

MOORGATE MILL, BLACKBURN, LANCASHIRE

Strip, Map and Record Excavation Report





**MOORGATE MILL,
BLACKBURN, LANCASHIRE**

**Strip, Map and Record
Excavation Report**

Commissioned by:
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on behalf of
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STRIP, MAP AND RECORD EXCAVATION REPORT

Summary

Wessex Archaeology was commissioned by CgMs, on behalf of HB Community Solutions Limited and Bolsterstone (Chesterfield) LLP (Planning Application Reference Number 10/12/0686) to carry out archaeological mitigation on the former site of Moorgate Mill, off Moorgate Street, Blackburn, Lancashire (hereafter 'the Site'). The site, centred at NGR 670 261, lies on Moorgate Street and is bounded by the Leeds and Liverpool Canal to the north.

Excavation and documentary research revealed numerous phases of rebuilding, renovation and extension in the development of the mill from its construction in the 1830s, through fires in 1869, 1886 and 1925, to its recent demolition. Artefacts recovered from the investigations, predominantly pottery, ceramics, glass and CBM appear to relate to the use of the site as a spinning and weaving mill from the 1840s through to the late 1920s.

The original six storey construction of the Mill was begun in 1836 by John Parkinson and Henry Holt (Blackburn Standard 1836:8). In 1841 the mill passed to Joseph Eccles (Rothwell 1985:23), a local entrepreneur, who gradually improved and expanded the mill until his death in 1861 (Blackburn Standard 1861:01).

The excavation focussed on three areas to the west, east and southeast of the site. Structural evidence relating to the early phases of development of the site from the 1830s to the 1870s included the western wall of the weaving sheds, walls enclosing the steam engine and boiler room on the eastern side of the mill and partially surviving flagstone floors and base plinths to support roof struts. Historic mapping from 1841 (OS 1841) shows a gas holder on the Moorgate Street frontage in the early phases of development, and a firebrick from a gas retort arch was found in this area; indicating that gas was probably produced on the site, most likely for lighting in the Mill and associated buildings. Also identified was a long flue tunnel taking exhaust fumes from the steam boilers to a chimney at the southern side of the site.

Fires in 1869 and 1886 (Blackburn Standard 1869:03/1886:08) would have resulted in extensive rebuilding to the mill buildings, although it was difficult to precisely correlate what we know historically with the recorded structures. By the 1890s the size of the mill had grown to occupy almost the whole plot of land (OS 1894/1911). Some of the developments noted during this phase were probably alterations and additions carried out by Edwin Hamer between 1911 and 1914, the most visible aspect of which was the surviving sign left by the canal bank. External structures were added to the weaving sheds and modifications were made with the drainage and flue tunnel.

Despite all the renovations the mill did not survive and the machinery was sold off in 1933 and the mill closed. For 67 years the mill buildings were used as a warehouse for processing artificial yarn. Developments in this phase relate to internal concrete partitions, re-flooring and internal and external drainage. In 2008 demolition of the extant buildings was carried out in preparation for the plot to be developed into housing. Evidence of the demolition and landscaping of the site was seen in all excavated areas.

No further recommendations are made for analysis of the artefacts recovered from the excavation; however, the results of the historical research could be combined with the phasing of structures encountered in a publication summary to be submitted to a relevant archaeological journal. The archive for the site is currently held in the Wessex Archaeology Sheffield office and will be deposited with Blackburn Museum and Art Gallery in due course.

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Acknowledgements

This project was commissioned by CgMs Consulting, on behalf of HB Community Solutions Limited and Bolsterstone (Chesterfield) LLP, and Wessex Archaeology is grateful to Dr Robert Smith in this regard. Wessex Archaeology would also like to thank Doug Moir, Planning Officer (Archaeology) at Lancashire County Council, for monitoring the work.

The archaeological fieldwork was directed by Jessica Tibber with the assistance of Tom Firth, Jonathan Buttery, Ashley Tuck, Charles Hay, Kirsty Squires and Philip Maier. The report was compiled by Jessica Tibber and Richard O'Neill with illustrations by Chris Breeden. The project was managed for Wessex Archaeology by Richard O'Neill.

**MOORGATE MILL,
BLACKBURN, LANCASHIRE****STRIP, MAP AND RECORD EXCAVATION REPORT****1 INTRODUCTION****1.1 Project Background**

1.1.1 Wessex Archaeology was commissioned by CgMs Consulting, on behalf of HB Community Solutions Limited and Bolsterstone (Chesterfield) LLP, to carry out archaeological mitigation works (comprising a strip, map and record exercise) at the site of Moorgate Mill, Blackburn, Lancashire, centred at NGR 670 261 (hereafter 'the Site'). The archaeological works were carried out in response to a hybrid planning application ((Planning Application Reference Number 10/12/0686) comprising:

- A full planning application for a supported living scheme comprising 20 one bedroom apartments; and
- An outline planning application for a residential development comprising up to 17 houses, with all matters reserved except for means of access.

1.1.2 The archaeological programme of works comprised the excavation of three areas of land in the east and centre of the site. All work was carried out in line with an agreed Written Scheme of Investigation (CgMs 2012b), and followed on from an earlier watching brief during site investigation works (Wessex Archaeology 2012) and consultation with Doug Moir, Planning Officer (Archaeology) for Lancashire County Council.

1.2 The Site, Location and Geology

1.2.1 The Site is located in Mill Hill which is situated in the north west of the borough of Blackburn and Darwin, 1.7 miles to the south west of Blackburn town centre.

1.2.2 The Site (**Plate 1**) is approximately 0.78 hectares in extent, bounded by the Leeds and Liverpool Canal to the north, late 19th century terraced houses along Moorgate Street to the east, public space to the south, and modern detached houses along Tresco Close and Bentham Close to the south west and west, respectively.

1.2.3 The underlying solid geology of the study area comprises Lower Westphalian Coal Measures Formation. The drift geology of the site consists of Boulder Clay.

1.2.4 The natural topography of the site slopes in a south to north direction down towards the Liverpool and Leeds Canal, from c.112m Above Ordnance Datum (AOD) in the south to c.107m AOD in the north. There is also a slope from the east to the west of the site, partially created through the demolition of Moorgate Mill in 2008.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 General

2.1.1 This section summarises the known archaeological and historical background of the Site and surrounding area. A detailed account of the history and development of the Site is presented in the CgMs Heritage Assessment (CgMs Consulting 2012a). Additional information on the later history of the Site is presented here, and is derived from visits to Blackburn Archives and Manchester Library.

2.2 Prehistoric

2.2.1 There are no recorded prehistoric archaeological assets within or surrounding the Site, and no evidence to suggest that there was any particular significant density of human activity in Blackburn during this period.

2.2.2 A number of round barrows and burial cairns on the hills around Blackburn have produced evidence of Bronze Age burials. At Revidge, a Bronze Age cinerary urn, containing a cremation, was recovered (Lancashire HER Number: PRN 141).

2.2.3 It is generally considered that the wooded valley bottoms of east Lancashire were not permanently occupied during most of the prehistoric period. At least one site however, Hallows Spring, can be identified as a potential focus of later prehistoric interest. A probable Roman religious site and later a Medieval holy well, this natural spring may well have been a site of religious veneration as early as the Iron Age.

2.3 Romano-British

2.3.1 There is no recorded archaeological evidence of Roman date within the study site boundary or within its immediate surroundings.

2.3.2 However, Blackburn lies across the course of the Roman road between Manchester and Ribchester, used by the later route to Blackburn from Bury. On 19th century and modern Ordnance Survey maps the typically straight course of the road can be followed to the north and south of Blackburn; if extrapolated, this leads through the centre of Blackburn to the immediate east of St Mary's church.

2.4 Saxon and Medieval

2.4.1 There are no recorded archaeological assets of Saxon/Medieval date within or surrounding the study site. A possible site of a Medieval farmstead 'Old Sharrock' (Lancashire HER Number: PRN24129) may be located to the west of the study site; however there is no evidence to corroborate this assertion.

2.4.2 The first known occurrence of the name Blackburn is in Domesday Book when it is given as 'Blachebourne'. Etymologically, the suffix is an alternative contemporary spelling for black, the 'ch' being symbolic of a hard 'k' sound. Subsequently, the stream from which the settlement took its name became known as the Blakewater, though it is given as Blackwater on Gillies Map of 1824. The root of the settlement name, therefore, is a simple Anglo-Saxon topographical description meaning 'the black stream', possibly a reference to

the colour of the stream under certain conditions caused by run-off from outcropping Coal Measures. Such topographical place-names are considered to be among the earliest local Anglo-Saxon place-names.

2.5 Post-Medieval

2.5.1 All the remaining undesignated heritage assets within the surroundings of the site are of Post-Medieval date and are associated with either quarrying activities, or structures or buildings related to the spinning and weaving of cotton for the textile industry. One such example of this type of activity is Moorgate Fold Mill (Lancashire HER Number: PRN7400) which was extant on the site until its demolition in 2008.

2.5.2 There is little information regarding the use of the site prior to Moorgate Fold Mill being constructed in c.1840. Information on the *Cottontown* website suggests that the site was originally a bleach works, followed by printers from 1776 to 1839 under the ownerships of Adam Sanderson (1776), then Mr Shaw (1808-11) and then Robert Turner & Bros, although no archival evidence was found to confirm this.

2.5.3 The original textile mill on the Site is thought to have been constructed in 1840-41 by John Parkinson and Henry Holt and contained a 30hp beam engine, 15216 mule spindles and 142 looms (Rothwell 1985:23/24). However, an article in the *Blackburn Standard* dated April 27th 1836 p8, refers to an incident during the construction of Moorgate Mill indicating that building works began prior to 1840: *“On Friday evening, as nine persons in the employ of Mr Highton, builder, of this town, were at work in the fourth story of a factory lately erected at Moorgate Fold, by Messrs. Parkinson and Holt, a part of the floor on which four of the men were at work, and where a quantity of stones had been placed for the completion of the gable end, gave way with the weight, and precipitated three of them into the abyss...”*

2.5.4 The earliest available map which denotes the site in detail is the Ordnance Survey (OS) map of 1841 (**Figure 2**). Moorgate Fold Mill and several associated outbuildings, including a gasometer, are evident on the site. It is likely that the gasometer supplied gas for lighting the mill and adjacent buildings. Additional buildings, also probably associated with the mill, are in evidence to the south and south east. The Liverpool and Leeds Canal bounds the site to the north, and open fields abut the site to the west and south. Several sluices and reservoirs (presumably associated with the mill) are evident to the south of the site. Two tributary streams from the canal are also evident to the west and east of the site.

2.5.5 Mr Parkinson's ownership of the mill was short-lived; he went bankrupt in 1841 (Rothwell 1985:23) and the mill passed to Joseph Eccles, who purchased the Mill Hill estate in 1843 (Abram 1877:29). Joseph Eccles renovated Moorgate Mill around 1844/45, extending the weaving sheds and building an additional chimney (Rothwell 1985:23). The mill made the newspapers in 1848 due to the collapse of the new chimney: *“On Monday some alarm was excited by the report that the chimney of Moorgate Fold Mill, belonging to Joseph Eccles, Esq., had fallen to the ground...The chimney in question was built by Mr Eccles, on his purchasing the premises about four years ago, in addition to the one which had been erected along with the mill. It was circular form, built of brick, and was fifty-five yards*

high..." (Blackburn Standard 1848:3 see also *Morning Post* 1848:8). An additional high pressure engine was later added in 1854. By 1856, when the mill was apparently advertised for sale, there were 17932 self-acting mule spindles and 456 looms (Rothwell 1985:23). The 1849 OS map shows no variation in the layout of the buildings and the gasometer is still present.

