of the northern extent of platform [655]. Wall [654]

- was 1.25m in length by 0.35m wide. At the northern end of Room 4 the western end of channel [743] was inserted cutting through floor (640) and continued into Room 8.
- 6.3.30 Due to the insertion of multiple later features through earlier floor surface (640) the floor surface had been repaired using irregular patches of skimmed concrete infill (742) and (657) which were present throughout the length of Room 4.
- 6.3.31 A uniform feature present to the northern limit of Room 2, 3 and 4 was a large pit, defined by platform [655] and walls [649] and [656] on its southern side, and by wall [645] on the northern side. Channel [739] led into the pit from the west and channel [743] from the east. This made the pit 4.20m in length by 1.30m wide, while probing of the backfill indicated it to be over 1m in depth. Due to the unstable nature backfill and the presence of large voids within it, health and safety considerations prevented the debris within the pit being excavated. The function of the pit probably relates to the use of machinery to transfer liquids into channels [739] and [743].

Room 4 Phasing

- 6.3.32 Elements of the room associated with the original Phase 3a construction are walls [645] and [650], plus floor (741) (Figure 4). Walls [645] and [650] use the earlier late 18th to 19th brick types associated with the original construction of the building complex in addition to being bonded into on another and being part of the extensive original floor plan. The remains of floor (741), which abutt wall [650] following the tile pattern as Phase 3a floor (640). The two floors are likely to once been part of the same floor surface before being truncated by later activity.
- 6.3.33 Partition walls [648], [643] and [656] are immediately associated with the Phase 3b alterations taking place in Rooms 2 and 3, being part of the same phase of late 19th or 20th century subdivision occurring within the maltkiln structure. By stratigraphically relationship this means features [652], [653] and [655], along with concrete surfaces (742) and (810), must also be associated with this phase (Figure 6).

Room 5

6.3.34 Room 5 was a north-south orientated room, bordered by Room 1 to the west and Rooms 2, 3 and 4 to the north (Figures 4 and 5, Plate D). The room was 31.50m long by 7.50m wide. The northern boundary of the room was defined by wall [643], while the western extent of the room was defined by wall segments [704], [707], [750], [751], [752], [753] and [754] (Figure 4). Wall [650] designates the eastern extent of Room 5, and incorporates a doorway, approximately 0.80m wide, between Room 5 and Room 8 in the northern half of the room. Due to the poor survival of wall [650] in this area it is unclear if the doorway is an original feature or a later alteration. The southern limits of Room 5 are defined by walls [674] and [676] associated with Room 6.



Plate D. View of Room 5 Looking South

- 6.3.35 Arranged at regular intervals within Room 5, forming a grid pattern were 24 concrete stanchion bases [703]. Each stanchion base was separated by a distance of 2.30m from each of its neighbours. The stanchion bases themselves were 0.75m square, with a height of 0.15m and chamfered sides. Set into the top of each stanchion were four iron bolts set in a square pattern 0.25m apart. Associated with the stanchion bases in the southern half of Room 5 were three low concrete platforms. The largest was concrete platform [670] which covered an area 4.55m north-south by 0.95m east-west set 50mm above floor level. To the northeast of concrete platform [670] were two L-shaped concrete platforms [811] and [812] set at approximately the same height. Both platforms [811] and [812] were 1.20m long eastwest, by 1m north-south and 0.50m wide. Platform [811] was the only platform of the three to exhibit markings on the upper surface, which consisted of a 0.15m shallow straight edged groove running centrally through the platform.
- 6.3.36 Concrete floor (664), including southern section (672), extended across the full area of Room 5. The concrete floor at been laid at a height of 45.30m AOD, although in the northern and western area of the room a 40mm step had been incorporated into the floor, raising the floor level in these areas so that floor level through into Rooms 1 and 8 were the same. To the south of Room 5 limited repairs using concrete (679), brick (678) and (680), and stone flags (677) had been made to floor (664) (Figure 7).
- 6.3.37 Floor (664), in association with concrete platforms [670] and [812], defined the alignment of a north-south orientated channel, 7.50m in length by 0.50m wide, which terminated at each end in a rectangular pit. The northern pit was 1.60m long by 1.20m wide, whereas the southern pit was larger and measured 2.90m long by 2.10m wide. The southern pit was defined on its southern, western, and part of its northern side by wall [756]. Wall [756] had been truncated to floor level and maintained a consistent width of 0.25m. Red bricks measuring 230mm by 110mm by 70mm had been used in the construction of wall [756] and had been bonded using a cementious mortar. Wall [756] also defined the eastern side of a 3m long by 1m wide passage that linked Room 5 to Room 7. Due to the presence of asbestos fragments in the rubble backfill (671) of the north-south channel and two pits, these features were not excavated. The function of these features appears to relate to the instillation and movement of machinery elements.

Room 5 Phasing

- 6.3.38 The only Phase 3a contexts which survive from original construction of Room 5 are walls [650], [704], [707], [750], [751], [752], [753] and [754] which define the boundaries of the room (Figure 4). All of these walls incorporate building materials used during the construction phase of the building.
- 6.3.39 The interior of Room 5 is a result of large scale, later, Phase 3b modification demonstrated by the extensive use of concrete, incorporating stanchions [703]; platforms [670], [811] and [812]; wall [756]; and floor (664) (Figure 5). The later construction of floor (664) is also shown by efforts to raise the level western and northern area of the floor in order to make the floor flush with the Phase 3a floor surfaces in Room 1 and 8.

Room 6

6.3.40 Room 6, located at the southern end of Room 5, measured 4m east-west by 3.20m northsouth, and was defined to the east by wall [650] (Figure 7, Plate E). Northern wall [676] abutted earlier wall [650], while wall [674] formed the western side of Room 6. The lack of any substantial foundations to the southern side of Room 6 indicates that the room was open to the exterior. Wall [676] was 4.25m in length by 0.40m and survived to a height of four courses above the floor level of Room 5 at 45.49m AOD. Red and yellow bricks measuring 220mm by 120mm by 70mm were used to construct the wall, and were bonded using a hard, pinkish lime mortar. Wall [674] was 2.60m in length and narrower at 0.25m wide.



Plate E. View of Room 6 Looking South

- 6.3.41 Part of the southern boundary of Room 6 was defined by a brick lined channel [687]. The channel was 2.40m in length, by 0.10m wide, by 0.10m deep, the function of which may be related to the instillation of buffers at the end of railway tracks (695).
- 6.3.42 In the northeast corner of the room a substantial concrete block [690], designed to act as an engine bed, had been installed abutting wall [650] and [676]. Engine bed [690] measured 1.90m by 1.70m in plan and was raised 0.10m above floor level to a height of 45.73m AOD. A series of angular grooves and metal fixings were incorporated into the upper surface of machine bed [690] to assist in the attachment of plant (Plate F).



Plate F. View of Machine Bed [690] Looking North

- 6.3.43 An area of a clay bedding material (686) with course inclusions, measuring 1.20m by 0.80m in plan, was exposed abutting channel [687] to the north. Bedding material (686) formed the surface on which floor (673) was laid and was made from York stone slabs of varying size. Floor surface (673) occupied the southern half of Room 6, covering an area measuring 4m east-west by 1.20m north-south. The stone slabs were also partially overlying channel [687] and abutting engine bed [690].
- 6.3.44 Dominating the northwest corner of Room 6 was a covered chamber, measuring 2m square by 0.80m deep. It was defined by the extension below ground level of walls [674] and [676] to the west and north respectively, and wall [813] to the east and wall [814] to the south (not illustrated). All four walls were of the same construction. The interior of the chamber contained several features of interest, most notably an east-west brick-lined tunnel travelling from the northeast corner of the chamber (Plate G). The tunnel was 0.50m wide and extended to the full height of the chamber. Where the tunnel led in unclear. Mechanical fittings were also present attached to wall [676] in the form of toothed cog wheels (Plate H). Two metal water pipes (682) and (683) were attached to wall [674]. Prior to the chamber being covered a 0.20m thick metal beam (681) was inserted into walls [674] and [813], with short lengths of corrugated metal sheets (684) lining the upper edges. Resting on beam (681) and corrugated sheets (684) was a 0.10m thick concrete slab (675), measuring 2.20m by 2m in plan, which capped the chamber (Plate I). In the southeast corner of the capping slab (675) a rectangular inspection hatch (685) had been incorporated into its manufacture, measuring 0.70m by 0.50m in size. It is likely the hatch would have incorporated an inspection cover or grate. It is thought a second, similar, inspection hatch would have once been present to the southwest corner of capping slab (675), but that corner has been removed by later truncation.



Plate G. View of Tunnel within Chamber



Plate H. View of Mechanical Parts within Chamber

Plate I. View of Capping Slab [675] Looking East

Room 6 Phasing

6.3.45 Stratigraphically, all elements that form Room 6 are later than wall [650] which is associated with Phase 3a. These elements either use the later 19th to 20th century bricks forms or are made from concrete which firmly associates their construction with later Phase 3b alterations taking place within the maltkiln complex (Figure 7).

Room 7

6.3.46 Room 7 was located to the south of Rooms 1 and 5, measuring 19.50m east-west by 2m north-south (Figure 4). To the north, Room 7 was delineated by walls [706] and [756], which were separated by 1m wide opening to facilitate access into Room 5 by means of a corridor. The southeast corner of the room was defined by wall [714] which consisted of a 3.30m long north-south alignment which incorporated a 45° corner to return on an east-west alignment for a distance of 2m. The internal continuation of the wall enclosed a small area 1.70m in length by 1m wide. In general, wall [714] was 0.25m wide, and constructed from red bricks measuring 230mm by 110mm by 70mm, bonded together using a cementious mortar. Wall [711] was present for a distance of 9m east-west before continuing beyond the western limit of excavation, and built to a width of 0.70m. The width of the wall was greater than normal due to its cell-like construction, as wall [711] contained six rectangular voids within the wall, each of which measured 1.30m by 0.40m in plan. The removal of later rubble infill (605) indicated these voids were 0.40m deep with a compacted mortar base (815). Cream coloured bricks with dimensions of 215mm by 100m by 60mm had been used in the construction of the wall, bonded using a hard, sandy, orangey brown mortar. Abutting the eastern side of wall [711], and following the same alignment, was later wall [712] which was 4.30m long by 0.20m wide (Figure 5). Red, three holed, engineering bricks were used to build wall [712] each measuring 210mm by 100mm by 60mm, and bonded using a hard, pink, sandy mortar. A design of brick utilised between the late 19th and 20th centuries. The wall terminated in a 0.40m square pier. The southern wall of does not appear to have extended the full length of the south side of Room 7 implying that a large opening, varying in size between 4m and 8.5m, was once incorporated into the southern wall. The western wall of Room 7 lay beyond the limit of excavation.

- 6.3.47 The only structural element identified within Room 7 was pier base [713] which measured 0.60m square, and was constructed in the same manner as wall [714] (Figure 4). Pier base [714] and the surrounding walls only survived at floor level.
- 6.3.48 The floor surfaces within Room 7 had been heavily truncated by later activity, resulting in it surviving in several isolated sections. In the western half of the room, abutting wall [706], the remains of red tiled floor (708) and (709) were present which covered an area of 10.80m east-west by 1.50m wide separated into two sections. The red quarry tiles were 180mm square by 50mm thick set into a bedding of hard, grey mortar. They were laid in an alternating pattern aligned east-west. Limited patches of concreted later backfill (605) still adhered to floor (709) and internally to wall [714]. The central floor area was made up of a continuation of concrete floor (644) extending from Room 5, while in the eastern corner of the room, occupying an area of 1.80m north-south by 1.60m east-west was worn red brick floor (715). The bricks were laid in an alternating stretcher pattern and abutted walls [714] and [756]. Overall, the floor level in Room 7 was recorded at 45.35m AOD.
- 6.3.49 Later concrete patches (710) were employed to repair floor [709] and [644] in several locations (Figure 5). Each patch measured approximately 1.70m in length by 0.50m wide. Room 7 Phasing
- 6.3.50 The form of Room 7 was defined during the original Phase 3a construction of the building, represented by walls [706], [711] and [714], all of which appear to be stratigraphically early. Internal features (708), (709), [713], and (715) either directly abut these walls or their spatial positioning immediately associated with them. In the case of floor (708) and (709) the same form of guarry tiles are used as in Phase 3a floors (640) and (741) (Figure 4).
- 6.3.51 Wall [712] is assigned to Phase 3b due to its later stratigraphical relationship to wall [711] and 19th to 20th century bricks used in its construction repairs, both of which identify it as a later modification to the original layout of the room. Concrete patches (710) designate repairs to the original floor surface after a reasonable period of use (Figure 5).

Room 8

6.3.52 Room 8 occupied the northeast area of the maltkiln building complex, representing the single largest room covering an area of 41.50m north-south by 22m east-west (Figure 4, Plate J). Wall [650] formed the western boundary of Room 8, dividing it from Rooms 4, 5 and 6, part of which had been white washed. The northern limit of the room was formed by wall [651] which abutted wall [645] to the west. Wall [651] represents the continuation of the northern external wall of the maltkiln complex, although its alignment slightly different by a couple of degrees to the northeast to the established east-west alignment associated with the rest of the complex. The wall was 0.50m thick and made from red bricks measuring 230mm by 110mm by 70mm in an English bond style, held together by a hard, pink, sandy mortar. The southern internal face was plastered and subsequently white washed. Wall [651] survived to a height of 45.67m AOD. The eastern wall of Room 8 was primarily represented by wall [662] which ran for a distance of 38.50m north-south and was 0.65m wide. Wall [662] was constructed using double-frogged bricks measuring c 228mm x 110mm x70mm made between the late 19th and 20th century, stamped with 'COCKING DONCASTER'. The wall survived to a similar height as wall [651]. Wall [720], which divided Room 8 from Room 9 in the southeast corner, was 3m in length by 0.40m wide, and bonded into east-west wall [718]. Later truncation had removed its relationship with wall [662], although it was associated with the same phase of building as the same materials, construction technique and surface treatments hade been used. Southern wall [718] extended the full width of Room 8, with a maximum width of 0.40m, and bonded into walls [650] and [718] at each end. The same materials and construction method had been employed as observed elsewhere in Room 8, although later truncation had reduced wall [718] to floor level.