- 2.5.6 An article in the *Blackburn Standard* on Wednesday April 21st 1869 (Page 3) relating to a large fire, included a contemporary description of the buildings: "...*Moorgate-fold, Livesey, a massive pile of buildings erected some thirty-five years ago...The building was six stories high was bounded on the north side by the Leeds and Liverpool canal, on the south by some cottage houses, on the east by a reservoir and field belonging to Mr A. Shaw and on the west by the entrance lodge and residence of the timekeeper of the works.*"
- 2.5.7 An article in the *Blackburn Times* in July 1976 (page 12) includes some details about Joseph Eccles: "...He was regarded as a progressive employer, reducing the working day of his employees to 9^{1/2} hours and building Mill Hill School...A Mechanics Institute was incorporated with the same building, for which he provided the books and paid the tutors salary." The *Blackburn Standard* on the 25th August 1852 (page 2) refers to Joseph Eccles paying for his workforce to take a pleasure trip to Liverpool, it goes on to say "...*all the workpeople have had a thoroughly pleasant excursion. One of the above party has, we understand, been employed by Mr. Eccles and his family between 50 and 60 years, and several others from 30 to 40 years...*". The *Manchester Courier & Lancashire General Advertiser* recorded a strike at the mill on the 4th August 1860 (page 8) due to the implementation of the "Coventry Weavers Immigration Scheme"; Mr Eccles was summoned to the mill when 130 weavers shut off their looms and refused to resume work. The dispute was solved with the Coventry men returning to their native town, but trading seems to have ceased shortly after this event.
- 2.5.8 On the 3rd May 1861 Joseph Eccles died (*Blackburn Standard* 1861:01), and the Mill was leased to Braybrooke & Slater, followed by Benjamin Swain & Co; the number of employees was recorded as 300, with a further increase in spindles to 19000, and a slight decrease in the number of looms to 430 (Rothwell 1985:23).
- 2.5.9 On Saturday 10th April 1869 a large fire broke out at the mill, this was reported in a number of newspapers, including: *The Manchester Courier & Lancashire General Advertiser* (19th April, p. 03), *The Liverpool Daily Post* (19th April p. 05), *The Liverpool Mercury* (19th April p. 03), *The Kendal Mercury* (24th April p. 03), *The Preston Chronicle* (10th April p. 07), and *The Burnley Advertiser* (24th April p.02). According to the article mentioned in the *Blackburn Standard*, there were a number of small fires leading up to the large fire recorded in April 1869 which almost completely destroyed the mill: "...*the building being completely gutted, nothing but the gable walls remaining outside and a mass of charred debris within...*" The damage was estimated to have been up to the value of £10,000. A photographic print taken by Frankland Photographers on the *CottonTown* website (Frankland 1869) shows a view of the aftermath of the 1869 fire.

- 2.5.10 There is no evidence for the mill being rebuilt until 1876, when two conflicting records are found. Rothwell (1985:23/24) states that Aaron Bury took ownership and renovated the surviving warehouse, built a new shed and engine house before going bankrupt in 1878. However, an article in the *Blackburn Times* on the 2nd July 1976 (page 12), states that it was J.N. Boothman who rebuilt the mill including renovating the weaving sheds for trade with India.
- 2.5.11 Around 1878, the mill passed to William Almond & Co; also recorded as proprietors in Worrall's 1887 (page 55) and 1891 (page 59) Cotton Spinners & Manufacturers Directory. By the late 1870s and early 1880s, the cotton industry was in depression. Due to rises in the price of raw cotton and the introduction of excise duties on cloth exportation to India, wages were being reduced and there were a number of disputes and strikes. Moorgate Mill features in a number of articles in a number of different newspapers in March 1881. These include: The Manchester Courier & Lancashire General Advertiser 12th and 15th March, pages 4 and 6 respectively; The Manchester Evening News, on the 12th and 14th March, pages 2 and 3; The Manchester Times (19/03/1881, page 7); The Huddersfield Chronicle (15/03/1881, page 3), and The Blackburn Standard (19/03/1881, page 5). By 1885 the mill had 500 employees and 997 looms and was recorded as making shirtings, jacconettes and dhooties (Rothwell 1985:23).
- 2.5.12 The mill suffered another fire on 23rd December 1886 as reported by the Blackburn Standard the day after: "...a fire broke out at Moorgate Mill, Livesey, belonging to Messrs. H Almond and Company...On reaching the mill they found the fire had got a strong hold of the card room, warehouse, and engine house...It was impossible to save the warehouse, so the brigade directed their attention to the preservation of the weaving shed, which they succeeded in saving from the flames..." ('Fire at Moorgate Mill Last Night' 1886:8). The damage was estimated at £7,000. On the 26th January 1887 (page 5) the *Blackburn Standard* stated the following; "Mssrs. Lloyd and Millward, joiners and builders of Darwen have entered into a contract with Mssrs. H. Almond and Co. of Moorgate fold mill Blackburn, to rebuild the mill, engine house, warehouse and all other necessary outbuildings which were lately destroyed by fire, and the whole of the works to be completed within 1 month from the date of signing the contract."
- 2.5.13 A short article in the *Blackburn Standard* on the 11th June 1887 (page 5) recorded the appeal of the case of Almond & Co v Kelly and others: "The action was brought by the owners of a cotton spinning mill in Moorgate street, Blackburn, against the trustees of the late Mr Joseph Eccles, for alleged negligence in the management of a reservoir upon their land close by, whereby the plaintiffs mills were flooded." The verdict was found in favour of the plaintiffs, but was later dismissed with costs as it had not been proved that the damage was done by the acts of Kelly.
- 2.5.14 An article in the *Manchester Courier* on Oct 18th 1893 (page 3), "Failure of a Blackburn Cotton Spinner", refers to Henry Almond's bankruptcy. He had joined his father as a partner in 1878 and had been amassing debts under the established name of William Almond & Co. His father died in March 1892. The article states that Mr Joshua Rawlinson of Burnley and Mr W Porter of Blackburn were the trustees.

- 2.5.15 The 1894 OS map confirms that the footprint of the mill buildings have significantly changed subsequent to the fires of 1869 and 1886. The complex has enlarged into a square form with the Moorgate frontage separated by a passage through to the canal. There are what appear to be a couple of terraces and a chimney in the south-eastern corner of the Site, beyond the access into the mill off Moorgate Street. Significant development has also occurred in the wider area in the form of terraced houses along Moorgate Street, Emma Street and King's Bridge Street. Bridge Cotton Mills are in evidence to the north of the Liverpool and Leeds Canal.
- 2.5.16 Edwin Hamer took possession of the mill around 1895 with Edwin Hamer Ltd formed to run the mill (Rothwell 1985:24). According to Slater's 1909 directory (part 3, pages 1950/1959), the mill was being run by Ernest Hamer and James H Newell, and by 1911 (part 3, pages 1950/2190) Ernest Hamer and William Riley. The 1911 OS map shows a small expansion of the mill in the south east corner with the addition of a building adjacent to the chimney. Pioneer Cotton Mill is in evidence to the north of the Liverpool and Leeds Canal, and additional development of terraced housing is shown along Wellington Street. There is also a boat house to the north west.
- 2.5.17 A number of additions and alterations were made between 1911-1914 as evidenced by a stone plaque engraved '19 EH 14', which once adorned the Moorgate Street frontage, and now lies discarded on-site (**Plate 2**). Further detailed records of the buildings prior to demolition (see below) include a window pediment on the Moorgate frontage engraved '19 EH 11' (Rothwell 1985).
- 2.5.18 There is little change evident in the wider area between the 1911, 1931, 1937, 1946 and 1956 OS maps, with the exception of the presence of a football ground to the west of the mill. Bridge Cotton Mills is shown as being disused on the 1931 OS map and Moorgate Fold Mill is shown as disused on the Ordnance Survey 1937 map. The *Blackburn Times*, on 2nd July 1976 (page 12) makes reference to a third fire at the mill on March 23rd 1925; this was confined to the taping room.
- 2.5.19 Weaving is thought to have finished in the 1920s; the machinery was sold off in 1933 and the building taken over by Tranmere Textiles Ltd. These were winders, warpers and sizers of artificial yarns and can be found in the Lancashire Textile Directories of 1953-1970 (Worrall 1953-1970).
- 2.5.20 The 1967 OS map indicates that Pioneer Mill has expanded westwards towards King's Bridge Street and the football ground is no longer extant. There is little change between the 1967 and the 1982 OS maps, with the exception that the reservoir to the south is no longer extant. The 1969 Lancashire Textile Directory lists Tranmere Textiles Ltd as: "*Winders, warpers and sizers of all types of rayon, including viscose, acetate, nylon, Terylene etc...also nylon and Terylene throwsters...*" J.W. Schofield is listed as the factory manager. (Skinner 1969)
- 2.5.21 A recent 1993 OS map of the Site shows that there was significant recent development to the west, with modern detached houses along Tresco Close and Bentham Close; further housing is also evident beyond this area.

- 2.5.22 A detailed description of the buildings on the Site, prior to their demolition in the early 21st century, is provided in Rothwell (1985:24) *'The buildings fronting onto Moorgate Street were mainly constructed of machine-pressed brick. Loading bay on north, triangular stone pediment and ball finial, stone plaque "19 EH 14". Coal chute to boiler house at street level. Attached was an older two-storey yarn preparation/warehousing block eight bays long. Beyond is an eleven bay two-storey building with stone details including pediments, finials and keystone arches, double door to covered yard with "Moorgate Mill" in relief above. Elaborate door to former board rooms adjoins, upper floor window has pediment reading "19 EH 11". Some windows retain the logo "EH". The original tape sizing rooms were sited at the south end of the buildings fronting Moorgate Street. To the rear of the façade is a group of nineteenth-century buildings including winding and warping rooms, engine and boiler house. The latter opened onto the canal side before 1914. Reduced circular brick chimney to south. Large weaving shed behind preparatory blocks, random stone walls. The second motion was carried centrally on an east-west axis by heavy cast-iron columns, with cross shafts at right angles. Drained reservoir in field on south side of mill.*
- 2.5.23 From the few surviving photographs of the mill prior to its demolition in 2008 (CgMs Consulting 2012a), the weaving shed appears to have been a traditional single storey building located across the western half of the site, with north light roofing.

3 AIMS AND SCOPE OF WORK

3.1 Aims

- 3.1.1 The principal aim of the archaeological programme of works was to establish the extent to which any below ground structures/foundations associated with Moorgate Fold Mill (and its associated outbuildings) survived within the area highlighted for the strip, map and record exercise, and to ensure their preservation by record.

3.2 Objectives

- 3.2.1 In order to address the main aim, the specific objectives were:
- To further investigate and record the location, extent, character, condition, phasing and date of significant archaeological remains specifically relating to Moorgate Fold Mill and its associated outbuildings;
 - To assess/analyse the resulting stratigraphic, artefactual and environmental data as required to interpret the results of the excavation and to place these results in an appropriate local context; and
 - To prepare an archive and a report of the results and to make this record available.

4 METHODOLOGY

4.1 Introduction

4.1.1 All works were undertaken in accordance with the approved Written Scheme of Investigation (WSI) (CgMs Consulting 2012b) and with current industry best practice (IfA 2008).

4.1.2 The strip, map and record comprised the excavation of three areas of land in the west (**Area 1**), east (**Area 2**) and south east (**Area 3**) of the Site (**Figure 2**).

4.2 Excavation Areas and Rationale

4.2.1 Three areas were excavated:

- Area 1 measured 16.6m by 14.4m and was located over a linear feature shown on the OS 1841 map, possibly a 'sluice', and the western wall of the main mill building.
- Area 2 measured 32.2m by 30m and was located across the eastern area of the mill complex, close to Moorgate Street, including the area of a 'Gasometer' shown on the 1841 OS map.
- Area 3 measured 45.1m x 18.25m and was located across the south eastern area of the mill complex, including buildings on the OS 1841 map, and the area of a chimney on the OS 1894 and 1911 maps.

4.2.2 The areas were altered slightly to accommodate the topography of the Site. **Area 2** was moved south and west away from the canal and the bank on Moorgate Street. **Area 3** was altered to avoid the steep bank along the southern edge of the Site.

4.2.3 Machine excavation was carried out under the supervision of an archaeologist and was halted at the top of the first archaeological horizon, prior to hand/machine cleaning, recording and targeted excavation. Sufficient excavation was undertaken to meet the objectives of the project.

4.2.4 All archaeological contexts were surveyed by GPS and a full written, drawn and photographic record was made of all deposits and structures.

5 EXCAVATION RESULTS

5.1 General

5.1.1 This section provides a summary of the information held in the Site archive. A detailed description of the observed contexts for each area is provided in **Appendix 1**.

5.2 Area 1

5.2.1 **Area 1** was located to the west of the Site over the rear wall of the weaving sheds marked on the 1841 OS and later maps (**Figure 2**). Natural clay geology **10009** was encountered from a depth of c. 0.5m.

Phase 1 1840 - 1875

- 5.2.2 The earliest structural evidence was a north to south aligned lime mortared stone wall **10002 (Plate 3)**, 0.55m in width, which would have formed the western exterior wall of the mill weaving shed, as shown on the 1894 and later OS maps, and possibly the earlier 1841 OS map. The roughly coursed wall survived to a height of at least 0.6m.
- 5.2.3 A possible doorway, or alcove, in the western wall was marked by a later blocking **10004**.

Phase 2 1876 - 1886

- 5.2.4 Without interim footprints of the Site it is difficult to distinguish between Phases 1 and 2. However, newspaper reports at the time suggest a lot of effort was being made to expand the weaving sheds for trade with India, so it is likely that some of the structures date to this phase.
- 5.2.5 A partial flagstone floor **10001** covering an area of approximately 5m² (**Plate 3**) is likely to date from the renovation of the weaving sheds in 1876. Occasional broken flagstones were observed in the demolition rubble **10008** beyond the floor.
- 5.2.6 The only other indication of extant flooring which survived later alteration and demolition within **Area 1** were four surviving stone plinths with cast iron base plates **10010** attached (**Plate 4**). The plinths were on a north to south alignment 8m east of the western wall of the building. Each plate measured c. 0.6m by 0.9m with a circular recess to hold a c. 0.12m (5") diameter roof support. It is likely that these supports date to Phase 2 and, similar to those seen in Area 2, were part of the renovation of the mill weaving sheds or its expansion to the west.

Phase 3 1887 - 1929

- 5.2.7 Later additions included a small structure butting up against wall **10002** on its western external side. The external structure comprised an outer brick wall **10007** and brick floor **10011**. The function of the structure was not apparent from the excavated evidence but its position matches that of a small external building visible on the 1894-1937 OS maps. The surviving brickwork **10007** was of poor quality and comprised a mixture of materials (e.g. handmade unfrogged and machine pressed frogged brick, fire brick and stone), some of which was clearly re-used.

Phase 4 1930 - 1999

- 5.2.8 A doorway through, or alcove in, the western wall **10002** was filled in with red brick **10004**. Patches of asphalt **10003**, between 0.02 and 0.06m thick; were spread over the stone flags **10001**, and abutted the infilled doorway **10004**, potentially indicating a contemporary phase of renovation. The asphalt had two layers of paint visible, red with a light blue, above.
- 5.2.9 Inspection chambers, presumably for drains, were inserted inside **10006** and outside **10005** the building. The external chamber **10005** appeared from the material used in its construction to be earlier and it abutted the exterior side of wall **10002**. A ceramic drain **10012** ran north from the manhole. This later had plastic piping inserted into it at one end.

5.2.10 The later internal chamber was aligned roughly with the north north west to south south east running overflow channel from the canal observed during the earlier watching brief (**Plate 5**), and presumably fed into this channel under the building.

5.2.11 Two sections of concrete **100013** were inserted into the floor **10001**. One was a moulded concrete pad and the other a thin strip between the flagstones; the latter may have been an internal partition and had an asphalt repair **10014** at one end.

Phase 5 2000 - present

5.2.12 The final phase of activity was represented by the demolition of the earlier phase structures and the spread of hardcore and tarmac over demolition rubble (**10008**).

5.3 Area 2

5.3.1 **Area 2** was located to the east of the Site (**Plates 6 and 7**) across the eastern side of the mill complex close to Moorgate Street and along the western side of buildings on the street frontage, including the area of a 'Gasometer' shown on the 1841 OS map (**Figure 2**). Natural clay geology **20003** was encountered particularly to the west of the area.

5.3.2 Differential levels of demolition made interpretation of the surviving structures difficult. In addition, due to the high water table, only the upper level of structures were exposed.

Phase 1 1840 - 1875

5.3.3 The northern part of Area 2 contained a stone capped leat or culvert **20034** running east south east to west north west, parallel with the canal. The leat does not appear on the historic maps, however it most likely dates to the earliest phases of the mill. The leat may have been used to drain excess water from the canal, to keep the engines cool or keep the humidity within the weaving sheds high.

5.3.4 There were a number of lime mortared stone walls **20006**, **20008**, **20009**, **20058**, **20067** and **20004** which probably date to the original construction of the mill. All of the structures correlate with the position of a north to south section of a mill building, shown to the rear of the Moorgate frontage on the 1841 OS map. The building appears on the mapping to be separated from the structures on the Moorgate Street frontage by a passage through to the canal. It is thought this part of the building would have originally contained the boiler rooms and steam engine for the mill.

5.3.5 It is postulated that **20008**, **20009**, **20004** and **20024** formed the exterior walls of the building; wall **20004** to the west, walls **20008** and **20009** to the south and wall **20004** to the north. A stone door jamb **20024** identified at the northern end of the building (associated with wall **20004**) may have been an original feature. The building extended along a length of 30m and was 4m in width.

5.3.6 Internal divisions comprised lime mortared stone walls **20006**, **20067** and **20058**. Wall **20006**, measuring 7.7m in length by 0.6m in width, ran north to south and formed the western wall of a possible boiler/engine room; this was

bonded to wall **20067** at its northern end and **20009** at its southern end. Wall **20067**, running east to west, was 3.87m in length by 1.10m in width, although this was only exposed down to the top course of stonework. A small section of stone foundation wall **20058** was identified in the middle of site measuring 0.85 x 0.45m, bonded to wall **20004**; this had brickwork **20057** above it and looked to form the beginnings of a partition/doorway within the engine rooms.

- 5.3.7 With the exception of the main wall foundations it is unlikely that the surviving internal surviving structures within this space relate to the earliest phase of the mill, as the fire in 1869 gutted the complex completely.
- 5.3.8 Some evidence survives of the original structures which would have fronted Moorgate Street on the 1841 OS map, including two sections of parallel lime mortared stone walls **20018** and **20038**, brick walls **20042** and **20053**, a brick buttress **20049** (0.9m x 0.71m), and wall **20020** in the south eastern corner of site. Wall **20038** was approximately 0.64m in width, roughly coursed, and survived to height of at least 0.5m (**Plate 8**). The wall probably formed the western and rear wall of a range of buildings fronting Moorgate Street which was later remodelled to be incorporated into the flue tunnel. Wall **20018** was up to 0.68m in width, heat damaged along its upper courses and truncated at its southern extent.
- 5.3.9 A section of handmade brick wall **20016**, bonded with lime mortar, ran north east to south west. This measured 3.6m in length and 0.6m in width. Completely truncated by **20012** at its south west end, the wall continued into the east slope of the bank. The wall was also truncated by metal pipe **20019** near its north east end. Adjacent to this was an irregular shaped area of rubble stonework **20017** approximately 2.1m x 1.49m; which had been built to respect wall **20016**. Two courses were observed down to a depth of 0.5m - there is no clear purpose for this structure but it might relate to the courtyard area to the rear of the gas works seen on the OS maps of 1841 and 1894.

Phase 2 1876 - 1886

- 5.3.10 Assuming that the original stone wall footings were re-used, most of the warehouse structure located in the central part of **Area 2** probably dates to the rebuild/renovations after the fires of 1869 and 1886 gutted the original building. Although there are no maps from the interim phases of the site to be able to accurately assign structures to these builds, there was a distinct sooty demolition layer across the warehouse block which possibly relates to the levelling during the rebuilding in 1887. Therefore everything below this level is likely to date to the earlier Phase 2 1876 rebuild.
- 5.3.11 There were two possible staircases encountered towards the southern end of site. Between stone walls **20008** and **20004** were two large stone blocks **20021** and **20073** - with a height difference of 0.20m. Around these were the remains of a disturbed flagstone floor **20054**. Just to the east of this between stone wall **20009** and brick wall **20010** were a number of large flat slightly stepped stones **20011**. These were presumably leading down into the room containing structure **20065**. Structure **20065**, south of wall **20067**, was enclosed by walls **20010**, **20066** and **20013** appeared to have been covered

by a vaulted brick arch **20015** (not shown). The function of the structure was not clear.

- 5.3.12 Stone wall **20006**, running north south, was butted by thick brick wall **20005/20068**, this formed an internal wall with a firebrick skin on the eastern side. This may have been part of the engine or boiler rooms. Wall **20070** running east west had a firebrick skin on both the north and south edge and there was a section of firebrick floor remaining **20071** bordered by a single skin of firebricks **20069 (Plate 9)**. Wall **20072** ran alongside **20070** and had a firebrick skin on the southern edge. All of these features continued into the sooty debris **20036** overlain by later phase demolition debris **20002** which remained unexcavated on the eastern slope.
- 5.3.13 On the western side of wall **20005** were several large stone plinths **20007 (Plate 10)**; these may have been supports for substantial pieces of machinery, the gaps between them showed evidence for alterations to the pipework, e.g. **20060/20061**.
- 5.3.14 A sondage was excavated in the sooty clinker deposit **20036** between **20007** and large metal plate **20023 (Plate 11)** riveted to wall **20004**; this was excavated down to a depth of approximately 0.8m and a thick layer of corroded ferrous material was encountered **20056** sitting on top of possible stone floor **20051/20055 (Plate 12)**. The metalwork found beneath layer **20036** was potentially from boiler/steam engine components rusted *in situ*, perhaps they were damaged during one of the fires (there was a high proportion of ash/soot within deposit **20036**).
- 5.3.15 The most substantial structure encountered in **Area 2** was the flue tunnel **20012/ 20013** running >13.55m north south and turning north west to south east, this continued across **Area 3**. The flue tunnel ran north between where the chimney was located in the south past the rear of the buildings fronting Moorgate Street, most likely under a passage evident on the 1896 OS and later mapping. The majority of the surviving structure is probably dated to Phase 2, although there were some later modifications towards the northern end.
- 5.3.16 Consisting of two parallel red brick walls three skins thick (0.35m), with the inner lining made of heat affected yellow fire bricks (**Plate 13**). The western wall **20013** had no obvious alterations with the possible exception of a slight change in the angle of bricks/thickness of the wall right on the southern edge of site. Vaulted archway **20015** was built up against the western edge, and wall **20010** butted up to form the back wall of the vault.
- 5.3.17 The eastern wall of the flue **20012** was constructed around existing stone walls **20038**, and brick walls **20042** and **20053**.
- 5.3.18 The floor surface within the flue has seen at least two levelling phases, the lowest excavated layer observed was reddish orange sand packing **20041**, this was overlain by red irregular sized handmade bricks **20014** arranged on edge in a stretcher formation. There was a huge variation in the brick types which the lower layers were constructed from, including frogged/unfrogged/handmade/machine made, this suggests re-use of bricks already to hand.