Plate J. View of Room 8 Looking Northwest

6.3.53 At the northern end of Room 8 free standing north-south orientated walls [663], [664], [665] and [666] had been constructed in order to divide this area of the room into five separate bays (Plate K). Each bay was 3.80m wide, except for the central bay which was larger at 4.80m wide. Each wall was 0.50m wide and varied in length between 6.70m and 7.50m. This variation in length was incrementally proportional in order to maintain a 1.30m gap to the irregularly aligned wall [651], yet extending out to the same limit within the room. Each wall had been built in the same way using both red and yellow bricks measuring 230mm by 110m by 80mm, bonded using a hard, pink, sandy mortar. Bullnosed bricks had been used at each corner. Each wall had been truncated to floor level.



Plate K. View of Walls [663], [664], [665] and [666] Looking East

- 6.3.54 To the south of walls [663], [664], [665] and [666], a regular series of limestone blocks [700], [702], [785], [786], [787], [788], [789], [790], [791], [792], [793], [794], [795], [796], [797], [798], [799], [800], [801], [802], [803], [804], [805] and [806], were cut into the natural (738) to act as foundation pads. The pads were set at 3m intervals. Several of the pads were obscured by associated floor (660), but where their full size could determined varied between 0.50m by 0.50m in plan to 0.75m by 0.75m, and were up to 0.30m thick. The majority of the pads demonstrated the presence of a shallow 0.30m square recess on the upper surface of the pad, with surviving examples of metal plates resting in the recesses of pads [792], [794] and [797]. These metal plates appear to be the attachment points for cast iron columns. The 13 foundation pads [764], [765], [766], [767], [768], [769], [770], [771], [772], [773], [774], [775], [776] closest to southern wall [718] did not conform to the same pattern. Two sizes of limestone blocks were employed alternately set in a different pattern than that established in the remainder of the room. The larger pads [765], [767], [769], [771], [773], [774] and [775] were of a similar size to those in the main body of the room, and set at 2m intervals. The smaller pads [764], [766], [768], [770], [772], and [776] were set at an even distance from the adjacent larger pads. These pads measured between 0.35m square and 0.40m square, with a thickness of 0.20m.
- 6.3.55 Two additional limestone blocks [783] and [807] were identified as being contemporary to the numerous foundations pads, but were orientated at 45° to them, so setting them apart. Limestone block [807] measured 0.55m by 0.55m in plan, and was at least 0.20m thick, and incorporated a central shallow 0.25m square recess in its upper surface. Limestone block [783] was larger, measuring 0.95m by 0.95m in plan by at least 0.20m thick. The upper surface also contained a central shallow recess, 0.30m square, with a circular socket 50mm in diameter bored in the centre of the recess. It is likely both lime stone blocks were used to support mechanical fixtures.
- 6.3.56 Overlying the limestone blocks was tiled floor (660), (701), (778), (781) and (784). The floor would have originally extended for a distance of 38.50m north-south and occupied the full width of the room, but later truncation had removed a large proportion of the floor in the southern and eastern areas of the room. The red 'COWLING' stamped quarry tiles used measured 180mm by 180mm by 50mm, and were set in a hard, pale grey, sandy mortar. The tiles were set in an alternating pattern orientated northwest-southeast. Two features of interest associated with the larger floor section (660) were two parallel ruts, set 5.50m apart,

- deforming the surface of the floor by 20mm to 30mm. The northern rut was 8.30m long, while the southern rut was 13m long. Both ruts were 0.50m wide. It is unclear what caused the ruts, but they are likely to have been created during the demolition phase of the building.
- 6.3.57 A second tiled floor surface (730) and (777) was recorded at the southern end of the room, and originally covering an area of 21.50 east-west by 3m north-south. Two small areas of this floor survived, with floor (730) abutting, and contemporary to, main floor fragment (778), with their division represented by the line of foundation pads [764], [765], [766], [767], [768], [769], [770], [771], [772], [773], [774], [775], [776]. The tiles were similar to the type used in floor (660), although they were laid corner to corner on an east-west alignment. The floor survived at a height of 45.30m AOD.
- 6.3.58 The main later feature in Room 8 was the construction of concrete channel [743] which ran adjacent to northern wall [651] the full width of Room 8 (Figure 3, Section 13, Figure 5 and Plate L). Channel [743] was of the same size and design as channel [739] in Room 1. The base of channel [743] incorporated a very shallow gradient descending from west to east, draining into small rectangular chamber in the northeast corner of the room. Positioned over the chamber was a large metal frame inserted into wall [651] and [662].



Plate L. View of Channel [743] Looking North

6.3.59 At the southern end of Room 8 three concrete surfaces (779), (780) and (782) had been built into floor surfaces (660) and (781) (Figure 5). Surfaces (779) and (782) measured 1.50m in length by 1m wide and had the remains of a vertically set metal beam centrally located. Both surfaces were set at 90 degrees to one another. The third concrete surface (780) measured 1.80m long by 1.55m wide, and was located equal distance between surfaces (779) and (782). No features were present on its surface. It is likely that these three concrete surfaces relate to the instillation of the same mechanical feature.

Room 8 Phasing

6.3.60 Walls [650], [651], [662], [663], [664], [665], [666] and [718], define the original Phase 3a layout of the room and stratigraphically early in the sequence of construction with the maltkiln complex. This is supported by the use of late 18th to 19th bricks used in their construction. Foundation pads [700], [702], [764], [765], [766], [767], [768], [769], [770], [771], [772], [773], [774], [775], [776], [785], [786], [787], [788], [789], [790], [791], [792], [793], [794], [795], [796], [797], [798], [799], [800], [801], [802], [803], [804], [805] and [806], are also associated with this period as not only do many underlie contemporary floors (660), (701), (778), (781) and (784), but also systematically aligned and spaced between the

- Phase 3a walls. This indicates the wall plan and internal structural design were as a whole (Figure 4).
- 6.3.61 Limited later Phase 3b alterations occur within Room 8, represented by channel [743] and concrete surfaces (779), (780) and (782) all of which cut the Phase 3a floor surfaces and utilise later materials not used during the original construction phase (Figure 5).

Room 9

6.3.62 Room 9 was located to the southeast corner of Room 8, measuring 2.60m by 1.80m in plan (Figure 4, Plate M). The room was bounded by wall [720] to the west, the eastern end of wall [718] to the south, wall [692] to the east and wall [721] to the north. In total, wall [692] was 11m north-south and 0.50m wide. Wall [721] was 1.80m long and a similar width to wall [692]. Walls [692] and [721] were built in the same style as the adjacent walls and survived to floor level. On the western side of the room wall [720] an addition brick facing [727] consisting of red brick measuring 230mm by 110mm by 80mm bonded using a hard, pink, sandy mortar. Abutting brick facing [727] was the remains of partially truncated floor surface made from firm, brownish red sand (728) which survived to a height of 45.25m AOD.



Plate M. View of Rooms 9, 10, 11 and 12 Looking West

Room 9 Phasing

6.3.63 All four walls [692], [718], [720], [721] in Room 9 are stratigraphically early and built using late 18th 19th century bricks associated with the original Phase 3a construction of the building (Figure 4). Floor (728) is assigned to this phase by immediate association.

Room 10

6.3.64 Room 10 was located to the south of Room 8, and would have originally measured 23.50m east-west by 1.80m wide and may have acted as a corridor through the building (Figure 4, Plate M). To the north Room 10 was defined by wall [718], to the east by wall [692], to the south by wall [717], and to the west by wall [716]. Wall [716] ran for a distance of 4.60m, also forming the western wall of Room 11, and was 0.50m thick. Wall [717] ran for the full length of Room 10 and was also 0.50m thick. Walls [716] and [717] were built in the same manner as wall [718] and bonded into their adjacent walls. Concrete floor (723) was 21.20m in length and occupied the full width of the room. A 0.20m wide channel ran down the centre of the room. Floor (723) lay at a height of 45.32m AOD.

6.3.65 Later division to Room 10 led to the creation of a smaller room 2m square, at the eastern end of Room 10 by means of the construction of wall [719] (Figure 5). Wall [719] was 1.85m in length by 0.35m wide and abutted walls [718] and [717]. Red bricks measuring 230mm by 110mm by 80mm were used in its construction. Concrete floor (726) covered was laid throughout this smaller area at a height of 45.45m AOD.

Room 10 Phasing

- 6.3.66 Walls [692], [717], [716] and [718] directly relate to the Phase 3a construction of Room 8 and 9, while floor was immediately associated (723) (Figure 4).
- 6.3.67 Wall [719] abutted both [717] and [718] demonstrating a later relationship and introducing a subdivision within Room 10, is attributed to alterations assigned to Phase 3b. This also indicates floor (726) is associated with this later phase as well (Figure 5).

Room 11

6.3.68 Located to the south of Room 10 was Room 11, with Room 10 also the same size and layout as Room 11 (Figure 4, Plate M). The two rooms shared walls [692], [716] and [717], while walls [617] and [693] defined the south extent of Room 11. Wall [617] was 21.60m in length by 0.40m wide and bonded into wall [716] and wall [691] at either end. Wall [693] was shorter at 1.80m in length by 0.40m wide, and abutted adjacent walls [691] and [692]. Both walls were constructed in the same fashion as those adjacent to them. Concrete floor (722) was laid at the same level as floor (726) and had an identical channel running for a distance of 21.50m down the length of the room.

Room 11 Phasing

6.3.69 The construction of walls [617], [692], [693], [716] and [717], and their layout in relation to the design of the building indicate these elements, in addition to floor (722), are part of the original Phase 3a construction (Figure 4).

Room 12

6.3.70 Room 12 was located to the northeast corner of Room 13, measuring 2.60m by 1.70m in plan (Figure 4, Plate M). Room 12 was defined by wall [693] to the north, wall [692] to the east, wall [697] to the south, and wall [691] to the west. Wall [697] was the return of wall [692] and travelled for a distance of 1.70m, while wall [691] was the return of wall [617] and ran for a distance of 2.50m. The interior of Room 12 had a concrete floor (694) laid at a height of 45.05m AOD.

Room 12 Phasing

6.3.71 All elements in Room 12 are associated with Phase 3a as the design mirrors that of Room 9 (Figure 4).

Room 13

6.3.72 To the south of Room 11 was located Room 13 which covered an area 32.50m by 22m (Figure 4, Plate N). The northern limit of Room 13 was formed by wall [617], with the eastern limit defined by wall [691] and [629], to the west by wall [607] and to the south by the northern extent of walls [619], [620], [621], [622] associated with Rooms 14, 15, 16, 17 and 18. Wall [691] defined the initial 3m extent of the eastern boundary before the wall doglegged and continued to run north-south in the form of wall [629]. Wall [629] was 29.50m in length by 0.40m wide and was constructed using both red and yellow handmade unfrogged bricks measuring c.230mm by 120mm by 75mm and bonded using a hard, pinkish, sandy mortar. This type of brick was manufactured between the late 18th and 19th century. The internal face of the wall had been plaster and whitewashed. Wall [629] survived to a height of 1.05m allowing an English bond pattern to be identified.



Plate N. View of Room 13 Looking Southwest

6.3.73 Wall [607] was 32.50m in length and approximately 0.40m thick, constructed using the same type of bricks used in wall [629]. The internal face of the wall had been plastered and whitewashed. Wall [607] survived to a height of 1.20m allowing the remains of multiple openings to be identified in the wall. The bases of eight openings [608], [609], [610], [611], [612], [613], [614] and [615] were set at regular 3m intervals along the walls (Plate O). The openings survived to a height of 0.20m to 0.30m demonstrating that the openings were 0.95m wide framed by bullnosed bricks with tiles set at 45° at the base of the opening. In plan, the openings extended a further 0.45m to the west of wall [607]. The design of the openings suggests they were the bases of chutes, and/or, windows, facilitating the delivery of materials into the buildings, as well providing air and light. At the northern end of wall a larger opening [616] was present with a width of 2.50m (Figure 3, Section 11, Plate P). The base of the opening was set five courses above the floor level and had was been lined with sandstone slabs. Opening [616] extended for a further 1m to the west at ground level. The size and design of opening [616] indicates it once related to a large doorway to allow access into Room 13. A short wooden set of stairs probably linked the base of the opening with the floor level.



Plate O. View of Opening [612] Looking West

Plate P. View of Opening [616] Looking West

- 6.3.74 Internally, Room 13 was covered by what is presumed to be a later concrete floor surface (630), laid at a height of 43.87m AOD (Figure 5). This floor level was substantially lower than the rest of the floor levels within the building. Across floor (630) there was a regular grid pattern of circular scars, 0.10m in diameter, set at intervals of 3.50m. These appeared to relate to the former positions of columns for supporting the ceiling. At the northern end of the room this pattern varied as there was a row of column scars set at intervals of 1.50m, which defined a 3m corridor. Floor (630) was laid at a uniform height of 43.87m AOD. Two modern square geotechnical test pits cut through the central area of the floor.
- 6.3.75 This designation of a separate area as the northern end of Room 13 is supported by the presence of later wall [699] located in the eastern side of the room abutting wall [691] (Figure 5). Wall [699] was 1.95m long by 0.35m wide, and stood to a height of 44.21m AOD. The wall was built out of red bricks measuring 230mm by 105mm by 75mm bonded using a hard, reddish brown, sandy mortar. The manufacture of these bricks indicated they were made during the late 19th to 20th century.

Room 13 Phasing

- 6.3.76 Walls [607], [617], [619], [620], [621], [622] [629] and [691] (and all features incorporated into the walls) all form part of the original layout of Room 13 when the complex was constructed, represented by Phase 3a (Figure 4). This is attributed to the late 18th to 19th century materials used in the construction of the walls and their early stratigraphical location truncating the natural deposit.
- 6.3.77 Substantial changes associated with Phase 3b were made to Room 13, primarily represented by the laying of floor (630) which employs sophisticated 20th century techniques, and subsequent construction of wall [699] which post dates Phase 3a wall [691] and incorporates 19th to 20th brick types (Figure 5).

Rooms 14, 15, 16, 17 and 18

6.3.78 Rooms 14, 15, 16, 17 and 18 were of identical construction located at the southern end of Room 13, forming a row of five vaulted chambers (Figure 4, Plate Q). Rooms 14, 15, 17 and 18 were 4m wide, whereas central Room 16 was slightly wider at 4.70m. The full length of the rooms could not be determined as they continued beyond the southern limit of excavation, although it is known that they were in excess of 10m long.



Plate Q. View of Rooms 14, 15, 16, 17 and 18 Looking Southwest

- 6.3.79 North-south orientated walls [618], [619], [620], [621], [622] and [623] were all of the same construction, using unfrogged handmade red bricks measuring c.230mm by 120mm by 75mm which were made between the late 18th and 19th century. The bricks were bonded using a hard, pink, sandy mortar. The walls were 0.50m wide, with the vault spring starting at approximately 0.40m above floor level. The observed lengths of the walls extended between 4.50m and 10m. Walls [618] and [623] representing the two furthest extents of the vaulted chambers were recording as abutting walls [607] and [629] respectively. All walls had been plastered and subsequently whitewashed.
- 6.3.80 Immediately post-dating the construction of wall [623] was a short sequence of made ground deposits abutting the wall (Figure 3, Section 12). The first of these made ground deposits (759) overlaid the pre-existing ground surface (758) for a distance in excess of 1m north-south by 0.30m east-west, and was 0.10m thick. Made ground (759) consisted of a firm, pink, mortar dump, was probably associated with the construction of wall [623]. Above layer (759) was a further dump of construction debris (760) contemporary with Clinton's Maltkiln, consisting of a hard, sand and mortar material. Dump deposit (760) was 0.10m thick and exceeded 5m by 1.5m in plan. The latest deposit, located above layer (760), was a more substantial deposit of hard, black, sandy ashy material (761) over 0.30m thick. Analysis of the deposit form indicates it was deliberately deposited to seal the vaulted roofs of Rooms 14, 15, 16, 17 and 18, and so would have originally occupied the full area covered by these rooms.
- 6.3.81 The original red guarry tile floors (634) and (635) survived in Rooms 17 and 18. They were the standard 180mm by 180mm by 35mm size laid in an alternating pattern, aligned eastwest. They were laid at a height of 43.82m AOD (Figure 4). Concrete skimmed floors (631), (632) and (633) were present in Rooms 14, 15 and 16, at a height of 43.86m AOD (Figure 5).
- 6.3.82 Blocking each of the five vaulted rooms were five identical brick walls [624], [625], [626], [627] and [628] (Figures 3, Section 10 and Figure 5). Each wall filled the full width of the room and was up to 0.35m wide. The bricks used were double frogged red bricks which measured 220mm by 105mm by 70mm, and contained an oval frog stamped 'DINNINGTON' dating the brick to between the late 19th and 20th century. The bricks were bonded using a hard, pink, sandy mortar. The bonding pattern within the wall varied. The wall [626] blocking central Room 16 had been reinforced with a concrete beam. Each wall was truncated to the same height as the surrounding walls to a height of 45.12m AOD.
 - Room 14, 15, 16, 17 and 18 Phasing
- 6.3.83 Rooms 14, 15, 16, 17 and 18, defined by walls [618], [619], [620], [621], [622] and [623] were originally built as part of the Phase 3a construction of the Clinton's Maltkiln complex, represented by stratigraphically early wall lines truncating Period 2 soil horizons and construction using 18th to 19th century materials. Original floors identified with this phase are (634) and (635) due to the use of identical materials used in Phase 3a floors (640) and (660) (Figure 4).
- 6.3.84 Subsequent changes within the building complex led to the laying of concrete floors (631), (632) and (633), followed by the construction of blocking walls [624], [625], [626], [627] and [628], which are all stratigraphically later than walls [618], [619], [620], [621], [622] and [623]. Walls [624], [625], [626], [627] and [628] also used a brick type which post-dates the

original construction of the building. These changes are attributed to Phase 3b, representing later alterations to the layout and use of Rooms 14, 15, 16, 17 and 18 (Figure 5).

External Features

- 6.3.85 Two sets of features were identified that were external to the Clinton Maltkiln building. One set of features was recorded adjacent to the northern limit of Trench 6, with the second group recorded outside of the area of investigation to the southwest of the trench.
- 6.3.86 The earliest feature identified to the north of the maltkiln building was angled wall [667] (Figure 5). Wall [667] was cut into natural sand (738) 1m to the north of wall [645] and ran parallel to it for a distance 20.80m. The western end of wall [667] continued beyond the western limit of excavation. A slot dug against the wall indicated it was in excess of 0.35m wide and in excess of 2m high, the equivalent of 23 courses. The key feature associated with the wall was the 10% gradient incorporated into its construction. Red frogged bricks measuring 230mm by 110mm by 75mm were employed in the construction, which were stamped 'CAFFERATA' and manufactured during the late 19th and 20th century. The bricks were bonded using cementious mortar, and were capped on the upper surface of the wall by red tile at a height of 45.69m AOD. The majority of the northern sloping face of wall [667] had experienced a high degree of weathering causing fracturing of the outward facing surface of the bricks. It is likely that this weathering was chemical or thermal in origin. There is evidence for a limited brick repair (731) within the construction of wall [667].
- 6.3.87 At the eastern end of wall [667] a smaller, trench cut, north-south orientated wall [735] had been built up against it. Wall [735] was observed for a distance of 1.40m before continuing beyond the northern limit of excavation, and was recorded as 1m wide. Roughly dressed limestone blocks, up to a maximum size of 250mm by 200mm by 50mm, had been used to build the wall, bonded using a cementitious mortar. Two courses of the wall survived.
- 6.3.88 Constructed over the eastern extent of wall [667] was concrete chamfer (731), which also abutted wall [645] to the south. The chamfer was 6.05m in length by 0.40m wide, with the thickness of the concrete not exceeding 50mm. The length of chamfer (731) was positioned adjacent to Rooms 2, 3 and 4.
- 6.3.89 Contained within the limits defined by walls [667] and [738] was a substantial deposit of firm, grey, silty ash deposit (668) which was in excess of 1m deep. A small finds assemblage was retrieved from the deposit consisting of fragments of clay pipe stem, vessel glass, White ware pottery, butchered animal bone, and a brass tack, all thought to be late 19th to mid 20th century in date. It is possible the deposit derives from the by-product of fuel burning occurring within the immediate area.
- 6.3.90 The remains of a crushed limestone wall foundation [734] was present immediately to the north of wall [651] and ran parallel to for a distance of 18.10m, abutting wall [645] to the west. The eastern limit of foundation [734] had been truncated. The maximum width of the foundation was 0.60m while excavation revealed it to be up to 0.10m deep. The function of the wall supported by foundation [734] is unclear.
- 6.3.91 To the west of Room 13 two sets of steel railway tracks were identified. The earliest set of tracks (696) were curvilinear travelling from the west to the south, covering a distance of 25m before terminating adjacent to later tracks (695) (Figures 4 and 5, Plate R). The width between tracks (696) was 1.42m. The later set of linear tracks (695) ran north-south for a distance of 48m, continuing beyond the southern boundary of the site (Figure 5). The

northern extent of the tracks was defined by the southern limit of Room 6. Tracks (695) were the same gauge as tracks (696).



Plate R. View Railway Tracks (695) and (696) Looking West

External Features Phasing

- 6.3.92 The only external feature to be associated with Phase 3a is rail tracks (696), due to its alignment being cut by rail tracks (695) (Figure 4).
- 6.3.93 All remaining features, represented by railway tracks (695); walls [733], [734] and [743]; and chamfer (731), due to abutting earlier Phase 3a wall lines are ascribed to Phase 3b (Figure 5).

Phase 3c – Clinton's Maltkiln Demolition

- 6.3.94 Phase 3c represents a discrete episode of activity associated with the demolition of the Clinton's Maltkiln complex. This phase of activity is solely represented by a substantial layer of demolition material (605) spread across the full area of Trench 6, varying in depth between 0.50m and 2m (not illustrated). This demolition material formed a loose, dark brown, sandy matrix in association with substantial quantities of brick, tile, metal and wood. A number of metal objects were retrieved from the demolition deposit (605) and recorded which are believed to represent mechanical operations and structural elements within the maltkiln complex. Mechanical elements included drive chains, grills and machinery guards, in addition to structural elements such as cast iron columns and column props. Two types of perforated malting tile were also recovered, each suspected as belonging to a distinct phase of activity within the maltkiln. The various types of material identified within deposit (605) indicate that demolition took place during the mid 20th century.
- 6.3.95 Demolition material (737) had also partially backfilled the covered chamber indentified in Room 6 (not illustrated). Two complete English Stoneware vessels in the form of a flagon and bottle, both of were thought to be 19th or 20th century in date.

Phase 3d - Modern Maltkiln

6.3.96 Following the demolition of the 19th century building, subsequent development on the site is represented by Phase 3d. Three distinct features were associated with this phase of activity which either cut through, or overlay the pre-existing demolition deposit (605). These concrete features relation to the construction of modern maltkiln structures.

- 6.3.97 Adjacent to the western limit of Trench 6 concrete mass [748] was identified as cutting through demolition deposit (605) and lying directly over tile floor (640) (Figure 5). Concrete [748] measured 20.75m north-south and was in excess of 11m east-west. At its largest point the concrete was 1.10m thick. The condition of the concrete was poor, having previously been partially truncated and broken up. The second concrete mass [604] was recorded in the central area of Trench 6 measuring 38m in length, 20m wide, and 1.10m thick. Concrete mass [604] extended beyond the limit of excavation to the east.
- 6.3.98 The character of concrete mass [604] and [748] indicates they were once part of substantial raft foundations for the modern maltkiln buildings known to have been present on site during the late 20th century.
- 6.3.99 Associated with these structures was north-south aligned wall [606] the foundation for which had been cut through demolition debris (605) on the western side of the former Room 13. Wall [606] was 39.40m long by 0.20m wide, and surviving to 3 courses high. The bricks used were red ten hole engineering bricks measuring 210mm by 100mm by 65mm, bonded using hard, light reddish brown, sandy mortar. Of interest was the fact that the concrete foundations for wall [606] had been constructed following the exact course of earlier wall [607] and constructed onto the upper surface of its remains. It is only at the northern end of wall [606] does it course alter from that of wall [607] by veering off more to the northwest. The construction of wall [606] also led to the remains of openings [609], [609], [610], [611], [612], [613], [614], [615] and [616] being blocked using concrete and CBM debris. The size of wall [606] indicates it would have been a boundary wall defining the extent of the modern maltkiln complex.

Phase 3e - Modern Maltkiln Demolition

6.3.100 The next phase of activity on site. Phase 3e, relates evidence for the demolition of the modern maltkiln buildings constructed in Phase 3d. Overlying concrete features [604] and [748] and extending to cover the full area of Trench 6, was consistent layer of concrete rubble (603). Concrete rubble (603) had been deliberately compacted resulting in a maximum deposit thickness of 0.30m. The rubble is consistent with the demolition of large concrete structures. Debris contained within the rubble, in combination with the known history of the site, indicated the rubble was deposited during the late 20th century. Sealing concrete rubble (603) across the site was substantial layer of made ground (602), which primarily consisted of a firm, dark blueish grey, clay. The made ground had a maximum thickness of 1.20m and contained occasional modern demolition debris.

Phase 3f – Modern Abondonment Horizons

- 6.3.101 Phase 3f represents the final phase of activity on site sealing the late 20th century Phase 3e demolition activity. The nature of these deposits implies the site was abandoned allowing natural soil formation to occur.
- 6.3.102 Above made ground (602), and completing the sequence of deposits on site, was a 0.25m thick layer of sandy silt topsoil (601) present across the site. This context was deposited during the late 20th and early 21st century.

7 SUMMARY OF SITE ARCHIVE AND WORK CARRIED OUT

7.1 **Stratigraphic Site Archive**

| Stratigraphic Site Archive | Quantity |
|------------------------------|----------|
| Context Sheets | 219 |
| Context Register Sheets | 9 |
| Trench Record Sheets | 5 |
| Plans | 19 |
| Plan Register Sheets | 2 |
| Sections | 9 |
| Section Register Sheets | 2 |
| Levels Sheets | 9 |
| Photographic Register Sheets | 8 |
| Photographs, Black & White | 106 |
| Digital Photos | 239 |

7.2 **Work Carried Out On the Stratigraphic Archive**

The site records have been completed and checked. A context register has been completed (Appendix A). The stratigraphic matrix has been compiled for the site. Contexts have been placed into preliminary phases using stratigraphic information and dating provided by specialists. Several illustrations have been constructed to accompany the results showing the location of the features that have been phased. The photographic archive has been checked, marked and referenced. The receiving museum is to be Bassetlaw Museum.