- 5.3.19 Along the north of the Site along the canal edge, outside of the excavation area, the top of a number of stone walls were noted, including two corners **20031**, approximately 0.5m wide. These line up exactly with the 1894 OS map as the corners of the weaving sheds and almost definitely date to the expansion/rebuilding of the weaving sheds in 1876.
- 5.3.20 The surviving archaeology over the western half of the stripped area was a lot simpler than that encountered elsewhere in **Area 2**, most likely because it was part of the extended weaving sheds, and as such there were no deep foundations. All that remained were six floor plinths for the roof struts **20035** arranged north south, similar to those in **Area 1**; two of these had metal plates in situ, and three had recesses containing fragments. On average, they were 0.8m² with a maximum noted thickness of around 0.1m, all of them sitting on clay natural **20003**.
- 5.3.21 The area of flagstone flooring **20029** to the north west of **Area 2** also probably dates to this phase. There were a number of recesses on the eastern edges of the flags, presumably for machine footings. This floor would have extended to the west, as clinker levelling material **20030** continued despite the flagstones being gone.

Phase 3 1887 - 1929

- 5.3.22 If deposit **20036** accounts for the levelling after the fire of 1886 then structures surviving above this will date to the 1887 rebuild or later. It seems probable that this material would have been re-used for further phases of development. There was no evidence of **20036** to the west of wall **20004**, but this is probably because it survives at a slightly higher level.
- 5.3.23 The inside of the flue was heavily modified in this phase. The eastern wall was repaired to the north **20043**. The floor was raised using a 0.23-0.30m thick layer of rough sandstone fragments **20039**; these were loosely packed and heat affected, with an occasional ashy residue. Above this was a brick floor **20040**; this was constructed from three layers of bricks laid on bed/on edge/on bed. The top layer was made from heat affected fire bricks sitting on reddish orange sand, the lower layers appeared to be bonded with a pinkish sandy lime mortar.
- 5.3.24 There are two new structures visible on the 1911 OS map located in the northern part of the Site which could account for alterations in this area. Visible developments on-site included the sections of wall **20047** and **20077** at the end of **20004**, forming the eastern wall of tank **20028** (**Plates 14/15**). This was a sub rectangular structure, roughly 1.7m x 1.4m, built of red bricks, including air bricks, bonded with a black ash mortar and backfilled with silty sand **20037**. Below this was silt with a pungent odour **20048**.
- 5.3.25 A number of cast iron pipes were located in this area, such as **20033** which ran north south along the extent of wall **20004** into tank **20028**, and **20078** (not shown) which ran out of the tank to the east. Pipe **20032** was also just to the north east, although this may have been disturbed and redeposited.
- 5.3.26 There was a small isolated section of surviving brick wall **20044** to the east of tank **20028**, approximately 0.6m x 0.24m x 0.16m deep, sitting in construction cut **20045** and backfilled with **20046**.

- 5.3.27 Additional alterations noted included brick infill **20076** and small square brick shaft **20050** both adjoining wall **20004**.

Phase 4 1930 - 1999

- 5.3.28 The mill had ceased running in 1933 and all the machinery was sold off. Tranmere Textiles Ltd took over in 1938 and began processing artificial yarns. Possible evidence relating to this phase of the mill included a single skin red brick partition wall running east west (**20025**) and turning north south (**20074**) along wall **20004**, built on top of the concrete. Structure **20027** was built alongside **20025**, but appeared to be below the level of the concrete floor for possible drainage or space for under floor cables. Walls **20025/20074** were sitting on a concrete floor level **20026/20022** which was contemporary with **20059** and **20075**. These patches of concrete were at a similar height to the plinths. Section **20075** butted up against pad **20035**, indicating that the plinths were likely to be an earlier phase of construction.

- 5.3.29 A number of walls were truncated to allow cast iron pipes, including **20061**, **20060** and **20019**, to pass through. Wall **20018** was heavily truncated at the southern end, where there was reinforced concrete observed in the gap in the wall at a depth of about 1m.

Phase 5 2000 - present

- 5.3.30 The final phase of activity was represented by the demolition of the earlier phase structures and the spread of hardcore and tarmac over demolition rubble (**20002**).

5.4 Area 3

- 5.4.1 **Area 3** was located to the south east of the Site across buildings shown on the 1841 OS map and later mapping (**Figure 2**). Over half of the stripped area (the western half) was completely free of archaeology, with no sign of mill structures.

Phase 1 1840 - 1875

- 5.4.2 Context 30012 consisted of the corner section of a building constructed from roughly coursed rubble stone c. 0.7m wide, bonded with white lime mortar. There was a small area of brickwork surviving above the eastern part of the wall; this may be a later addition. The wall turns from east north east/ west south west to north north west / south south east, which matches the position of the northern building fronting Moorgate Street on the 1841 OS map. Interestingly these buildings are all parallel with Moorgate Street, whereas the structures behind align north south.

- 5.4.3 To the north west, a number of rubble stone walls **30021**, **30022** and **30029** formed the external foundations of the southern extent of a sub-rectangular building **30017**, measuring 8m by 7m. Two areas of sandstone floor surface survived **30020** within the room. The structure and floor was subsequently modified in Phase 4.

- 5.4.4 Immediately south east of this was a stone structure **30016**, possibly a small room or machine base, measuring 4.5m by 2.4m. The structure contained

an area of brickwork **30026** (handmade and unbonded), possibly a floor. Remnants of a compacted deposit **30027** were observed overlying the floor.

- 5.4.5 Possibly contemporary with this phase was a small section of stone capped drain **30018** was recorded to the west of the later Phase 2 flue in **Area 3**.
- 5.4.6 A possible stone sett courtyard or internal surface **30008** and three stone plinths: **30006**, **30007** also survived to the south east.

Phase 2 1876 - 1886

- 5.4.7 Flagstones **30024**, probably a remnant of a wider floor surface, were inserted into the stone **30016** and brick **30026** structure south east of **30017**. The flagstones could equally belong in Phase 1.
- 5.4.8 The continuation of the north west north to east south east flue tunnel identified in **Area 2** consists of red brick walls **30004/5**, which run the extent of **Area 3** for c. 18m. The walls are 0.35m wide with an inner lining of heat affected yellow fire bricks (**Plate 16**). At the southernmost end, the walls became very diffuse so an investigative sondage was excavated – this came down onto a brick floor surface at a depth of c. 0.9m. The surface was rising to the south indicating that this was the beginning of the end of the flue, with the chimney structure being located just to the south of the excavated area. This would correspond with the location of the chimney on the OS 1894 and 1911 maps.
- 5.4.9 There appeared to be three irregular stone buttresses **30009/10/11** supporting flue walls **30004/5**. However, these may have been supporting a structure above, which has since been demolished. Stone wall **30009** is in alignment with plinths **30006** and **30007**. Walls **30010/30011** are on roughly the same alignment as the excavated edge of structure **30017**. Only partial fragments of structures survive making it difficult to interpret their function.

Phase 3 1887 - 1929

- 5.4.10 A reinforced concrete tank **30003**, with a concrete floor, was inserted into the south west of **Area 3**. This was subsequently was filled with clinker. Buildings are shown in this area on the 1841 OS and later mapping, but this is clearly a later phase of activity, possibly relating to 1887 chimney renovations.

Phase 4 1930 -1999

- 5.4.11 Later alterations included modification of structure **30017** with a reinforced concrete internal partition and lining **30023** inserted to the west of the eastern wall **30021**. This created a small area 2.75m² subsequently filled with Phase 5 demolition rubble **30001**. The floor surfaces **30020** within the structure were overlaid with asphalt (red paint surviving in places) and concrete, similar to those modifications seen in **Area 1**.
- 5.4.12 To the north east a network of ceramic pipes **30013** inserted around the exterior of wall **30012** appeared to be contemporary with this phase of activity.

Phase 5 2000 - present

- 5.4.13 The final phase of activity was represented by the demolition of the earlier phase structures and the spread of hardcore and tarmac over demolition rubble (**30001**).

6 FINDS REPORTS**6.1 Summary**

- 6.1.1 The evaluation produced a small quantity of finds, deriving from six contexts within **Areas 2 and 3** (no finds were recovered from **Area 1**). All datable finds are Post-Medieval, with a focus on the modern period (c. 1800 onwards), and most probably relate to the use of the site as a spinning and weaving mill (Moorgate Fold Mill) from 1840.

- 6.1.2 All finds have been quantified by material type within each context, and the results are presented in **Appendix 2**.

6.2 Pottery

- 6.2.1 Apart from a few sherds of black-glazed redware, one of white-slipped redware, and one of stoneware, all sherds are in refined white earthenware, variously decorated with transfer-printed, painted or sponged designs. While the black-glazed redware, as a fairly long-lived utilitarian type, could pre-date the 19th century, the likelihood is that sherds of this ware, as the rest of the assemblage, date to the 19th or 20th century.

- 6.2.2 There appears to be some functional patterning in the assemblages recovered from **Areas 2 and 3**. The majority of the sherds from **Area 2** are from cylindrical mugs, hand-painted or transfer-printed, with a few sherds from other tea wares. There are also two sherds from a flanged dish with sponged decoration, and an incomplete preserve jar (Frank Cooper's Oxford Seville Marmalade). This group, therefore, may relate to messing facilities for the mill workers. The sherds are difficult to date more closely within the period, but one back-stamp on a mug base from 'industrial deposit' **20036** can be attributed to the Kensington Pottery Limited of Hanley, Stoke-on-Trent, and is dated 1922 or later (Godden 1964, 370).

- 6.2.3 From **Area 3**, in contrast, came a more functionally mixed group. Although some sherds of tea wares are present, there are also fragments of what may be sanitary wares (thick-walled, possibly slip-cast whitewares), as well as the only examples of black-glazed redware, white-slipped redware and stoneware.

6.3 Glass

- 6.3.1 The glass includes vessel and window glass as well as objects. Functionally, the small assemblage includes both domestic refuse and objects of an industrial origin.

- 6.3.2 Roughly half of this small assemblage (12 fragments) derives from bottles in clear, brown and green glass, all of later 19th or 20th century date. The contents of some are indicated by form and/or embossed marks: milk, soft

drinks, beer, sauce (Daddies' Sauce), and pharmaceuticals ('Not To Be Taken'). These vessels, as the ceramic tea wares, are likely to have belonged to the mill workers. They came mainly from **Area 2**, with one bottle from **Area 3**.

- 6.3.3 One other vessel had an industrial function: this is a small, globular bottle or phial with a short, cylindrical neck, used to contain oil or dye. It retains some dried-up internal residue, perhaps from the original contents (demolition rubble **20002**).
- 6.3.4 Eleven fragments from solid blue glass rods, all from **Area 2**, were also related to industrial practices. These rods were used in mechanised spinning, to carry the yarn through a direction change – the blue colour of the rod contrasted well with the off-white colour of the cotton. The rods were commonly used on machines where the yarn was being transferred from one package to another, so are not specific to any particular machine type, and they cannot be related here to any specific period of the mill's working history. Similar rods were found, for example, at the late 18th /19th century spinning and weaving mill at Mellor Mill, Stockport (Gibson 2009, 56).
- 6.3.5 One piece of window glass came from **Area 3**.

6.4 Ceramic Building Material (CBM)

- 6.4.1 This category consists exclusively of wall tiles, mainly small, flat whiteware tiles, sometimes with transfer-printed designs (examples came from **Areas 2** and **3**), but also including a glazed terracotta decorative tile from a dado rail or similar horizontal architectural detail (context **30019**).
- 6.4.2 A number of maker's marks were noted on bricks, detail of which is provided in **Appendix 3**. In addition, a large arched section of firebrick (**Plate 17**) may be the surround for a gas retort.

6.5 Other Finds

- 6.5.1 Other finds comprise very small quantities of metalwork (iron strip, small cylindrical tin can, small metallic cube, possibly copper-based, of unknown function), clay tobacco pipe (plain stem fragments), animal bone (domestic waste) and marine shell (cockle and mussel - domestic waste).

6.6 Potential and Further Recommendations

- 6.6.1 No further analysis is necessary for the finds; all have been recorded to an appropriate archive level.
- 6.6.2 An assemblage of such small size, and of modern date, might not be considered to merit retention for long-term curation, although some items, particularly those related to industrial practices (blue glass rods and a globular phial), are of some interest and could be retained.

7 DISCUSSION

7.1 Summary

7.1.1 The excavation and documentary research revealed numerous phases of rebuilding, renovation and extension in the development of Moorgate Mill from its construction in the 1830s, through fires in 1869, 1886 and 1925, to its recent demolition. However, the historic mapping to support this evidence is lacking for key periods and it is difficult to assign observed structural changes to known changes in the ownership and development of the Site. Moreover preservation across the Site was variable. The artefacts recovered; predominantly pottery, ceramics, glass and CBM appear to relate to the use of the site as a spinning and weaving mill from the 1840s through to the late 1920s.

Phase 1 1840 - 1875

7.1.2 Structural evidence was identified which probably relates to the early development of the Site. **Area 1** revealed the western exterior wall of the weaving sheds. Unfortunately, other than later drainage features, there was no indication of the sluice on the outside of the building, shown connecting the canal and a reservoir located to the south of the mill on the 1841 OS map. This suggests that either the sluice lies at a lower depth, or the western wall of the building was extended to the west, post-1841, and the sluice shown on the 1841 map is the extant overflow channel from the canal presumably channelled under the building when it was extended. Evidence from an early photograph shows that the area contained loading bays whilst the mill was in use, possibly for the storage of materials before transportation on the canal. The Phase 2 partially surviving flagstone floor and base plinths to support roof struts may relate to this earlier phase.

7.1.3 In **Area 2** the general outline of the original warehouses coursed rubble stone wall footings appeared to have survived; these can be speculatively tied in with the 1841 OS map. The building foundations on the eastern side of the mill building most likely enclosed the steam engine and boiler room. The 1841 map also shows a gas holder on the Moorgate Street frontage in the early phases of development. Firebrick, possibly from a gas retort arch, was found in this area. This indicates that originally gas may have been produced in this part of the Site, most likely for lighting in the Mill and associated buildings. Further foundations were identified in the south east of the area relating to buildings on the Moorgate Street frontage.

7.1.4 **Area 3** also contained foundations likely relating to the original mill construction and buildings on the Moorgate Street frontage. Stone foundations **30017** and **30016** may have been part of the southern warehouse block basements. It is known that Joseph Eccles built a second chimney on site in 1844, which collapsed in 1848. The chimney is likely to have been located just to the south of **Area 3** at the end of the later Phase 2 flue tunnel.

Phase 2 1876 – 1886

7.1.5 The fires of 1869 and 1886 would have resulted in extensive rebuilding on-site and although it is impossible to precisely correlate what we know

historically with the recorded structures, all the modifications/additions visible hint at general on-going maintenance between Phases 2 and 3.

- 7.1.6 In **Area 1** the flagstone floor and stone plinth roof truss supports likely date to this phase. Similar foundations were seen in **Area 2** and to a lesser extent **Area 3**. Significant alterations were made in the probable area of the engine and boiler rooms on the eastern side of the weaving sheds in **Area 2**. In **Area 2** the metalwork found beneath layer **20036** was potentially from boiler/steam engine components rusted *in situ*, perhaps they were damaged during one of the fires (there was a high proportion of ash/soot within deposit **20036**). Interestingly, there were possible wooden lathes amongst the rust; these could be associated with an early floor surface or be building debris. The flue tunnel across **Areas 2** and **3** may have had an earlier Phase 1 precursor but there was no definitive evidence for this. The arrangement of flues and chimneys was most likely altered once the potential retorts and the gas holder went out of use. A similar flue structure was noted in the Mellor Mill Evaluation Project (University of Manchester 2009) where "...a long flue contained within a tunnel was constructed to take the exhaust up the hill behind the mill to a brick chimney."

Phase 3 1887 - 1929

- 7.1.7 With such a quick pace in the changes of ownership, and the overhaul required after the various fires, it is difficult to date the walls accurately, particularly with only foundations surviving. By the time of the 1894 map, the size of the mill had grown to occupy almost the whole plot of land, with the majority of internal space shaded and no indication of designated space within the footprint. Nevertheless, some of the wall alignments continue to match the mapping and a progression can be seen, especially along the eastern edge of site. Some of the developments noted during this phase were probably alterations and additions carried out by Edwin Hamer between 1911 and 1914, the most visible aspect of which was the surviving sign left by the canal bank next to **Area 1**. In **Area 1** an external structure was added to the west of the weaving sheds. In **Area 2** modifications were made with drainage in the north east of weaving sheds and to the flue tunnel to the south east. In **Area 3** a new structure was inserted likely relating to the chimney to the south.

Phase 4 1930 – 1999

- 7.1.8 Despite all the renovations the mill did not survive and the machinery was sold off in 1933 and the mill closed. Over the last 67 years of its life the mill was used by Tranmere Textiles Ltd as a warehouse for processing artificial yarn. Developments in this phase relate to internal concrete partitions, reflooring and internal and external drainage.

Phase 5 2000 - present

- 7.1.9 In 2005 the mill was purchased by the Bolsterstone Group and re-leased on a temporary basis to Tranmere Textiles until 2007. In 2008 demolition occurred in preparation for the plot to be developed into housing. Evidence of the demolition and landscaping of the Site was seen in all excavated areas.

7.2 Recommendations

- 7.2.1 No further recommendations are made for analysis of the artefacts recovered from the excavation, however the results of the historical research could be combined with the phasing of structures encountered in a publication summary to be submitted to a relevant archaeological journal.

8 ARCHIVE AND COPYRIGHT

8.1 Archive

- 8.1.1 The archive, summarised in **Appendix 4**, will be deposited with Blackburn Museum and Art Gallery, under an accession number to be confirmed.
- 8.1.2 The site archive will be prepared in line with national guidelines (Brown 2007; English Heritage 2006; Museums and Galleries Commission 1992 and United Kingdom Institute for Conservation 2001), and the requirements of the recipient museum.

8.2 Copyright

- 8.2.1 This report, and the archive generally, may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferrable by Wessex Archaeology. Users remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

8.3 Reliance

- 8.3.1 Wessex Archaeology can confirm that this report can be relied upon by HB Community Solutions Limited and Bolsterstone (Chesterfield) LLP.
- 8.3.2 Bolsterstone (Chesterfield) LLP may assign the benefit of the report on 2 occasions without consent from Wessex Archaeology.

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APPENDIX 1: DETAILED CONTEXT DESCRIPTIONS

AREA 1				
Context Number	Context Type	Description	Interpretation	Dimensions (length x width approx. – unless otherwise stated)
10001	Masonry	Flagstone floor	Section of surviving flagstone floor surface probably associated with the original phase of the Mill. In the area of the weaving sheds. Overlain by 10003 .	4.7m x 5m overall area, individual flagstones of varying sizes, generally square or rectangular.
10002	Masonry	Stone wall	Original coursed rubble stone western wall of the weaving sheds running N-S. Lime mortar with small gravel inclusions. Roughly coursed with varying sized stones. Likely contemporary with flagstone floor 10001 .	15.50m x 0.55m. Maximum height observed 0.62m (where manhole 10005 was partially excavated).
10003	Layer/Deposit	Asphalt floor covering	Patchy layer of asphalt over the flagstone floor 10001 . Two layers of paint visible in places, red with a light blue on top.	Thickness varies from 0.02 - 0.06m across flagged floor.
10004	Masonry	Red brick wall section	N-S Red brick structure built into a section of wall 10002 . Possibly a repair or bricking up of alcove? Two rows of stretchers a brick's width apart. Appear to be sitting on the flagstone floor 10001 . Sandy lime mortar.	1.31m x 0.37m. Max height surviving is 0.13m. Average brick is approx. 0.22m long x 0.10m wide and 0.07m high. Machine made, unfrogged.
10005	Masonry	Red brick manhole	Rectangular red brick manhole butted onto wall 10002 . Re-used stone flag capping off the western side. English bond approx. 4 courses visible height, 2 courses wide. Black ash mortar.	0.98m x 1.28m. Bricks are approx. 0.22m long x 0.10m wide and 0.08m high. Machine made unfrogged bricks.
10006	Masonry	Red brick manhole	Rectangular red brick stretcher built manhole approximately parallel with 10005 to the west. Bricks are later than those of 10005 .	1.59m x 1.35m. Bricks are approx. 0.22m long x 0.10m wide and 0.07m high. Machine made frogged bricks.
10007	Masonry	Red brick wall section	W-E red brick wall butting up to wall 10002 . Sandy ash mortar. Reused bricks. Lines up with wall on the 1894 Ordnance Survey map. Unknown function – likely contemporary with brick floor 10011 . Very ramshackle appearance – thrown together from a variety of re-used materials. There is a line of collapsed bricks from this wall just to the south.	2.64m x 0.2m. Maximum of three courses visible. Individual bricks vary as re-used and not standard, some machine made and some hand made. Approx. 0.22m long x 0.07-0.1m wide x 0.1m high. Occasional frogged brick.
10008	Layer/Deposit	Demolition rubble	Layer of rubble demolition levelling across Area 1 from the destruction of the mill in 2008. Patches of scrub/weeds but no real topsoil. Contains frequent concrete/glass/brick/stone/slate/metal/ plastic in a variety of sizes. Same as 20002 and 30001 .	Thickness varies but approximately 0.5m.
10009	Layer/Deposit	Clay natural	Mid-yellowish brown clay natural. Has occasional inclusions pressed into the surface. Same as 20003 and 30002 .	0.5m + below ground surface (Unexcavated)
10010	Masonry	Stone plinths x4	Four sub rectangular sandstone plinths with various details and metal stains, probably bases for roof struts in the weaving sheds; plinth number 2 has the square metal plate still present. Very similar to 20035 in Area 2 .	Approx. size is 0.60m x 0.95m. Thickness is a minimum of 0.1m.