SUMMARY OF FINDS AND ANALYSIS OF POTENTIAL 8

8.1 **Quantification of Finds**

All of the finds have been washed, catalogued and marked where appropriate. The archive boxes have been ordered and listing ready for deposition with Bassetlaw Museum. The evaluation archive has also been assessed by specialists in accordance with the guidance laid down in MAP 2 (EH 1991).

| Find Type | Quantity |
|---------------------------|-----------------------|
| Post-Medieval Pottery | 4.08kg- 3 vessels |
| Ceramic Building Material | 173.3kg- 55 fragments |
| Metalwork | 12 objects |
| Glass | 20g- 1 sherd |
| Clay Tobacco Pipe | 2g- 1 fragment |
| Animal Bone | 17g- 1 fragment |

8.2 Finds (Appendix B)

8.2.1 **Post-medieval Pottery**

The remains of 3 vessels, totalling 4.08kg, were collected during the course of the excavation. Two complete vessels, in the form of an English Stoneware flagon and bottle,

were recovered from a single context, while the third vessel is represented by a single sherd of Modern Whiteware. All three vessels date to the 19th or 20th century. Due to the small size and late post-medieval/modern date of manufacture of the assemblage, it is designated has having limited local significance with no potential for further work.

8.2.2 Ceramic Building Material

The ceramic building material assemblage from the excavation comprised 55 fragments, weighing 173.3kg, from 20 contexts. The assemblage consists of brick, floor tile and malting tile, primarily represented by complete examples. The material falls into two general phases of manufacture, the first being 18th to 19th century, with the second 19th to 20th century. The ceramic building material has some local significance, but has no potential for further analysis.

8.2.3 Metalwork

A total of 12 metal objects were recovered during the course of the excavation. Eleven of these objects were associated with structural or mechanical activities taking place within the 19th to 20th century maltkiln complex, in addition to one brass tack collected from a dump deposit of a similar date. Due to the metalwork primarily relating to activity at the maltkilns, the significance of the assemblage goes no further than the local area. The only further work recommended is that all available metal objects are checked for distinguishing marks.

8.2.4 **Glass**

The glass assemblage consisted of a single rim sherd (20g) from a late post-medieval vessel. There is no potential for further analysis.

8.2.5 Clay Tobacco Pipe

A single stem fragment (2g) was recovered from a late post-medieval dump deposit. There is no potential for further analysis.

8.2.6 **Animal Bone**

One rib fragment from a medium to large mammal (17g) derived from a late post-medieval context. Limited butchery marks are present. There is no potential for further analysis.

9 SIGNIFICANCE OF THE DATA

9.1 **Summary of Results**

- 9.1.1 During the course of the excavation a high density of archaeological features were recorded across the full area of the site. The features excavated solely represent the remains of 19th and 20th industrial activity on site; although a limited sequence of earlier soil horizons were identified. Due to the lack of substantially intrusive late 20th activity on site, the majority of 19th and early 20th century features were found in a good state of preservation.
- The earliest activity identified on site consisted of several soil horizons pre-dating the 19th 9.1.2 century. No diagnostic material was observed within these deposits restricting their ability to inform on activity pre-dating the construction of the 19th century industrial complex. These soil horizons purely represent the accumulation of undisturbed deposits over time. All other earlier deposits had been truncated by the construction of 19th century industrial structures.

- 9.1.3 All features identified during the course of the excavation were post-medieval or modern, specifically 19th to 20th century in date. The initial activity within this period was the construction of a substantial 19th century industrial structure consisting of a building complex dominated by four large processing rooms, which were associated with ten smaller support rooms. Historical records indicate this building was for the malting of hops and barley for the brewing trade, owned by the company Clinton's. After the initial phase of construction significant alterations to the complex took place internally and externally during the late 19th and early 20th century, including subdividing the building layout to incorporate new rooms and machinery.
- Activity at Clinton's Maltkilns appeared to continue until the mid 20th century when 9.1.4 demolition of the 19th century structure was present in the form of a substantial depth of demolition debris across the site. Subsequently, the demolition debris was disturbed by the construction of concrete structures associated with a later maltkiln complex built during the second half of the 20th century. By the late 20th century this later concrete maltkiln complex fell into disuse and was also demolished, with the rubble sealed by made ground. Abandonment of the site through up to the current time allowed a horizon of topsoil to accumulate across the site.

9.2 **Discussion of Significance**

Pre-19th Century 9.2.1

With regards to the initial objectives of the project (AOC 2011); limited pre-19th century deposits were identified which solely represented by undiagnostic soil horizons. No evidence was encountered which relates to human activity taking place on site prior to the 19th century. The evidence from this period is of limited significance.

19th to 20th Century 9.2.2

Well preserved archaeological remains dating to the 19th and 20th century were identified across the full area of the site, predominantly representing a 19th century maltkiln structure. The high level of preservation and extensive area of investigation has allowed a detailed understanding of the original layout of the maltkiln complex and how it was altered over time. Excavations on this scale targeted on remains associated with the maltkiln industry are limited, restricting our current knowledge to how the industrialisation affected this industry, as well as how it developed during the late 19th and early 20th century. The ability of the excavation results to inform on this period of development within the industry indicates the site has regional level of significance. Further study of the result could increase our understanding of the dynamics within the malting industry, both in Nottinghamshire and the Midlands region in general.

Subsequent archaeological activity during the second half of the 20th century, consisting of 9.2.3 the construction and demolition of a second maltkiln complex, followed by the abandonment of the site, do not display as much significance. The diagnostic qualities and preservation of the features and deposits associated with this phase of activity is limited. This activity is of significance to the site only, restricted to providing an insight to how the site developed over the past half century.

9.2.4 Post-Medieval and Modern Finds

A small finds assemblage was recovered during the course of the excavation, all of which related to the 19th to 20th century activity on site. The finds assemblage consists of pottery, ceramic building material (CBM), metalwork, glass, clay tobacco pipe, and animal bone. The CBM assemblage has provided information on the different phases of construction and alterations that have taken place at the maltkilns, while the metalwork assemblage represents structural and mechanical elements within the maltkiln complex. The remaining assemblages are small and lacking diagnostic elements. The value of the material primarily relates solely to activity taking place on site, so, on this basis, all material is designated as being of local significance only.

10 Review of the Research Aims

Realisation of the Research Aims 10.1

- 10.1.1 This section examines the extent to which preliminary assessment of the results of the excavation indicates that the original research aims outlined in the Written Scheme of Investigation (AOC 2011) have been or can be answered.
- 10.1.2 Determine the presence of any activity pre-dating the construction of 19th century maltkiln. How does this earlier activity relate to the 19th century industrial activity?
 - The only contexts identified which pre-dated the maltkiln complex were a limited sequence of undiagnostic soil horizons. It is suspected that the substantial size of the 19th century structure identified on site would have previously removed any evidence for earlier activity on site.
- 10.1.3 Clarify the full nature and extent of the 19th century maltkiln works. How closely does the archaeological evidence compare to contemporary cartographic sources?
 - The excavation uncovered all but the western extent of the 19th century maltkiln buildings. Due to the good level preservation present it can be confidently stated that the full floor plan of the complex was exposed. The footprint of the complex is nearly identical to that marked on the 1896 Ordnance Survey plan of the area.
- 10.1.4 Identify any evidence associated with the development of the 19th century maltkiln complex. Do the multiple phases of activity identified during the evaluation represent extensive alterations or localised modifications/repairs?
 - Extensive, well preserved remains associated with the 19th century maltkiln complex were identified during the course of the excavation. To phases of activity associated with the 19th century maltkiln were identified during the excavation, with the second of these two phases representing extensive alterations within the industrial complex. Several of the rooms had been subdivided and new rooms created, with other rooms being modified to keep pace with technological advances within the industry.
- 10.1.5 Identify and record any fixtures and fittings found in association with the 19th century structures. Can these fixtures and fittings be directly associated with the industrial activities taking place?
 - Numerous fixtures and fittings were identified during the course of the investigation. Some where associated with structural elements, with other related to the heating of furnaces and boilers. The presence of railway tracks leading up to the building demonstrates an important relationship with 19th/20th railway system. Other features are currently enigmatic.

10.2 **Revised Research Aims**

- 10.2.1 Following the completion of the fieldwork and the initial post-excavation assessment of the site, it is apparent that some of the original research aims are no longer valid, whereas others require reviewing on the basis of the evidence collected. For those research aims that are valid it is possible to identify additional research questions which will be addressed as part of the work undertaken in preparation for the publication of the site. These are listed
- 10.2.1 Identify any evidence associated with the development of the 19th century maltkiln complex. Do the multiple phases of activity identified during the evaluation represent extensive alterations or localised modifications/repairs?

Additional questions that should be addressed are:

- Why was the maltkiln built in this location?
- Can further analysis of the stratigraphical sequence and relationships between structural elements allow a more detailed phased breakdown of when these alterations and modifications took place?
- Can historical research identify the changes in technology and processes which took place in the malting industry that may relate to the alterations and modifications recorded?
- Why was the maltkiln abandoned? When did this abandoned occur?
- 10.2.2 Identify and record any fixtures and fittings found in association with the 19th century structures. Can these fixtures and fittings be directly associated with the industrial activities taking place?

Additional questions that should be addressed are:

- Can historical and archaeological research provide further information on the purpose of the fixtures and fittings identified?
- What was the maltkiln's relationship with the railway?

SUMMARY OF FURTHER WORK 11

| Task | Description | Resource | Days | | | |
|--------|--|----------|------|--|--|--|
| Gener | al | | | | | |
| 1 | Documentary research | CJC | 3 | | | |
| 2 | Checking and integration of digital drawn and contextual data. | CJC | 0.5 | | | |
| 3 | Checking and integrating the matrix and the checking and | CJC | 0.5 | | | |
| | completion of site phasing and digital plans. | | | | | |
| Analys | sis | | | | | |
| 4 | Post-Medieval pottery - Photography of complete vessels | CJC/LC | 0.25 | | | |
| 5 | Ceramic building material - Illustration of makers marks | LC | 0.25 | | | |
| 6 | Metalwork - Inspection for distinguishing marks | PF | 0.25 | | | |
| Repor | Report, Publication and Archiving | | | | | |
| 7 | Integrating specialist reports | CJC | 0.25 | | | |
| 8 | Liaison with specialists | MM | 0.5 | | | |

| Task | Description | Resource | Days |
|------|---|----------|------|
| 9 | Completion of drawings for publication | JM | 2 |
| 10 | Liaison with illustrator | CJC | 1 |
| 11 | Preparation of publication text | CJC | 3 |
| 12 | Editing and review of publication text | CJC | 1 |
| 13 | Amendments resulting from external editor's comments to | CJC | 0.75 |
| | publication text and figures | | |
| 14 | Proof reading | MM | 1 |
| 15 | Archive preparation | PF | 5 |
| 16 | Liaison with publication editor | MM | 0.5 |
| 17 | Project management and editing: overall | MM | 2 |

12 **CATALOGUE OF FURTHER WORK**

12.1 **Documentary Analysis**

Research of primary sources and documents concerning the site, including cartographic evidence. Research into possible comparison sites. Time has been set aside to integrate any digital or contextual information.

12.2 **Specialist Reports**

12.2.1 Post-Medieval Pottery

Photography of the two complete vessels.

12.2.2 Ceramic Building Material

Illustration of manufacturers logos

12.2.3 **Metalwork**

Checking objects for distinguishing marks.

12.3 Illustrations

12.3.1 Plans and Sections

The digitised plans produced for the publication will require checking and correcting to ensure it is linked correctly with the contextual database. In the course of the analysis extra drawings may be needed, so time has been given to allow for extra work to aid the structural analysis.

The digitised site plans will be used to produce publication illustrations. These will accompany the site narrative, being annotated to identify the features discussed in the text, at an appropriate scale.

12.4 **Overall Publication, Archiving and Project Management**

Following specialist analysis, the reports will be integrated into the publication report. Time has been allocated for consultation and amendments to be made during this phase of work, involving both the editor and specialists. Time has been allocated for proof reading and editing of the publication report prior to submission. Time has been allocated for liaison with the publication editor with regard to, submission of material and a summary of content.

Upon completion of the report, the documentary, physical and digital archives will be prepared, including microfiching, for accessioning at Bassetlaw Museum. A site summary will be published in the Nottinghamshire Archaeological Round-up, and a digital copy of the report lodged in association with the online OASIS form (Appendix D).

The management of the project includes monitoring task budgets, programming tasks, editing drafts production of the final report and publication for submission, and liaison with all members of the project team.

12.4.1 Potential for Publication

It is anticipated that an article of approximately 12 pages will be produced, including site drawings, site location, plan of excavation area showing the main features with additional illustrations where needed. The publication will be submitted to Post-Medieval Archaeology.

Publication of the site data will also be made through the Archaeological Data Service OASIS form (Appendix D). To facilitate the dissemination of the excavation results among local societies and the community in Worksop, further local publication opportunities will be explored.

13 BIBLIOGRAPHY

- AOC Archaeology (2007). An Archaeological Desk Based Assessment of Carlton Road, Worksop, Nottinghamshire.
- AOC Archaeology (2009). Carlton Road, Worksop, Nottinghamshire. A Written Scheme of Investigation for Archaeological Evaluation.
- AOC Archaeology (2010). Carlton Road, Worksop, Nottinghamshire: Archaeological Evaluation Report.
- AOC Archaeology (2011). Carlton Road, Worksop, Nottinghamshire: A Written Scheme of Investigation for an Archaeological Excavation.

British Geological Survey (1994). Sheet 101, 1:50,000 Series. OHMS

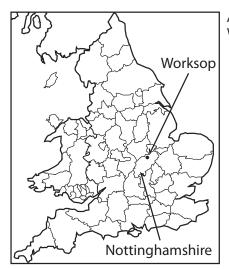
Department of Communities and Local Government (2010), Planning Policy Statement 5: Planning for the Historic Environment.

English Heritage, 1991. Management of Archaeological Projects.

Institute of Field Archaeology, 2008. Standards and Guidance and Guidelines for Field Excavations.

Institute of Field Archaeologists, 2010. Code of Conduct.

Pinnacle Consulting Engineers (2002). A Geotechnical Investigation at Carlton Road, Worksop.