10011	Masonry	Red brick floor	Associated with 10007 this possible floor is constructed from a variety of re-used bricks, including yellow fire and red frogged bricks, also some stone and concrete. There is not enough exposed to be able to define it fully.	Brick sizes vary considerably (see 10007).
10012	Utility	Ceramic soil pipe	Ceramic and plastic soil pipe running adjacent to wall 10002 . Associated with manhole 10005 . Truncated in places presumably by the demolition of the building. No cut visible. Pipes feed into another manhole just to the south of Area 1 (void opened up).	Ceramic pipe has an approx. diameter of 0.18m. Grey plastic pipe diameter is approx. 0.10m.
10013	Masonry	Concrete floor sections	Areas of concrete between flagstones of floor 10001 . Possibly contemporary and indicate delineation of room use, or repair of area's where flagstones were damaged. Concrete runs in a line E-W. There is also a moulded concrete block – possibly a base pad for some machinery or structural feature (has wood attached to it)?	Linear area is approx. 4m x 0.3m. Small pad is approx. 0.4m square.
10014	Masonry	Tarmac	Tarmacked area of floor 10001 , possibly a repair to concrete floor 10013 or levelling/strengthening of original surface.	Approx. 1m x 0.4m surviving.

AREA 2				
Context Number	Context Type	Description	Interpretation	Dimensions (length x width approx. unless otherwise stated)
20001	Layer/Deposit	Topsoil	Dark brown silty clay with a high proportion of grass, weeds and roots.	Thickness = 0 – 0.1m
20002	Layer/Deposit	Demolition rubble	Layer of rubble demolition levelling across Area 2 from the destruction of the mill in 2008. Contains frequent concrete/ glass /brick /stone /slate/ metal/ plastic in a variety of sizes. Same as 10008 and 30001 .	Approx. thickness = 1.3m
20003	Layer/Deposit	Clay natural	Mid-yellowish brown clay natural. Has occasional inclusions pressed into the surface. Same as 10009 and 30002 .	Depth below ground surface = 1.4m + (unexcavated)
20004	Masonry	Stone wall	Possibly original coursed rubble stone eastern wall of the weaving sheds running N-S. Lime mortar with small gravel inclusions. Roughly coursed with varying sized stones.	>30m x c.0.60m. Maximum height observed 0.80m (Adjacent to metal 20023).
20005	Masonry	Red brick wall	N-S red brick wall with sandy lime mortar. Extension from stone wall 20006 . Three skins wide, butted by 20068 . Possibly an English Garden Wall bond as towards the north end there are a row of headers visible.	>13.40m x 0.33m. Individual bricks vary – approx. 0.23m long x 0.11m wide x 0.08m high.
20006	Masonry	Stone wall	Coursed rubble stone wall running N-S extended by later brick wall 20005 .	7.70m x 0.6m
20007	Masonry	Large stone floor plinths x 4	Four large rectangular sandstone blocks, possibly machine pad stones.	Varying sizes from 2-2.5m x 1 -1.9m, height is over 0.2m.
20008	Masonry	Stone wall	Coursed rubble stone wall running N-S. Associated with floor 20054 , and stone step? 20021 .	> 4.7m x 0.95m max height noted was approx. 0.4m
20009	Masonry	Stone wall	Coursed rubble stone wall L shape, continuation of 20008 and 20006 .	W-E section is >3.35m x 0.6m, N-S section is approx. 1m x 0.6m.
20010	Masonry	Red brick wall	Red brick rear W-E wall of arched vault 20015/20066 . Butts up against stone steps 20011 .	Approx. 2.5m x 0.35m wide. Bricks are 0.23 long x 0.11 wide x 0.08m high.
20011	Masonry	Stone floor/steps?	Slightly stepped flagstones running E-W along the back of wall 20010 .	Approx. 1.05m x 0.97m minimum depth of 0.15m.
20012	Masonry	Brick flue wall	Eastern red brick flue tunnel wall with sandy lime mortar aligned N-S to NW-SE. Three courses thick, the outer skin is	> 13.35m x 0.36m excavated to 0.9m height. Average brick is approx.

			composed of heat affected yellow fire bricks. Wall has had significant alterations, see 20053 . Butted on and encompassing original stone wall 20038 .	0.23m x 0.11m x 0.08m.
20013	Masonry	Brick flue wall	Western red brick flue tunnel wall with sandy lime mortar aligned N-S to NW-SE, three skins thick, the outer skin is composed of heat affected yellow fire bricks. Butted by vaulted arch 20015 , and stone wall 20067 . Includes "Orlando Brothers" fire brick.	>13.55m x 0.35m x 0.9m. Bricks are same as above.
20014	Masonry	Brick flue floor	Original handmade red brick floor of flue. Arranged in a rowlock formation in levelled reddish orange sand 20041 .	13.55m x 0.86m. Bricks are 0.23m x 0.09m. 0.08 thick.
20015	Masonry	Brick wall	Red brick wall, base of arching vault. Possibly handmade bricks, it arches over to eastern wall 20066 , Stretcher built with two skins of on bed bricks. Lime mortar. Bonded to 20013 . Rear wall is context 20010 . Vault possibly constructed to house structure 20065 .	3.30m x 0.18m. Approx. two courses visible. Bricks are 0.23m x 0.11m. 0.08m thick.
20016	Masonry	Brick wall	Handmade red brick wall constructed with two rows of on bed headers and backed by a row of stretchers, bonded by lime mortar. Truncated by flue wall 20012 and metal pipe 20019 . The only other wall on this alignment is to the south-east on the 1841 OS map.	Approx. 3.6m x 0.6m two courses exposed. Brick size approx. 0.22m x 0.11m. 0.08m thick.
20017	Masonry	Stone floor?	Possibly a coursed rubble stone floor or foundation? Sub-rectangular with the south-east corner diagonally truncated or butted up to brick wall 20016 . On the north side butted up to brick buttress 20049 .	Approx. 2.10m x 1.49m. 0.44m depth exposed on northern side. Huge variety of stone sizes from 0.17m x 0.13m to 0.48m x 0.30m.
20018	Masonry	Stone wall	Coursed rubble stone wall running N-S. Heat affected stones – pinkish colour, bonded by heat affected sandy lime mortar. Truncated away towards southern end by concrete 20079 . Butts up against brick buttress 20049 . Runs parallel with stone wall 20038 .	>5m x 0.68m. >1m depth exposed. Stones vary in sizes, biggest noted was 0.29m x 0.36m.
20019	Utility	Metal pipe	Cast iron section of pipe aligned approx. N-S. Truncating wall 20016 . May continue but is masked by rubble and clay.	2.09m x 0.15m. Inner pipe diameter approximately 0.13m.
20020	Masonry	Stone wall	Very roughly coursed rubble stone wall bonded with white lime mortar, aligned approx. n-s. Only a very little exposed in the corner of Area 2 .	>1.6m x >1m. Minimum depth exposed was 0.60m.
20021	Masonry	Stone step/base	Sandstone block bonded with a sandy lime mortar to 20008 on the eastern side, and 20073 on the northern face. Probable interpretation is stone steps originally leading to (now demolished) flagstone floor 20054 .	>1.12m x 0.85m. 0.31m depth.
20022	Masonry	Concrete floor	Concrete floor surface supporting brick mortar (wall base) 20074 . Same as 20059 and 20026 . Probably part of the floor surface in the weaving shed (maybe an extension as there are no flagstones).	4.02m x 0.84m. Max thickness = 0.10m.
20023	Fitting	Metal plate	Metal plate with attachments bolted to wall 20004 . Bracket for a large piece of machinery. Probably contemporary with corroded metal fragments 20056 .	1.63m x 0.23m. Approx. 0.80m max depth excavated.
20024	Masonry	Stone wall	Rubble stone wall with lime mortar butting brick wall 20005 . Adjacent to brick buttress (?) 20076 , possibly including a door jamb. Very haphazard with little definition. Not fully excavated.	3.32m x 0.40m. 0.30m depth excavated to.
20025	Masonry	Brick wall	Two single courses of pink brick, a bricks width apart, sitting on top of concrete surface 20026 . Associated with 20027 . Majority of bricks are frogged or have	8.7m x 0.30m Bricks are approx. 0.22m x 0.10m. 0.07m thick.

			remnants of pink sandy lime mortar in a frog shape.	
20026	Masonry	Concrete floor	Concrete floor surface supporting brick (partition?) wall base 20025 . Same as 20059 and 20022 . Probably in the weaving shed.	5.75m x 1.01m Max thickness 0.10m.
20027	Masonry	Brick drain/wall?	Possible brick lined drain or wall alteration butted up to 20025 . Two rows of stretchers approx. 0.34m apart. Not excavated. Dark fill appears to contain debris such as wood/brick/stone.	3.62m x 0.5m. Bricks are approx. 0.22m x 0.10,
20028	Masonry	Brick tank	Rectangular red brick tank/manhole structure bonded with black ash mortar. Housing two metal pipes (20033/20078). Possibly a cess pit or settling tank. Butted to 20004 on the western side. Occasional air bricks present.	1.7m x 1.4m total width. Brick size is approx. 0.23m x 0.11m.
20029	Masonry	Stone floor	Flagstone floor surface surviving just north of tank 20028 . Approx. seven flags, two have some chiselled cut-outs possibly relating to machine fixings. Laid on levelling surface 20030 .	3m x 3m rough overall area. Individual flag size varies.
20030	Layer/Deposit	Levelling deposit	Mid brown sandy silt rubble containing industrial debris, ash and brick. Levelling deposit beneath flagstone floor 20029 . Extends beyond area where flagstones survive so assume whole area was once covered.	Approx. 7m x 6m.
20031	Masonry	Stone walls	Number covers roughly coursed rubble stone walls outside of excavation area. Two L shape walls visible in the topsoil. Both align well with the 1894 OS map as corners of the weaving sheds right beside the canal.	Southern E-W alignment section approx. 5.2m x 0.5m. N-S section is 1.18m x 0.5m. Northern L shape is approx. 2m x 0.5m running E-W and 0.8m x 0.5m running N-S.
20032	Utility	Metal pipe	Cast iron pipe aligned N-S. Possibly in-situ but only small amount visible so may be disturbed. Contained some finds e.g. glass bottle/golden syrup tin.	Outer diameter is 0.28m. Length visible is 0.9m.
20033	Utility	Metal pipe	Cast iron pipe aligned N-S adjacent to wall 20004 , built into tank 20028 . Possibly for sewerage. Associated with pipe 20078 . Runs under concrete 20026 and 20022 .	Length over 18m in total. Diameter = approx. 0.18m.
20034	Masonry	Drain/Leat?	Stone built and capped water channel/drain running NW-SE parallel with the canal. One capping stone was turned over and has a faint gully on the underside indicating re-use. Only a small section of structure exposed.	>1.8m x 1m. Depth approx. 0.55m. Individual stones vary e.g. – 1.3m x 0.6m x 0.2.
20035	Masonry	Stone plinths x6	Six sub rectangular sandstone plinths on an N-S alignment, with various details and metal stains, probably bases for roof struts in the weaving sheds; plinth numbers 1 and 2 have the square metal plate still present. Very similar to 10010 in Area 1 .	Approx. size is 0.97m x 0.79m. Thickness is a minimum of 0.1m. Levels between 110.53 – 110.57 AOD.
20036	Layer/Deposit	Industrial deposit	Industrial type deposit around large stone slabs 20007 and 20021 – dark brown clay with frequent rubble/slag/corrosion/coal/coke. Possibly a levelling material or a mixture of old fuel and demolition debris. Number issued for whole of internal area between walls 20004 and 20005/6/8 .	>23m x 3.5m. >0.5m thick.
20037	Layer/Deposit	Backfill	Mid brown silty sand rubble backfill within brick tank 20028 . Same as 20002 demolition rubble. Overlays 20048 .	1.4m x 1m. 0.56m thick
20038	Masonry	Stone wall	Possibly original coursed rubble stone wall of mill building running N-S. Parallel with 20018 . Lime mortar with small gravel inclusions. Roughly coursed with varying sized stones. Reused as the	>4.32m x 0.64m. >0.5m height.

			eastern wall of the flue tunnel (buted by 20012).	
20039	Layer/Deposit	Levelling deposit	Heat affected sandstone rubble levelling deposit overlaying flue floor 20014 . Visible in two sections where the later floor 20040 is missing.	>7m x 0.82m. 0.23-30m thickness.
20040	Masonry	Brick flue floor	Red brick and yellow fire brick flue floor, with sandy orange mortar, overlaying levelling deposit. Replacing original floor 20014 – possibly to restrict the airflow. Overlain by brickwork 20043 .	>7m x 0.82m. Brick size is approx. 0.23m x 0.10m. Occasional frogged brick.
20041	Layer/Deposit	Levelling deposit	Friable orange sand levelling layer beneath brick flue floor 20014 . Not excavated.	>13.55m x 0.83m.
20042	Masonry	Brick wall	Red brick structure bonded to the east side of flue wall 20012/20043 .	>2.4m x 0.8m x >0.26m. Brick size is approx. 0.23m x 0.10m.
20043	Masonry	Brick wall	Red brick and yellow fire brick modification to flue wall 20012 .	>1.97m x 0.43m x >0.20m Red bricks = 0.24.
20044	Masonry	Brick wall	Small remnant of handmade red brick wall running e-w, bonded with lime mortar. In construction cut 20045 .	0.6m x 0.24m. Height 0.16m. Brick size is 0.24m x 0.10m. 0.08m thick.
20045	Cut	Construction cut	Construction cut for brick wall 20044 . Sub rectangular with a flat base and vertical sides. Filled by 20046 . Cuts natural 20003 .	0.8m x 0.58m. 0.18m deep.
20046	Deposit	Fill	Backfill of construction cut 20045 around wall 20044 . Dark brown silty ash deposit with small-medium brick and stone rubble inclusions.	0.8m x 0.58m. 0.18m deep.
20047	Masonry	Brick wall	Possible alteration to original wall 20004 to accommodate tank 20028 . Stones overlaid on brick work with a slight overhang. Exact relationship with 20004 unclear due to section of damaged brickwork 20077 .	Approx. 3m x 0.56m.
20048	Deposit	Fill	Rich reddish dark brown silt. Very wet loose 'cess' material underneath rubble 20037 . Not excavated further.	1.4m x 1m. Encountered at a depth of approx. 0.56m.
20049	Masonry	Brick wall	Brick structure possibly a buttress for wall 20053 . Similar alignment (although not stone built) as 30009/10/11 in Area 3 .	0.91m x 0.71m. >0.53m thick. Bricks approx. 0.24m x 0.11m x 0.08m.
20050	Masonry	Brick shaft	Red brick/air brick drain/shaft adjacent to metal pipe 20033 . Not excavated.	0.36m square. Depth >1.08m.
20051	Masonry	Stone floor	Flagstone floor associated with pad stones 20007 , it is situated between walls 20004 and 20005 . Has a large proportion of corroded metalwork around and on top of it 20056 . Not possible to get the full extent as it was below the water table. Potentially the same as 20055 .	>1.27m x >0.87m. Flagstone size varies, biggest noted 0.7m x 0.3m.
20052	VOID			
20053	Masonry	Brick wall	Red brick n-s wall on the east side of 20012 . Lines up with 30005 in Area 3 . Appears to be truncated. Bonded to 20049 . Occasional fire brick visible.	3.3m x 0.23m. >0.77m high. Red brick = 0.24m x 0.11m. Fire brick = 0.18m x 0.11m.
20054	Masonry	Stone floor	Disturbed flagstone floor in between walls 20004 and 20008 , adjacent to possible steps 20073/20021 . Amongst rubble deposit 20036 .	>1.5m x 2m. Biggest visible flagstone = 0.48m x 0.56m x 0.07m.
20055	Masonry	Stone floor	Stone blocks situated between walls 20004 and 20005 . Have a large proportion of corroded metalwork around and on top – 20023/20056 . Not possible to get the full extent as they were below the water table. Potentially the same as 20051 but the stones seem thicker and less like flags.	>3m x >1.27m. >0.1m thick. Biggest visible stone is 1.27m x 0.30m.

20056	Layer/Deposit	Industrial debris	Corroded metal and wood above stone surfaces 20051 and 20055 . Associated with plate metal 20023 . Most likely metalwork from boiler/steam engines rusted in situ because the water table has risen.	Covers area approx.>3m x >1.5m.
20057	Masonry	Brick wall	Later frogged w-e red brick section of wall above 20058 and butted to 20004 . Probably serving same purpose as 20076 . Possibly a buttress or machine support.	0.46m x 0.35m. 0.22m high. Brick size = 0.23m x 0.11m x 0.08m (thick).
20058	Masonry	Stone wall	Possible foundation stone or earlier structure beneath 20057 . Very deep, couldn't expose the bottom due to water table. Possibly the same as stones 20055 .	0.85m x 0.45m. >0.30m height.
20059	Masonry	Concrete floor	Section of concrete floor surface. South of 20075 . Same as 20022 and 20026 . Probably in the weaving shed.	2.68m x 0.57m.
20060	Utility	Pipe	Small section of broken cast iron pipe aligned n-s. Runs over the top of pipe 20061 . Parallel to wall 20005 .	1.45m long. Diameter is 6.5cm = 2.5".
20061	Utility	Metal pipe	Small section of cast iron pipe in situ which runs underneath 20060 . Wall 20005 has been truncated in order to run this pipe through. Not fully excavated.	>0.7m long. Diameter is 6.5cm = 2.5".
20062	Layer/Deposit	Backfill	Black ash clinker material with purple slag and yellowish inclusions. Backfill material within cut 20064 around pipe 20061 .	0.7m x 0.4m. 0.34m thick.
20063	Layer/Deposit	Backfill	Yellow builders sand used to backfill/pack around pipe 20060 .	0.4m x 0.1m. 0.08m thick
20064	Cut	Cut	Cut through wall 20005 for pipe 20061 .	0.7m x 0.4m. 0.34m deep.
20065	Masonry	Brick structure	Sub-rectangular, stretcher built red brick structure with a lime mortar. Bricks are possibly handmade. Situated within vaulted arch 20015/20066/20010 .	Approx. 1.46m x 1.26m only excavated to two courses. Bricks are 0.23m x 0.11.5m x 0.08m (thick).
20066	Masonry	Brick wall	Red brick wall, base of arching vault. Possibly handmade bricks, it arches over to eastern wall 20015 , Stretcher built with an outer and inner skin of on bed bricks with an inner course of on edge stretchers. Lime mortar. Rear wall is context 20010 . Vault possibly constructed to house structure 20065 .	2.30m x 0.36m. Approx. two courses visible. Bricks are 0.23m x 0.11-0.11.5m x 0.08m (thick).
20067	Masonry	Stone wall	Roughly coursed rubble stone wall running E-W. Keyed into N-S wall 20006 and parallel with wall 20009 .	Approx. 3.87m x 1.10m only one course exposed. Biggest stone visible = 0.82m x 0.58m.
20068	Masonry	Brick wall	Thick fire brick lined wall adjacent (possibly part of) wall 20005 . Associated with structure 20070/72 . Wall of boiler/retort house?	>7.38m x 0.91m. >0.12m height. Bricks approx. 0.23m x 0.11m. 0.12m thick.
20069	Masonry	Brick wall	N-S aligned heat affected on bed, stretcher built fire brick wall. Forming eastern wall of small brick tank – possibly housing for a boiler? Wall is one skin thick and built above floor 20071 .	1.18m x 0.11m. >0.19m height. Average brick size = 0.23m x 0.11m. 0.08m thick.
20070	Masonry	Brick wall	E-W aligned on bed (heat affected) fire brick lined, red brick built wall bonded to 20068 . Forms the southern wall of small tank 20072 . Also the northern wall for red brick structure 20072 .	1.9m x 0.36m. >0.10m deep. Red bricks = 0.24m x 0.11m Fire bricks = 0.23m x 0.11m
20071	Masonry	Brick floor	Heat affected fire brick floor within possible boiler housing. On bed stretchers with sand packing.	>1.5m x 0.53m Fire Bricks = 0.23m x 0.11m.
20072	Masonry	Bricks	Red brick structure constructed of on bed stretchers bonded with lime mortar, and have a heat affected fire brick skin. Possible thick brick E-W wall between	1.37m x 1m. >0.13m height. Bricks same as 20068 .

			boiler housings.	
20073	Masonry	Stone step?	Sandstone block bonded with a sandy lime mortar to 20008 on the eastern side, and 20021 on the southern face. Probable interpretation is stone steps originally leading to (now demolished) flagstone floor 20054 .	>0.5m x 0.85m. >0.10m thickness.
20074	Masonry	Base of brick wall	Line of orange mortar running N-S sitting on top of concrete surface 20022 and butting wall 20004 . In alignment with brick wall base 20025 .	3.75m x 0.11m. 0.06m max height surviving.
20075	Masonry	Concrete	Section of concrete adjacent to plinth number 3 of 20035 , and brick structure 20027 .	Approx. 0.75m x 0.63m. Height >0.06m
20076	Masonry	Red brick	Frogged red brick section of wall 20024 adjacent to door jamb? Bonded with pink lime mortar. Butting stone wall 20004 . Probably contemporary with 20057 .	0.40m x 0.35m Brick size is approx. 0.23m x 0.11m.
20077	Masonry	Red brick	Very damaged possibly rubble red brick wall Butted to wall 20004 . Adjacent to section 200047.	2.5m x 0.56m. 0.5m min height.
20078	Utility	Metal Pipe	Cast iron pipe aligned E-W within brick tank 20028 . Associated with 20033 .	>0.5m x 0.18m diameter.
20079	Masonry	Concrete	Reinforced concrete block truncating wall 20018 .	1m x 1m. Thickness 1.5m