Approximate Site Location Within England & Wales

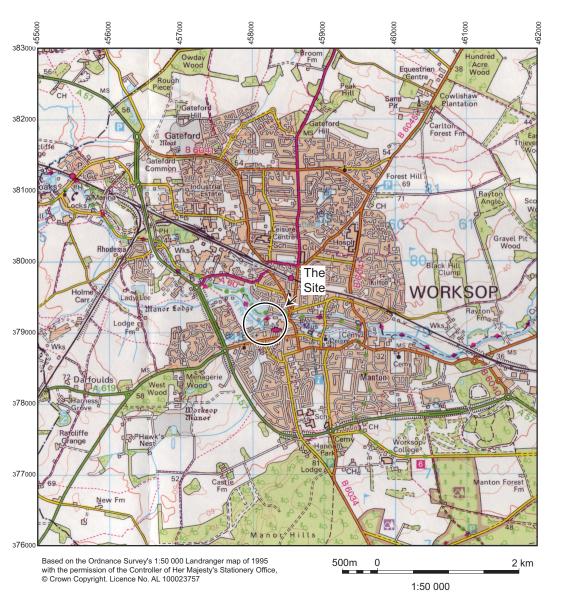


Figure 1: Site Location



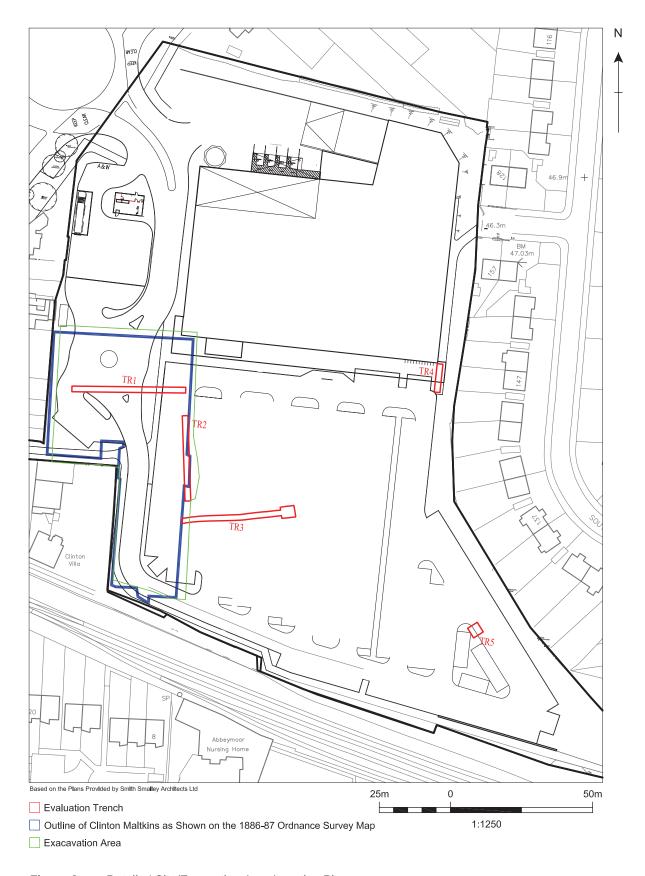
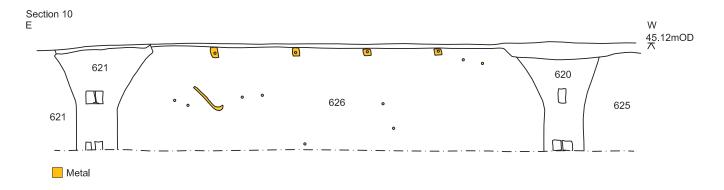
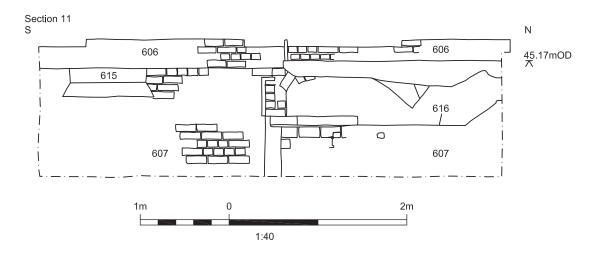


Figure 2: Detailed Site/Excavation Area Location Plan







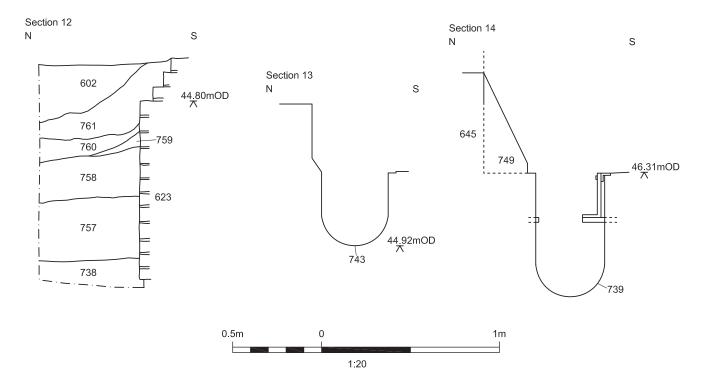


Figure 3: Sections







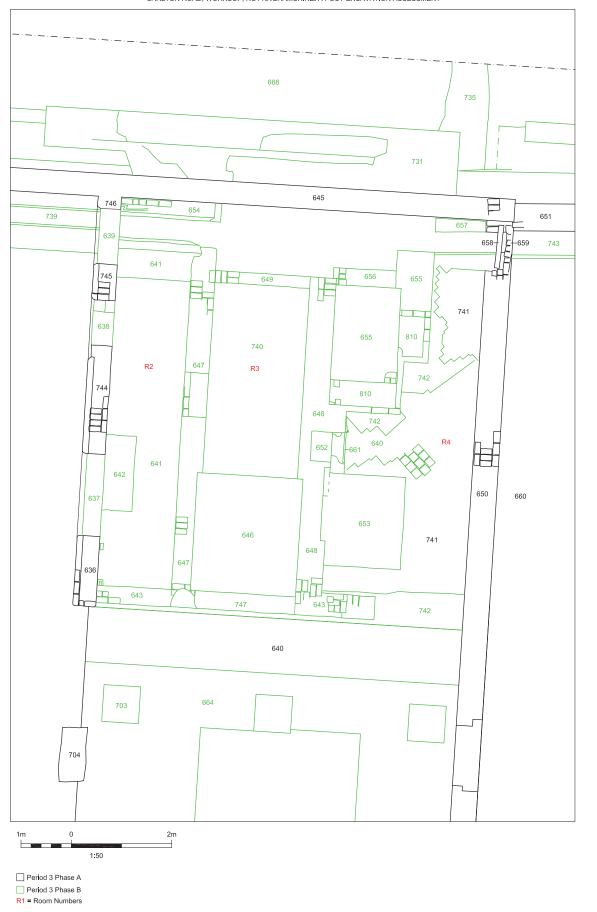


Figure 6: Period 3: Phase A and B Rooms 2, 3 and 4





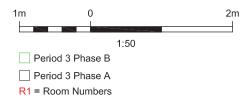


Figure 7: Period 3: Phase A and B Room 6



Appendices



Appendix A – Context Register

| Context No. | Context Description | Length | Width | Depth |
|-------------|----------------------------------|------------------|----------------|----------------|
| 601 | Topsoil | 85m | 50m | 0.25m |
| 602 | Made Ground | 85m | 50m | 1.20m |
| 603 | Made Ground | 60m | 50m | 0.30m |
| 604 605 | Concrete Foundation Made Ground | 38m 85m | 20m 0.50m | 1.10m 2m |
| 606 | Wall | 39.40m | 0.30m | 0.21m |
| 607 | Wall | 32.50m | 0.20m+ | 1.22m |
| 608 | Opening | 0.98m | 0.20m | 0.17m |
| 609 | Opening | 0.96m | 0.20m | 0.16m |
| 610 | Opening | 0.96m | 0.20m | 0.16m |
| 611 | Opening | 0.96m | 0.20m | 0.16m |
| 612 613 | Opening Opening | 0.96m 0.96m | 0.20m 0.20m | 0.16m 0.16m |
| 614 | Opening | 0.96m | 0.20m | 0.16m |
| 615 | Opening | 1.00m | 0.20m | 0.16m |
| 616 | Opening | 2.13m | 0.50m | 0.40m |
| 617 | Wall | 21.65m | 0.35m | 1.33m |
| 618 | Wall | 4.50m | 0.40m | 1.10m |
| 619 | Wall | 5.60m | 0.50m | 1.15m |
| 620 | Wall | 6.30m | 0.50m | 1.15m |
| 621 | Wall | 7.00m | 0.50m | 1.15m |
| 622 | Wall | 7.50m | 0.50m | 1.15m |
| 623 | Wall | 9.50m | 0.50m | 1.15m |
| 624 | Wall | 3.80m | 0.36m | 1.18m |
| 625 | Wall | 3.90m | 0.36m | 1.07m |
| 626 | Wall | 4.70m | 0.65m | 1.24m |
| 627 | Wall | 3.86m | 0.35m | 1.15m |
| 628 | Wall | 3.86m | 0.35m | 1.15m |
| 629 | Wall | 29.60m | 0.39m | 1.06m |
| 630 | Floor | 32.50m | 22.30m | 0.05m |
| 631 | Floor | 3.87m | 3.55m | 0.05m |
| 632 | Floor | 4.50m | 3.87m | 0.05m |
| 633 | Floor | 4.80m | 3.87m | 0.05m |
| 634 | Floor | 7.20m | 3.87m | 0.10m |
| 635 | Floor | 8.50m | 3.87m | 0.10m |
| 636 | Wall | 1.40m | 0.50m | 0.37m |
| 637 | Wall | 1.63m | 0.38m | 0.37m |
| 638 | Wall | 1.14m | 0.36m 0.41m | 0.51m |
| 639 | Wall | 1.14III 1.10m | 0.41m | |
| | Floor | | | 0.85m |
| 640 | Floor | 30.00m | 16.00m | 0.10m |
| 641 | Concrete Platform | 6.67m | 1.50m | 0.05m+ |
| 642 | Wall | 1.52m | 0.60m | 0.23m |
| 643 | | 5.50m | 0.34m | 0.35m |
| 644 | Floor | 1.80m | 1.60m | 0.05m+ |
| 645 | Wall | 24.50m | 0.50m | 0.62m |
| 646 | Concrete Platform | 2.36m | 2.10m | 0.56m |
| 647 | Wall | 6.60m | 0.50m | 0.75m |
| 648 | Wall | 6.35m | 0.90m | 0.65m |
| 649 | Wall | 1.89m | 0.23m | 0.10m+ |
| 650 | Wall | 40.00m | 0.50m | 0.66m |
| 651 | Wall | 22.00m | 0.50m | 0.62m |
| 652 | Floor | 0.60m | 0.41m | 0.10m |
| 653 | Floor | 1.80m | 1.50m | 0.05m+ |
| 654 | Wall | | | 0.15m |
| | Concrete Platform | 1.25m | 0.35m | |
| 655 | Wall | 2.70m | 1.90m | 0.26m |
| 656 | Floor | 1.20m | 0.32m | 0.20m+ |
| 657 | | 1.00m | 0.30m | 0.05m+ |
| 658 | Beam Brisk Banain | 0.86m | 0.10m | 0.12m |
| 659 | Brick Repair | 0.90m | 0.12m | 0.15m |
| 660 | Floor | 38.50m | 22.00m | 0.10m |

| 661 | Metal Feature | 0.92m | 0.60m | 0.05m |
|--|---|---|---|--|
| 662 | Wall | 38.50m | 0.65m | 0.06m |
| 663 | Wall | 6.75m | 0.48m | 0.03m |
| 664 | Wall | 7.02m | 0.48m | 0.04m |
| 665 | Wall | 7.26m | 0.48m | 0.02m |
| 666 | Wall | 7.53m | 0.48m | 0.06m |
| 667 | Wall | 20.80m | 0.33m | 2.00m |
| 668 | Deposit | 23.00m | 1.50m | 1.00m |
| 669 | Cut | 20.80m | 0.33m | 2.00m |
| 670 | Concrete Chamfer | 4.57m | 0.95m | 0.05m |
| 671 | Foundation | 9.20m | 0.55m | 0.10m |
| 672 | Concrete Platform | 6.00m | 0.50m | 0.10m |
| 673 | Surface Wall | 4.00m | 1.20m | 0.20m+ |
| 674 | Slab | 2.60m | 0.26m | 1.40m |
| 675 | Wall | 2.18m | 1.97m | 0.10m |
| 676 | | 4.26m | 0.35m | 0.38m |
| 677 | Repair | 1.40m | 0.73m | 0.10m+ |
| 678 | Repair | 0.82m | 0.70m | 0.10m+ |
| 679 | Repair | 0.46m | 0.12m | 0.10m+ |
| 680 | Brick | 0.36m | 0.25m | 0.10m+ |
| 681 | Beam | 2.18m | 0.10m | 0.20m |
| 682 | Pipe | 2.50m | 0.05m | 0.05m |
| 683 | Pipe | 2.50m | 0.05m | 0.05m |
| 684 | Cover | 0.48m | 0.25m | 0.05m |
| 685 | Hatch | 0.67m | 0.50m | 0.10m |
| 686 | Deposit | 1.20m | 0.80m | 0.10m+ |
| 687 | Channel | 1.70m | 0.10m | 0.10m |
| 688 | Wall | 0.22m | 0.12m | 0.08m |
| 689 | Feature | 0.75m | 0.23m | 0.10m |
| 690 | Platform | 1.88m | 1.70m | 0.20m |
| 691 | Wall | 2.90m | 0.50m | 1.33m |
| 692 | Wall | 3.20m | 0.48m | 0.12m |
| 693 | Wall | 1.77m | 0.36m | 0.12m |
| 694 | Floor | 1.80m | 1.06m | 0.10m |
| | Railway Track | | + | 1 |
| 695 | Railway Track | 48.00m | 1.00m | 0.10m |
| 696 | Wall | 48.00m | 1.00m | 0.10m |
| 697 | Wall | 1.78m | 0.48m | 1.32m |
| 698 | Wall | 0.58m | 0.38m | 1.10m |
| 699 | Foundation Pad | 1.95m | 0.36m | 0.32m |
| 700 | | 0.96m | 0.96m | 0.10m+ |
| 701 | Floor | 6.00m | 6.00m | 0.06m |
| 702 | Foundation Pad | 0.76m | 0.76m | 0.26m |
| 703 | Concrete Stanchion | 0.75m | 0.75m | 0.15m |
| 704 | Wall | 0.88m | 0.47m | 0.02m+ |
| 705 | Floor | 16.00m | 2.00m | 0.05m |
| 706 | Wall | 17.50m | 0.40m | 0.05m |
| 707 | Wall | 10.00m | 0.50m | 0.05m |
| 708 | Floor | 1.50m | 0.70m | 0.10m |
| 709 | Floor | 7.40m | 0.70m | 0.10m |
| 710 | | | i e | 0.05m |
| | Repair | 1.70m | 0.50m | 0.03111 |
| 711 | Repair Wall | 1.70m 9.00m | 1 | - |
| 711 712 | | 9.00m | 0.70m | 0.40m |
| 712 | Wall | 9.00m 4.30m | 0.70m 0.22m | 0.40m 0.20m |
| 712 713 | Wall Wall | 9.00m 4.30m 0.54m | 0.70m 0.22m 0.50m | 0.40m 0.20m 0.05m |
| 712 713 714 | Wall Wall Pillar Base Wall | 9.00m 4.30m 0.54m 3.30m | 0.70m 0.22m 0.50m 0.24m | 0.40m 0.20m 0.05m 0.05m |
| 712 713 714 715 | Wall Wall Pillar Base Wall Floor | 9.00m 4.30m 0.54m 3.30m 1.80m | 0.70m 0.22m 0.50m 0.24m 1.60m | 0.40m 0.20m 0.05m 0.05m 0.10m |
| 712 713 714 715 716 | Wall Wall Pillar Base Wall Floor Wall | 9.00m 4.30m 0.54m 3.30m 1.80m 4.70m | 0.70m 0.22m 0.50m 0.24m 1.60m 0.38m | 0.40m 0.20m 0.05m 0.05m 0.10m 0.17m |
| 712 713 714 715 716 717 | Wall Wall Pillar Base Wall Floor Wall Wall | 9.00m 4.30m 0.54m 3.30m 1.80m 4.70m 23.60m | 0.70m 0.22m 0.50m 0.24m 1.60m 0.38m 0.38m | 0.40m 0.20m 0.05m 0.05m 0.10m 0.17m |
| 712 713 714 715 716 717 718 | Wall Wall Pillar Base Wall Floor Wall Wall Wall | 9.00m 4.30m 0.54m 3.30m 1.80m 4.70m 23.60m 23.60m | 0.70m 0.22m 0.50m 0.24m 1.60m 0.38m 0.38m 0.38m | 0.40m 0.20m 0.05m 0.05m 0.10m 0.17m 0.17m. 0.14m |
| 712 713 714 715 716 717 718 719 | Wall Wall Pillar Base Wall Floor Wall Wall Wall Wall Wall | 9.00m 4.30m 0.54m 3.30m 1.80m 4.70m 23.60m 23.60m 1.85m | 0.70m 0.22m 0.50m 0.24m 1.60m 0.38m 0.38m 0.38m 0.36m | 0.40m 0.20m 0.05m 0.05m 0.10m 0.17m 0.17m. 0.14m 0.15m |
| 712 713 714 715 716 717 718 | Wall Wall Pillar Base Wall Floor Wall Wall Wall | 9.00m 4.30m 0.54m 3.30m 1.80m 4.70m 23.60m 23.60m | 0.70m 0.22m 0.50m 0.24m 1.60m 0.38m 0.38m 0.38m | 0.40m 0.20m 0.05m 0.05m 0.10m 0.17m 0.17m. 0.14m |

| 722 | Floor | 23.60m | 1.80m | 0.10m |
|------------|--------------------|----------------|-----------------|------------------|
| 723 | Fl0or | 23.60m | 1.80m | 0.10m |
| 724 | VOID | 20.00111 | 1.00111 | 0.10111 |
| 725 | VOID | | | |
| 726 | Floor | 1.82m | 1.93m | 0.10m |
| 727 | Wall | 2.67m | 0.11m | 0.08m |
| 728 | Floor | 2.64m | 1.80m | 0.10m |
| 729 730 | Burnt Debris Floor | 0.60m 2.80m | 0.40m 2.00m | 0.10m 0.06m |
| 731 | Chamfer | 6.05m | 0.39m | 0.05m |
| 732 | Repair | 0.22m | 0.12m | 0.08m |
| 733 | Natural | 15.00m | 1.50m | 0.10m+ |
| 734 | Wall | 18.10m | 0.63m | 0.10m |
| 735 | Wall | 1.38m | 0.98m | 0.10m |
| 736 | Wall | 20.00m | 0.48m | 0.37m |
| 737 | Deposit | 1.20m | 1.00m | 0.50m+ |
| 738 | Natural | 85.00m | 50.00m | 0.10m+ |
| 739 | Gully | 38.50m | 0.40m | 0.70m |
| 740 | Floor | 3.80m | 1.88m | 0.10m |
| 741 | Floor | 8.10m | 0.92m | 0.10m+ |
| 742 | Repair | 8.00m | 1.20m | 0.10m+ |
| 743 | Gully | 22.00m | 0.37m | 0.40m |
| 744 | Wall | 1.90m | 0.45m | 0.36m |
| 745 | Wall | 0.70m | 0.45m | 0.34m |
| 746 | Wall | 0.20m | 0.45m | 0.40m |
| 747 | Concrete | 2.00m | 0.38m | 0.40m |
| 748 | Concrete | 20.75m | 11.00m | 1.10m |
| 749 | Chamfer | 16.00m | 0.25m | 0.45m |
| 750 | Wall | 1.02m | 0.50m | 0.05m |
| 751 | Wall | 1.70m | 0.50m | 0.05m |
| 752 | Wall | 3.75m | 0.50m | 0.05m |
| 753 | Wall | 1.70m | 0.50m | 0.05m |
| 754 | Wall | 1.70m | 0.50m | 0.05m |
| 755 | VOID | 1.20111 | 0.50111 | 0.03111 |
| 756 | Wall | 2 00m | 2.70m | 0.10m± |
| 757 | Subsoil | 3.00m | 1.50m | 0.10m+ |
| 758 | Topsoil | 5.00m 5.00m | 1.50m | 0.36m 0.26m |
| | Deposit | + | 1.10m+ | 0.20III 0.10m |
| 759 760 | Made Ground | 0.30m 5.00m | 1.10m+ 1.50m | 0.10m |
| 761 | Made Ground | 5.00m+ | 1.50m+ | 0.30m |
| 762 | Foundation | 0.70m | 0.70m | 0.20m+ |
| 763 | Foundation | 0.70m | 0.70m | 0.20m+ |
| 764 | Foundation | 0.40m | 0.40m | 0.20m+ |
| 765 | Foundation | 0.65m | 0.65m | 0.20m+ |
| 766 | Foundation | 0.35m | 0.35m | 0.20m+ |
| 767 | Foundation | 0.60m | 0.60m | 0.20m+ |
| 768 | Foundation | 0.40m | 0.40m | 0.20m+ |
| 769 | Foundation | 0.75m | 0.75m | 0.20m+ |
| 770 | Foundation | 0.35m | 0.35m | 0.10m+ |
| 771 | Foundation | 0.60m | 0.60m | 0.20m+ |
| 772 | Foundation | 0.35m | 0.35m | 0.10m+ |
| 773 | Foundation | 0.60m | 0.60m | 0.20m+ |
| 774 | Foundation | 0.70m | 0.68m | 0.20m+ |
| 775 | Foundation | 0.70m | 0.70m | 0.20m+ |
| 776 | Foundation | 0.70m | 0.70m | 0.20m+ |
| 777 | Floor | 1.00m | 0.60m | 0.10m |
| 778 | Floor | 1.30m | 0.95m | 0.10m |
| 779 | Concrete | 1.50m | 1.00m | 0.10m+ |
| | Concrete | 1 | 1 | 1 |
| 780 | Floor | 1.80m | 1.55m | 0.10m+ |
| 781 | Concrete | 1.60m | 1.45m | 0.10m |
| 782 | Foundation | 1.50m | 1.00m | 0.10m+ |
| 783 | Floor | 0.95m | 0.95m | 0.20m+ |
| 784 | 1 1001 | 6.90m | 1.60m | 0.10m |

| 785 | Foundation | 0.70m | 0.73m | 0.20m+ |
|-----|------------------|--------|--------|--------|
| 786 | Foundation | 0.30m+ | 0.30m+ | 0.10m+ |
| 787 | Foundation | 0.30m+ | 0.30m+ | 0.10m+ |
| 788 | Foundation | 0.65m | 0.65m | 0.20m+ |
| 789 | Foundation | 0.90m | 0.90m | 0.20m+ |
| 790 | Foundation | 0.55m | 0.55m | 0.20m+ |
| 791 | Foundation | 0.78m | 0.75m | 0.20m+ |
| 792 | Foundation | 0.60m | 0.60m | 0.20m+ |
| 793 | Foundation | 0.70m | 0.52m | 0.20m+ |
| 794 | Metal Attachment | 0.30m | 0.30m | 0.05m |
| 795 | Foundation | 0.62m | 0.62m | 0.20m+ |
| 796 | Foundation | 0.60m | 0.60m | 0.20m+ |
| 797 | Foundation | 0.38m | 0.38m | 0.10m+ |
| 798 | Repair | 0.30m | 0.30m | 0.05m |
| 799 | Foundation | 0.40m | 0.40m | 0.10m+ |
| 800 | Foundation | 0.25m | 0.25m | 0.10m+ |
| 801 | Foundation | 0.50m | 0.50m | 0.20m+ |
| 802 | Foundation | 0.65m | 0.65m | 0.20m+ |
| 803 | Foundation | 0.30m | 0.30m | 0.10m+ |
| 804 | Metal Attachment | 0.25m | 0.25m | 0.05m |
| 805 | Foundation | 0.28m | 0.28m | 0.10m+ |
| 806 | Repair | 0.40m | 0.35m | 0.05m |
| 807 | Foundation | 0.55m | 0.55m | 0.20m+ |
| 808 | VOID | | | |
| 809 | VOID | | | |
| 810 | Surface | 1.20m | 0.60m | 0.05m+ |
| 811 | Platform | 1.20m | 1.00m | 0.50m |
| 812 | Platform | 1.20m | 1.00m | 0.50m |
| 813 | Wall | 2.60m | 0.30m | 1.40m |
| 814 | Wall | 4.26m | 0.30m | 1.40m |
| 815 | Floor | 1.30m | 0.40m | 0.10m+ |
| 816 | Rail Tracks | 48.00m | 1.00m | 0.10m |

Appendix B – Specialist Report

Post-Medieval Pottery

by

Jane Young

Introduction

Two complete vessels and a body sherd were submitted for examination. The pottery is entirely of early modern type has been fully archived to the standards for acceptance to the local museum within the guidelines laid out in Slowikowskki, et al. (2001). The assemblage was quantified by three measures: number of sherds, weight and vessel count. The pottery data was entered on an access database using post-Roman fabric codenames (see Table 1).

Condition

One vessel is complete and one is complete except for a small chip on the rim edge. Both these vessels appear to be in a stable condition. The third vessel represented by a single sherd, is in a fairly fresh condition.

The pottery

In total three vessels recovered from the site were submitted for examination (Table 1).

Table 1 Pottery types with total quantities by sherd and vessel count

| Codename | Full name | Earliest date | Latest date | | Weight in grams |
|----------|-------------------------------|---------------|-------------|---|-----------------|
| WHITE | Modern whiteware | 1800 | 1950 | 1 | 26 |
| ENGS | Unspecified English Stoneware | 1800 | 1906 | 1 | 1688 |
| ENGS | Unspecified English Stoneware | 1870 | c.1915 | 1 | 2374 |

Context 668 produced a body sherd from a white-glazed earthenware (WHITE) bowl or basin with blue-banded decoration. This vessel can only be dated very generally to between the mid 19th and mid 20th centuries.

A complete English Stoneware (ENGS) flagon in a buff fabric was recovered from context 737. The vessel has a brown-dipped rim and shoulder and is impressed on the shoulder with 'TOM. MARRIS WINE AND SPIRIT MERCHANT WORKSOP'. A further impression gives the number 6938. In itself the vessel can only be generally dated to between the mid 19th and mid 20th centuries, however a Tom Marris, chemist and wine merchant is listed in 1879 as being at 84 Bridge Street Worksop. Tom Marris junior is listed in the 1871 census as a master chemist living with his father a retired chemist. By 1901, he is listed as a spirit merchant only. A second stoneware vessel from context 737 is complete except for a chip on the rim. The bottle has a small pouring lip and is in a buff fabric, having a plain oatmeal-coloured glaze. A small oval stamp near the base is impressed with 'PRICE BRISTOL'. Price was a major stoneware manufactory throughout the 19th century and this vessel must pre-date 1906 when Price merged with fellow Bristol firm Powell.

Discussion

This is a small isolated group of early modern material that most probably dates to between the late 19th and early 20th centuries

The Whiteware sherd could be discarded but the two stoneware vessels should be kept for future study.

Bibliography

Slowikowski, A. Nenk, B. and Pearce, J. 2001. Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics. Medieval Pottery Research Group, Occasional Paper 2.

Ceramic Building Material

by

Jane Young

Introduction

A group of fifty-five fragments of ceramic building material recovered from the site and weighing 173.301 kg was presented for examination. The material was recovered from twenty different contexts. A summary of the material is presented in Table 1.The ceramic building material is entirely of early modern date.

The material has been recorded at archive level in accordance with the Medieval Pottery Research Group's Guidelines (Slowikowski 2001).

Condition

The material recovered is mainly in a fairly fresh to slightly worn condition. Most of the bricks and floor tiles examined are complete or form complete examples. Almost all of the bricks and tiles have thick mortar adhering to one or more surfaces. Some of the bricks have one whitewashed surface.

The Ceramic Building Material

A limited range of ceramic building material, mainly early modern brick and floor was examined, although seven partial malting tiles were also recovered. The types are shown in Table 1.

Table 1: Ceramic Building material codenames and total quantities by fragment count

| Codename | Full name | Total fragments | Total examples | Total weight in grams |
|----------|--------------|-----------------|----------------|-----------------------|
| BRK | Brick | 40 | 37 | 144375 |
| FLOOR | Floor tile | 8 | 6 | 19721 |
| MALT | Malting Tile | 7 | 6 | 9205 |

The Brick

The forty brick samples, forming thirty-seven different bricks, were divided into thirteen sitespecific brick types and eleven site brick fabrics (Table 2). Both handmade and industrially machine made bricks are present in the assemblage, which includes bricks from a variety of production sites.

Brick Type 1 - A handmade un-frogged brick of c.240x115x72mm made in a sanded mould. The brick is in a light orange-brown coloured fabric containing abundant fine to medium-sized round to subround quartz, moderate iron-rich grains and occasional pebbles (Site Fabric 1). Two examples from context 622 were examined. This brick is of probable late 18th to early 20th century date and is likely to be of local manufacture.

Brick Type 2 – This industrially made double-frogged brick is c 228x110x70mm. The brick is in an orange-brown fabric with abundant medium-sized subround quartz, moderate to common calcareous grains and moderate iron-rich grains (Site Fabric 2). The brick has screw and mould marks and is stamped 'COCKING DONCASTER'. Two examples from context 647 and one from context 662 were examined. This company was set up at Balby near Doncaster in the late 19th century. These bricks could be of late 19th or 20th century date.

Brick Type 3 – A handmade un-frogged brick of c.232x120x75mm with variable sand or smoothed stretchers and ends. The brick is in a cream-coloured marled fabric with light orange surface patches (Site Fabric 3). Seven examples of this brick type were examined, two each from contexts 629 and 654 and one each from contexts 105, 607 and 623. This brick is of probable late 18th to 19th century date.

Brick Type 4 - A handmade un-frogged brick of c.225x110x72mm with sanded sides and roughly struck upper surface. The brick is in a cream-coloured marled fabric (Site Fabric 3). Two examples of this brick type were examined, one from context 623 and one from context 636. This brick is of probable late 18^{th} to 19^{th} century date.

Brick Type 5-A handmade un-frogged brick of c.230x113x75mm with variable sand and smoothed stretchers and ends. The brick is in an orange-coloured marled fabric with part cream-coloured surface patches (Site Fabric 4). Five examples were examined with three coming from context 636 and one each from contexts 607 and 623. This brick is of probable late 18^{th} to 19^{th} century date.

Brick Type 6 – An industrially made frogged brick of c.230x110x73mm. The brick is in a fine orange fabric (Site Fabric 5). The brick has screw and mould marks and is stamped 'CAFFERATA'. Two examples of this brick came from context 667. This brick was produced near Newark and is of late 19th to 20th century date.

Brick Type 7 – An industrially made double-frogged brick of c.220x100x73mm. The brick is in a fine red fabric with common quartz and iron-rich grains (Site Fabric 6). The brick has screw and mould marks and is stamped 'WILSON'. Three examples of this brick type were examined with two coming from context 643 and one from context 648. This brick is of late 19^{th} to 20^{th} century date.

Brick Type 8 – An industrially made double-frogged brick of c.220x105x70mm. The brick is in a fine purple fabric (Site Fabric 7). The brick has an oval frog stamped 'DINNINGTON'. Two examples of his brick came from context 628. This brick is of late 19th to 20th century date.

Brick Type 9 – An industrially made double-frogged brick of c.225x115x75mm. This brick type occurs in a fine red fabric with common large angular calcareous inclusions (Site Fabric 8), as well as one example in a coarse red fabric with both calcareous and iron-rich grains (Site Brick Fabric 9). Four examples of this type of brick were examined. Two came from context 637 and one each were from contexts 639 and 648. This brick is of late 19th to 20th century date.

Brick Type 10 – An industrially made double-frogged brick of c.225x115x70mm. This brick has a coarse red fabric with both calcareous and iron-rich grains (Site Fabric 9). The brick has screw and mould marks and is stamped 'WILKINSON ELLAND' within a rectangular frog. A single example of this brick came from context 639. This brick is of 20th century date.

Brick Type 11 - An industrially made double-frogged brick of c.225x110x75mm. This brick has a fine orange fabric with common fine iron-rich and calcareous (Site Fabric 10). The brick has screw and mould marks and is stamped 'BALBY' within an oval frog. The reverse side has three distinctive large screw marks. Two samples of this brick came from context 699. This brick is of late 19th to 20th century date.

Brick Type 12 - An industrially made frogged brick of c.225x112x70mm. This brick is very highly fired and has a metallic sheen. The dark grey fabric appears to be composed of ironrich grains (Site Fabric 11). The brick has screw and mould marks and is stamped 'METAL' within an oval frog. Similar bricks have been found elsewhere in the Worksop area. Three examples of this unusual brick type were examined. Two came from context 648 and one from context 105. This brick is of late 19th to 20th century date.

Brick Type 13 - A handmade un-frogged brick of c.250x120x82mm with sanded stretchers and one sanded end. The brick is in a cream-coloured marled fabric with light orange surface patches (Site Fabric 3). A single example came from context 207. This brick is of probable late 18th to 19th century date.

Table 2: Brick types and fabrics with total quantities by example count

| Sub type | Fabric | Manufacture | Size in mm | Marked | Total examples |
|--------------------|---------------------|-------------|----------------|----------------------|----------------|
| Site Brick Type 1 | Site Fabric Type 1 | Handmade | 240 x 115 x 72 | | 2 |
| Site Brick Type 2 | Site Fabric Type 2 | Industrial | 228 x 110 x 70 | COCKING DONCASTER | 3 |
| Site Brick Type 3 | Site Fabric Type 3 | Handmade | 232 x 120 x 75 | | 7 |
| Site Brick Type 4 | Site Fabric Type 3 | Handmade | 225 x 110 x 72 | | 2 |
| Site Brick Type 5 | Site Fabric Type 4 | Handmade | 230 x 113 x 75 | | 5 |
| Site Brick Type 6 | Site Fabric Type 5 | Industrial | 230 x 110 x 73 | CAFFERATA | 2 |
| Site Brick Type 7 | Site Fabric Type 6 | Industrial | 220 x 100 x 73 | WILSON | 3 |
| Site Brick Type 8 | Site Fabric Type 7 | Industrial | 220 x 105 x 70 | DINNINGTON | 2 |
| Site Brick Type 9 | Site Fabric Type 8 | Industrial | 225 x 115 x 75 | | 3 |
| Site Brick Type 9 | Site Fabric Type 9 | Industrial | 225 x 115 x 75 | | 1 |
| Site Brick Type 10 | Site Fabric Type 9 | Industrial | 225 x 115 x 70 | WILKINSON ELLAND | 1 |
| Site Brick Type 11 | Site Fabric Type 10 | Industrial | 225 x 110 x 75 | BALBY | 2 |
| Site Brick Type 12 | Site Fabric Type 11 | Industrial | 225 x 112 x 70 | METAL | 3 |
| Site Brick Type 13 | Site Fabric Type 3 | Handmade | 250 x 120 x82 | | 1 |
| Total examples | | | | | 37 |

The Tile

Seven unglazed earthenware floor tiles or 'quarries' were submitted for examination. The tiles have thick mortar bedding, which in one case obscures the exact tile type, although all were made by the Cowling firm.

Tile Type 1A – This industrially made frogged floor tile is c 180x180x50mm. The tile is in a fine orange fabric with occasional calcareous and iron-rich grains (Site Fabric 14). The tile has four screw marks and is stamped 'COWLING' with the 'N' reversed. Four examples from three different contexts were examined. Two tiles came from context 640 and one each from contexts 623 and 660.

Tile Type 1B – As above but the 'N' in COWLING is the correct way round. Two examples were examined with one coming from context 662 and one from context 730.

The Malting Tile

Examples from seven incomplete Reginald Stanley-type malting tiles, which would have formed the roasting floor, were submitted for examination.

Malting tile Type 1 – No complete tiles were recovered. This tile is 50mm thick and has a series of circular perforations (c.15mm across) formed by a cluster of seven small holes encircling a central hole (or flower-shaped) on the upper surface. The underside of the tile has large 18mm perforations forming a 'honeycombed' appearance. The tile is in a coarse light yellow to cream fabric with common iron-rich grains and clay pellets/mudstone as well as occasional coarse angular quartz grains (Site Fabric 12). Six examples from context 605 were examined. Three have a brown salt-glaze, one has an oatmeal-coloured glaze, one is clear-glazed and one example is unglazed. These tiles are of late 19th to 20th century date.

Malting tile Type 2 – No complete tiles were recovered. This tile is 50mm thick and has a series of circular perforations (c.23mm across) formed by a cluster of eight small holes encircling a central hole (or flower-shaped) on the upper surface. The underside of the tile has large 23mm perforations forming a 'honeycombed' appearance. The tile is in a fine orange fabric with occasional iron-rich and calcareous grains (Site Fabric 13). A single unglazed example of this type of malting tile was recovered from context 605. These tiles are of late 19th to 20th century date.

Summary

The ceramic building material examined probably dates between the mid 19th and mid 20th centuries and includes a range of brick and tile types of both handmade and industrial manufacture. The original structure was most probably constructed in handmade bricks of types 1, 3-5 and 13 with later additions and alterations utilising a range of industrially made late 19th to 20th century bricks, mainly from brickyards in south and west Yorkshire. Two different patterned malting tiles were recovered indicating perhaps that the floor had been altered at sometime. The use of both glazed and unglazed tiles in the same pattern also might suggest more than one flooring episode, but could just reflect the variation within one large batch of tiles.

A site type series of the examined brick and tile has been established and it is recommended that at least one example of each type is retained.

References

Slowikowski, A. Nenk, B. and Pearce, J. 2001. *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics.* Medieval Pottery Research Group, Occasional Paper 2.

Metalwork

by

Roger Doonan

This report reviews a small assemblage of metal finds from the 2010 excavations at Carlton Rd, Worksop (SK 58747978).

The aims of the evaluation were defined as

To establish the presence/absence of archaeological remains at Carlton Rd, Worksop

 To determine the extent, condition, nature, character, quality and date of any archaeological remains encountered.

Desk based assessments have indicated that within a 1 km radius of the site a wealth of archaeology is present with evidence for prehistoric, Roman, Saxon Norman and Medieval activities (AOC 30809: 2). None of the recorded evidence falls within the Carlton Rd site and most is concentrated south of the railway which forms a boundary to the site. Previous archaeological intervention identified well-preserved archaeological features consisting of tiled floors, concrete surfaces and multiple wall lines, most likely relating to the remains of the 19th century malt kilns. The material which forms the basis of this evaluation most likely derive from these activities.

The aim of this report is to assess the metal finds assemblage and make recommendations for their recording and future study.

Methodology

The assemblage was assessed with reference to various English heritage guidelines for Historic Industries Dungworth and Paynter 2006) and historic industrial environments (Patrick 2004). Visual examination of the finds allowed form and morphology to be determined and compared, where appropriate, with diagnostic samples from TUSARC, 'The University of Sheffield Archaeometallurgical Reference Collection'.

The assemblage

The assemblage comprised a total of eight substantial metal objects.

Single component artefacts were included alongside composite ones and the assemblage appeared to feature both architectural iron work and machine fittings. These finds are dealt with below in order of the supplied summary.

Find A CNW10

Description

A complete metal pipe measuring 1.68m in length. The pipe terminates at one end with a flared stock. The following dimensions are noted.

Flared stock end external diameter 157mm internal diameter 122mm.

Untapered end. External diameter 127mm internal diameter 84mm. (see Figure One)



Figure 1: Find A

Comment

Find A is identified as an architectural column used to support upper floors in maltings. The constant humidity and associated dampness encountered in maltings predicate against the use of wood, especially in larger maltings. An example of such architectural features in situ is shown in Figure 2. From 1880 onwards the repeal of the Malt Tax meant that there was an economic advantage to building much larger production units with different internal arrangements. The use of such cast iron architectural elements facilitated the building of multi-storey maltings which brought about significant changes in the internal management of grain and its treatments (Patrick 2004:28).

Recommendations

The object should be inspected for casting/foundry marks and recorded.



Figure 2 Two examples of cast iron column props used in malting. 2b shows varied heights to be expected.

(from Patrick 2004)

Find B CNW 10

Description

A square metal plate with a central circular boss. The plate has fitting holes located at each corner. The plate measures 375x381mm and is 16mm thick (see Figures 3 and 4).

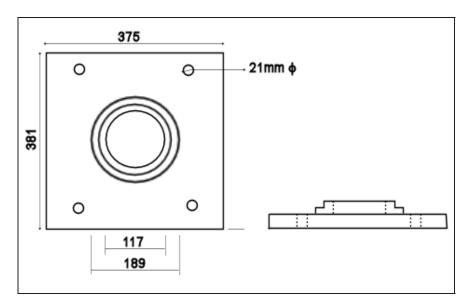


Figure 3 Projection of Find B. All dimensions in mm (Doonan)



Figure 4. Find B showing raised circular boss.

Comment

Find B most likely relates to architectural ironwork. It is probable that it is used in conjunction with the a column prop such as that described under Find A. It serves to centre the prop and assist in fitting it to other structural members (see above). Figure 5 shows the detail of how props and plates were used in conjunction.



Figure 5. Column prop and securing plate in situ (after Patrick 2004)

Recommendations

The object should be inspected for casting/foundry marks and recorded.

Find C CNW10

Description

Bearing, shaft and pulley assembly. Shaft length 330mm. Bearing housing length 165mm, Pulley diameter (complete) 260mm (see Figure 6). This composite artefact would have been used in conjunction with a driven belts. The shaft (diameter unspecified) is contained in two bearing housing which include fixing holes. This would have been a stationary assembly most likely fitted to a flat surface.



Figure 6. Bearing, shaft and pulley assembly. Note fixing holes in bearing housing.

Following the repeal of the Malt Tax the increased size of maltings presented challenges for the internal organisation of production. Amongst the changes in working practices was the need to move significant batches of malt throughout multi-storey malting such as the Newark and Ware hybrid types (Patrick 2004). The challenge of moving raw materials led to the installation of significant mechanised arrangements to facilitate the transfer of materials. The assembly detailed here would have formed part of the material transfer machinery.

Recommendations

The object should be inspected for maker's marks and recorded.

Find D CNW 10

Description

Cast Iron Fitting. Find D most likely derives from an architectural feature and may have been used in conjunction with features such as those detailed above (Figure 7).



Figure 7: A component of architectural ironwork.



Figure 8: Column prop terminal with associated fixing plate and assembly.

It is not obvious what Find D relates to but it is most probable that it is architectural in origin and as such related to Finds A and B. Figure 8 shows another example of a column prop fitting. If such identification is correct then it may suggest a different phase of construction possibly associated with either the original building of the maltings or a subsequent phase of renewal and/or expansion.

Recommendations

The object should be inspected for maker's marks and recorded.

Find E CNW10

Description

Metal Plate measuring 230mm square with peripheral flange and square section boss (see figures 9 and 10).



Figure 9 Find E showing detail of object.

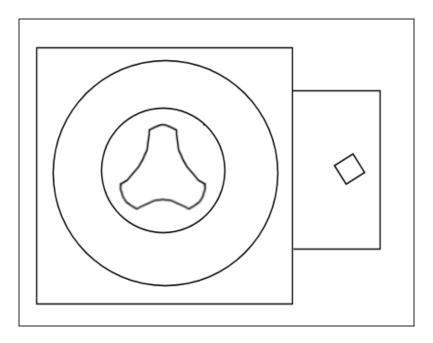


Figure 10 Schematic of Find E (Doonan)

Whilst the association of Find E with other architectural components suggests that this too might be an aspect of architecture, its detail and complexity suggests that it might derive from some form of mechanised plant. No fixing holes are apparent mitigating against its interpretation as architectural. The raised triskelion on the central circular platform suggests that it is designed to mate with other mechanical components. The same can be said of the square section box on the peripheral flange. As such this component is best interpreted as deriving from some form of mechanical apparatus most likely associated with the movement of materials within the malting (see above).

Recommendations.

The object should be inspected for maker's marks and recorded.

Find G CNW10

Description

Two Grills (see Photo P143 and P146). The finds log indicates that Find G relates to photos 143-147. However it is apparent that these photos cover two objects, both grills but differing forms.

Grill A (See Figure 11) and Grill B (Figure 12) are both comprised of steel and have variable mesh dimensions. Grill B is recorded as being 1520x2440mm. Mesh spacing is 150mm with a central strut at 1220mm. No dimensions are supplied for Grill A.



Figure 11 Grill A showing variable mesh size



Figure 12 Grill B, note difference to Grill A

Both grills most likely relate to apparatus associated with the laundering of grain materials within the malting. The inception of the multi-storey malting necessitated the movement of large volumes of grain at various stages of the process. Grills were frequently used in conjunction with launders involved with transfer of steep to drying floors and the suchlike. Grills would have acted to prevent stray tools and perhaps even operatives from been included in grain batches as they were transferred.

Recommendations

The dimensions for both grills should be recorded. Each should be examined for makers marks and attachment fittings.

Find H CNW 10

Description

Three sections of flexible ladder link conveyor. The conveyor width is 230mm with each section measuring approximately 110mm. The dimensions for the recovered sections are 0.8m x 0.23m (x2) and 0.60m and 0.23m.

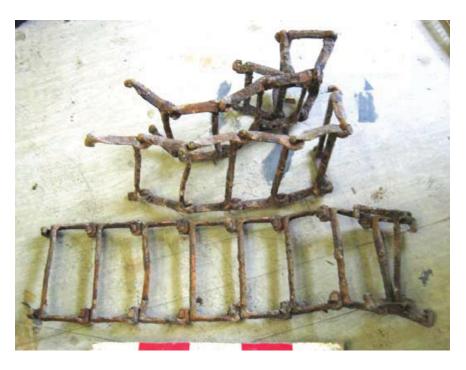


Figure 13 Sections of the ladder link conveyor.

With the development of multi-storey malting following the repeal of the malt tax the need to transfer significant quantities of materials within the malting became an issue. Systems of driven conveyors would have been a likely solution to this problems. The ladder link conveyor illustrated here would most likely have been coupled to a series of containers or continuous belt and would have been an effective means for material transfer within the structure.

Recommendations.

The object should be photographed and examined for makers marks.

Find I CNW10

Description

Fabricated 1cm mesh fitting with cut-outs. Measurements 0.65m x 0.28m.



Figure 14: Belt guard from motor or compressor

This object is a fitted mesh belt guard designed to prevent the entanglement of operators and materials with driven flexible belts. Such guards are regularly seen on compressors or drive motor assemblies (see Figure 15). It is most likely that this guard was part of a motor used in the transfer of grain materials (see above)



Figure 15; Example of a drive motor belt guard.

Recommendations

The object should be photographed and examined for makers marks.

Statement Of Potential

The assemblage does not offer further potential for research beyond the minimal recommendations made.

Conclusion

It is apparent that the assemblage can be divided in to two categories of finds, a) architectural elements and b) mechanical assemblies related to the transit of material. The repeal of the Malt tax in 1880 led to the development of multi-storey maltings. The architectural elements within this assemblage are typical of the types of architectural solutions used in the new design of multi-storey patterns (Patrick 2004). The use of cast iron elements, specifically column struts, meant that a minimal foot print allowed more area of the floor to be used for growing. The relative resistance of cast iron to damp and humidly made it a hygienic and sensible material to choose in malting design. With the advent of multi-storey malting new challenges arose, perhaps the most significant being the transit of material within the building. The shift to motorized conveyors was an obvious choice and the assemblage has several elements which relate to this aspect of malt production. Attention to context and find spot may well reveal further detail concerning what aspect of the process these finds relate.

Bibliography

Dungworth, D. and Paynter, S. 2006 Science for Historic Industries: Guidelines for the investigation of 17th- to 19th-century industries. Swindon: English Heritage Publishing

Patrick A 2004 Strategy for the Historic Industrial Environment Report 1. Maltings in England. English Heritage.

General Finds

by

Paul Fitz

Summary

Bulk finds were scarce from securely sealed contexts from the works at Carlton Road, the majority of finds being structural brick samples. So, whilst the few artefacts from context (668) may not help to securely date the context other than to say they are post medieval, they are listed below.

A tobacco pipe stem 36mm in length (2 g) is undiagnostic

A rim sherd from a clear glass vessel (20g) shows that the rim or neck from said vessel was ovular, not circular.

A brass tack nail 39mm (11/2" imperial) in length with a squared, slightly tapering shaft and 9mm diameter flat head, weighing 2g

A rib piece from a medium to large mammal (17g) has a clean butchered cut through at one end. The cut suggests a forceful single cut rather than sawing.

Discussion/Recommendations

The finds assemblage is very small in size and has little significance on a local or national level. The freshness of the artefacts suggests the context is no earlier than the eighteenth century.

Material for illustration

None

Analysis of potential

Only provides broad dating evidence for the features in which it occurs.

Significance of the data

International and National

The assemblage is not of international or national significance.

Regional and Local

The assemblage is not of regional or local significance.

Further work required

No further work is required.

Preparation for deposition in the archive and conservation

Consult receiving museum about possible discard

Appendix C – OASIS Form

OASIS ID: aocarcha1-77779

Project details

Project name CARLTON ROAD, WORKSOP, NOTTINGHAMSHIRE

the project

Short description of After an inital evaluation, an excavation was was undertaken at the site of Carlton Road, Worksop, Nottinghamshire. The earliest activity identified on site consisted of several soil horizons predating the 19th century. No diagnostic material was observed within these deposits restricting their ability to inform on activity pre-dating the construction of the 19th century industrial complex. These soil horizons purely represent the accumulation of undisturbed deposits over time. All features identified during the course of the excavation were post-medieval or modern, specifically 19th to 20th century in date. The initial activity within this period was the construction of a substantial 19th century industrial structure consisting of a building complex dominated by four large processing rooms, which were associated with ten smaller support rooms. Historical records indicate this building was for the malting of hops and barley for the brewing trade, owned by the company Clinton's. After the initial phase of construction significant alterations to the complex took place internally and externally during the late 19th and early 20th century, including subdividing the building layout to incorporate new rooms and machinery. Activity at Clinton's Maltkilns appeared to continue until the mid 20th century when demolition of the 19th century structure was present in the form of a substantial depth of demolition debris across the site. Subsequently, the demolition debris was disturbed by the construction of concrete structures associated with a later maltkiln complex built during the second half of the 20th century. By the late 20th century this later concrete maltkiln complex fell into disuse and was also demolished, with the rubble sealed by made ground. Abandonment of the site through up to the current time allowed a horizon of topsoil to accumulate across the site.

Start: 10-05-2010 End: 22-07-2011 Project dates

Previous/future

No / Not known

work

Any associated 7993 - Contracting Unit No.

project reference

codes

Any associated CNW10 - Sitecode

project reference

codes

associated 02/03/00064 - Planning Application No. Any

project reference

codes

Any associated CNW11 - Sitecode

project reference

codes

Any associated 30809 - Contracting Unit No.

project reference

codes

Type of project Recording project

Site status None

Current Land use Other 13 - Waste ground

Monument type FLOORS Post Medieval

Monument type WALLS Post Medieval

Monument type YARD SURFACE Modern

Monument type **FOUNDATIONS Modern**

Significant Finds **BRICK Post Medieval**

Significant Finds TILE Post Medieval

Significant Finds **POTTERY Post Medieval**

Investigation type 'Open-area excavation'

Direction from Local Planning Authority - PPS Prompt

Project location

Country England

Site location NOTTINGHAMSHIRE BASSETLAW WORKSOP CARLTON

ROAD, WORKSOP, NOTTINGHAMSHIRE

Postcode S81 7AB

Study area 1.95 Hectares

Site coordinates SK 5874 7978 53.3114231092 -1.118273679840 53 18 41 N 001

07 05 W Point

Height OD / Depth Min: 40.60m Max: 45.80m

Project creators

of AOC Archaeology Name

Organisation

brief Local Planning Authority (with/without advice from County/District Project

originator Archaeologist)

Project design AOC Archaeology

originator

Project Melissa Melikian

director/manager

Project supervisor Chris Clarke

Type of Developer

sponsor/funding

body

Name of Santon Group Developments Ltd

sponsor/funding

body

Project archives

Physical Archive Bassetlaw Museum

recipient

Physical Archive ID CNW10

Physical Contents 'Animal Bones','Ceramics','Metal'

Physical Archive To be held at AOC until ready to archive.

notes

Digital Archive Bassetlaw Museum

recipient

Digital Archive ID CNW10

Digital Contents 'Stratigraphic'

Digital Media 'Images raster / digital photography'

available

Digital Archive To be held at AOC until ready to archive.

notes

Archive Bassetlaw Museum Paper

recipient

Paper Archive ID CNW10

Paper Contents 'Animal Bones','Ceramics','Metal','Stratigraphic'

Paper Media 'Context sheet', 'Plan', 'Section', 'Report'

available

Archive To be held at AOC until ready to archive. Paper

notes

Project bibliography 1

Grey literature (unpublished document/manuscript)

Publication type

Carlton Road, Worksop, Nottinghamshire: A Written Scheme of Title

Investigation for an Archaeological Evaluation

Author(s)/Editor(s) Edwards, C.

Date 2009

Issuer or publisher AOC Archaeology

Place of issue or London

publication

Description A4 text, 3 illustrations, 26 pages bound between plastic covers.

Project bibliography 2

Grey literature (unpublished document/manuscript)

Publication type

Title CARLTON ROAD, WORKSOP, NOTTINGHAMSHIRE: AN

ARCHAEOLOGICAL EVALUATION REPORT

Author(s)/Editor(s) Clarke, C.

2010 Date

Issuer or publisher AOC Archaeology

Place of issue or London

publication

Description A4 text, 6 illustrations, 27 pages bound between plastic covers.

Project

bibliography 3

Grey literature (unpublished document/manuscript)

Publication type

Title CARLTON WORKSOP, NOTTINGHAMSHIRE:A ROAD,

> WRITTEN SCHEME OF INVESTIGATION FOR

ARCHAEOLOGICAL EXCAVATION

Author(s)/Editor(s) Clarke, C.

Date 2011

Issuer or publisher AOC Archaeology

Place of issue or London

publication

A4 text, 2 illustrations, 20 pages bound between plastic covers Description

Project

bibliography 4

Grey literature (unpublished document/manuscript)

Publication type

Title CARLTON ROAD, WORKSOP, NOTTINGHAMSHIRE: A POST-

EXCAVATION ASSESSMENT

Author(s)/Editor(s) Clarke, C.

Date 2011

Issuer or publisher **AOC Archaeology** Place of issue or London

publication

Description A4 text, 7 illustrations, 35 pages bound between plastic covers

Chris Clarke (chris.clarke@aocarchaeology.com) Entered by

Entered on 3 October 2011





AOC Archaeology Group, Unit 7, St Margarets Business Centre, Moor Mead Road, Twickenham TW1 1JS

tel: 020 8843 7380 | fax: 020 8892 0549 | e-mail: london@aocarchaeology.com