AREA 3				
Context Number	Context Type	Description	Interpretation	Dimensions (length x width approx. unless otherwise stated)
30001	Layer	Demolition rubble	Layer of rubble demolition levelling across Area 3 from the destruction of the mill in 2008. Contains frequent concrete/glass/brick/stone/slate/metal/plastic in a variety of sizes. Same as 10008 and 20002 .	Variable thickness down slope e.g. from 0.10m – 0.50m.
30002	Layer	Clay natural	Mid-yellowish brown clay natural. Has occasional inclusions pressed into the surface. Same as 10009 and 20003 .	Thickness = 0.10m +
30003	Masonry	Concrete tank	Concrete structure – possible a tank. Filled with clinker deposit.	3.5m x 2.8m. 0.9m deep.
30004	Masonry	Red brick	Western red brick flue tunnel wall with sandy lime mortar aligned N-S, three skins thick, the inner skin is composed of heat affected yellow fire bricks. Same as 20013 in Area 2 .	>18m x 0.35m. Depth over 0.5m. Average brick is approx. 0.23m x 0.11m. 0.08m thick.
30005	Masonry	Red brick	Eastern red brick flue tunnel wall with sandy lime mortar aligned N-S. Three courses thick, the inner skin is composed of heat affected yellow fire bricks. Same as 20012 in Area 2 .	> 18m x 0.36m. Bricks same as above.
30006	Masonry	Stone plinth	Sandstone plinth with rusted metal plate attached to it – roof strut? Located on the NE corner of concrete structure 30003 .	0.8 x 0.7m
30007	Masonry	Stone plinth	Sandstone plinth with brick and slate inclusions. Located on the NW corner of concrete structure 30003 .	1.04 x 1.2m
30008	Masonry	Stone surface	Remains of irregular shaped stone flags arranged against the south wall of concrete structure 30003 .	2.6 x 0.74m
30009	Masonry	Stone buttress	E-W aligned rubble stone section of wall with sandy lime mortar, to the west of wall 30004 . One of several buttresses along the flue walls.	1.10 x 0.77m
30010	Masonry	Stone buttress	E-W aligned rubble stone section of wall, to the west of 30004 , also west of buttress 30011 . One of	0.7 x 0.93m

			several buttresses along the flue walls.	
30011	Masonry	Stone buttress	E-W aligned rubble stone section of wall to the east of 30005 , east of buttress 30010 . One of several buttresses along the flue walls.	0.67 x 1.58m
30012	Masonry	Stone wall	Sandstone rubble wall in an L shape	>3.30 E-W x >4m N-S x 0.7m wide
30013	Utility	Ceramic pipe	Extensive network of ceramic soil pipes running parallel with wall 30012 and turning to the N-S. Have a reasonably modern appearance.	>1.4m x 0.24m diameter.
30014	Cut	Construction cut	Construction cut for eastern flue wall 30005 . Filled with 30015 . Aligned N-S, cut into clay natural 30003 . Only visible in places.	15.7m x 1.85m x >0.24m deep
30015	Deposit	Fill	Fill of 30014 , located on the outside of flue wall 30005 . Dark brown clay fill with occasional inclusions of brick/slate etc.	As above.
30016	Masonry	Stone structure	Stone structure. Consists of a number of walls forming a small room, possibly that represented as an ancillary building on the 1841 OS map.	4m x 2.4m x >0.5m height.
30017	Masonry	Structure	Multi-phase structure. Possibly relates to the 1894 OS map as internal room.	Approx. 7.5m ² >0.5m height.
30018	Utility	Brick/stone capped drain	Brick lined, stone capped drain running N-S and slightly turning NWN-ESE. Largely truncated away probably during demolition in 2008.	>3.30m x 0.72m
30019	Masonry	Possible chimney	Fire brick structure, possibly the beginnings of the chimney. Located at the southern end of the flue. Floor of flue rises up. Contained a lot of sooty clay backfill – different from the demolition backfill of the flue.	>0.9m x 0.8m. 0.9m thickness.
30020	Masonry	Floor surface	Floor surface within structure 30017 . Made of flagstones, concrete and occasional patches of surviving asphalt.	Various. See plan.
30021	Masonry	Stone wall	N-S rubble stone wall, lines up well with the N-S section of wall 20009 in Area 2 . Fronted by a reinforced concrete skin 30023 . Butted with E-W stone wall 30022 . Possibly associated with structure 30016 (similar alignment/wall thickness).	>7m x 0.75m
30022	Masonry	Stone wall	E-W rubble stone wall with pinkish sandy lime mortar, butted to 30021 . Damaged towards the western end.	Approx. 8m x 0.70m
30023	Masonry	Concrete structure	Reinforced concrete structure forming the inner face of wall 30021 . Possibly built for reinforcement? This number also covers the square concrete tank/room in the north-east corner of structure 30017 .	Approx. 2.75m ²
30024	Masonry	Flagstone floor	Remnants of flagstone floor, possibly leading into structure 30016 . Heavily truncated during demolition.	>1.15m x >1.10m
30025	Deposit	Bedding	Mid brown silty clay with frequent stone inclusions. Possibly bedding/levelling material below brick floor 30026 .	>1.15m x >1.10m (Not excavated – seen in section)
30026	Masonry	Red brick floor surface	Red brick floor surface within 30016 . Handmade bricks on bed E-W aligned. Many half bricks/incomplete. Brown silt/black ash bonding matrix.	2.3m x 1.5m. 0.08m thick.
30027	Deposit	Rust	Patches of rust/ferrous deposit attached to floor 30026 suggestive of machinery housing in structure 30016.	2.3m x 1.5m
30028	Deposit	Mortared rubble	Backfill of structure 30016, possibly the same as 30002 i.e. 2008 demolition rubble. Localised to this area for the purpose of finds retrieval.	20.m x 1.5m
30029	Masonry	Stone wall	N-S intermittent stone wall. Possibly bonded to E-W wall 30022 , although this corner was heavily truncated. There were two large stone blocks in the middle of this wall – possibly an original entrance/floor surface. Filled with water before accurate recording could be undertaken.	>7m x 0.50m
30030	Masonry	Stone plinth	East of 30006	0.4m x 0.3m

APPENDIX 2: FINDS

Context	CBM	Glass	Metal (no.)	Pottery	Other Finds
20002		10/1078		3/32	
20032		1/186	1 Fe		
20036	14/240	11/718		39/964	1 animal bone
30017				3/94	
30019	5/64			2/46	
30028	1/20	5/12	1 Cu; 1 Fe	35/358	6 clay pipe; 9 shell; 1 animal bone
TOTALS	20/324	27/1994	1 Cu; 2 Fe	82/1694	

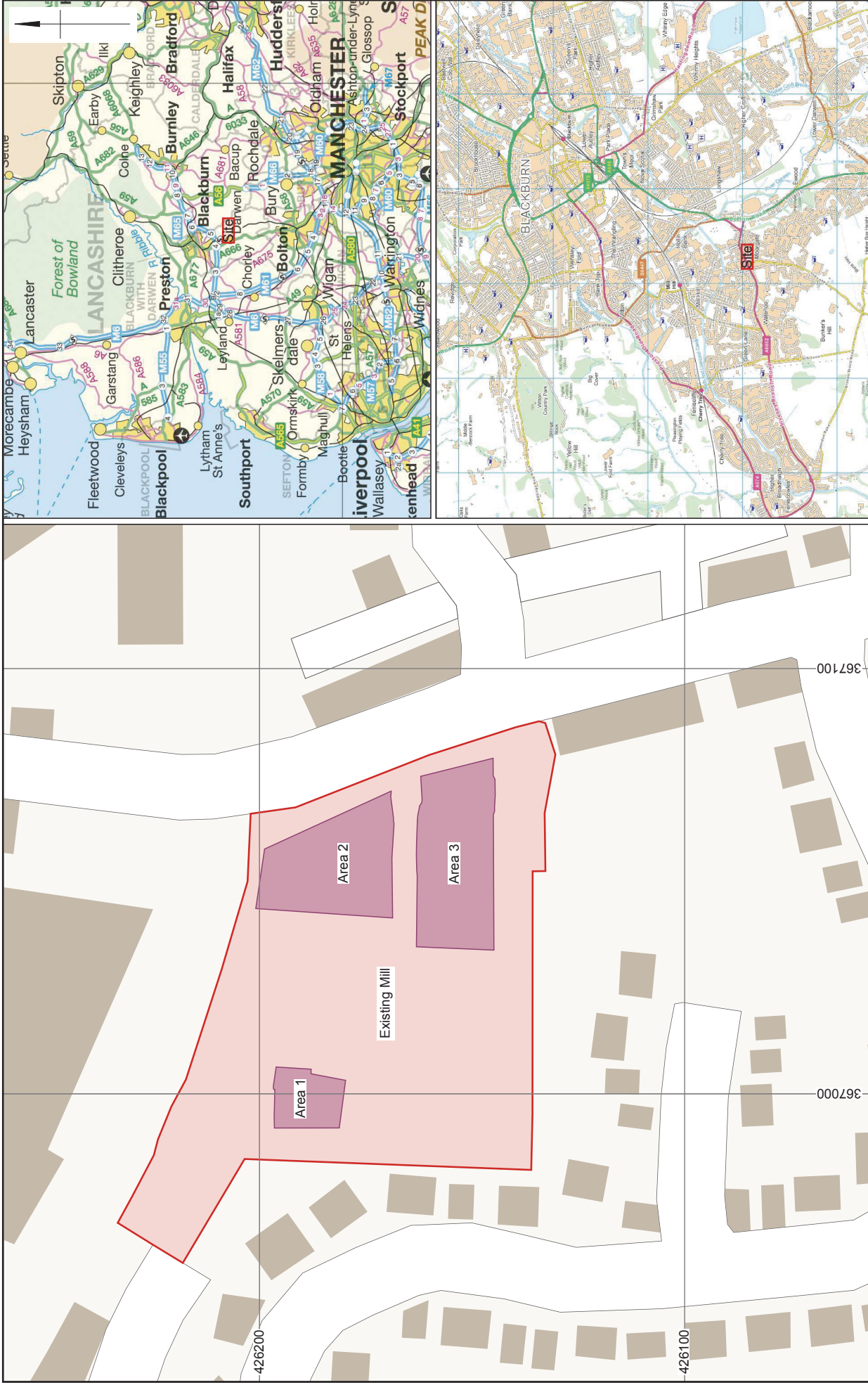
Note: All finds by context (number / weight in grammes)

APPENDIX 3: BRICKS

Context	Description
20002	Red brick; 225mm x 110mm x 80mm; Top of brick has rectangular frog with makers mark - WHINNEY HILL PLASTIC WINIL BRICK C ^O L ^D ACCRINGTON
20002	Fire brick; 225mm x 110mm x 80mm; Rectangular frog on top and bottom with makers mark - DARWEN PLACES
20002	Red brick; 225mm x 110mm x 75mm; Rectangular frog on top with makers mark - NORI B
20002	Red brick; 155mm x 115mm x 80mm; Rectangular frog; decorative edge on one side of brick
20002	Red brick; 220mm x 105mm x 75mm; Rectangular frog on both sides with makers mark on top – UPHO
20002	Red brick; bull nosed; 230mm x 110mm x 110mm; Rectangular frog on one side with makers mark on reverse - ACCRINGTON NORI WARE BRICK AND TILE C ^O L ^D
20002	Red brick; 220mm x 110mm x 78mm; Rectangular frog on both sides with makers mark on top - ACCRINGTON NORI
20013	Fire brick; 225mm x 110mm x 75mm; Rectangular frog on top with makers mark – ORLANDO BROTHERS BLACKBURN

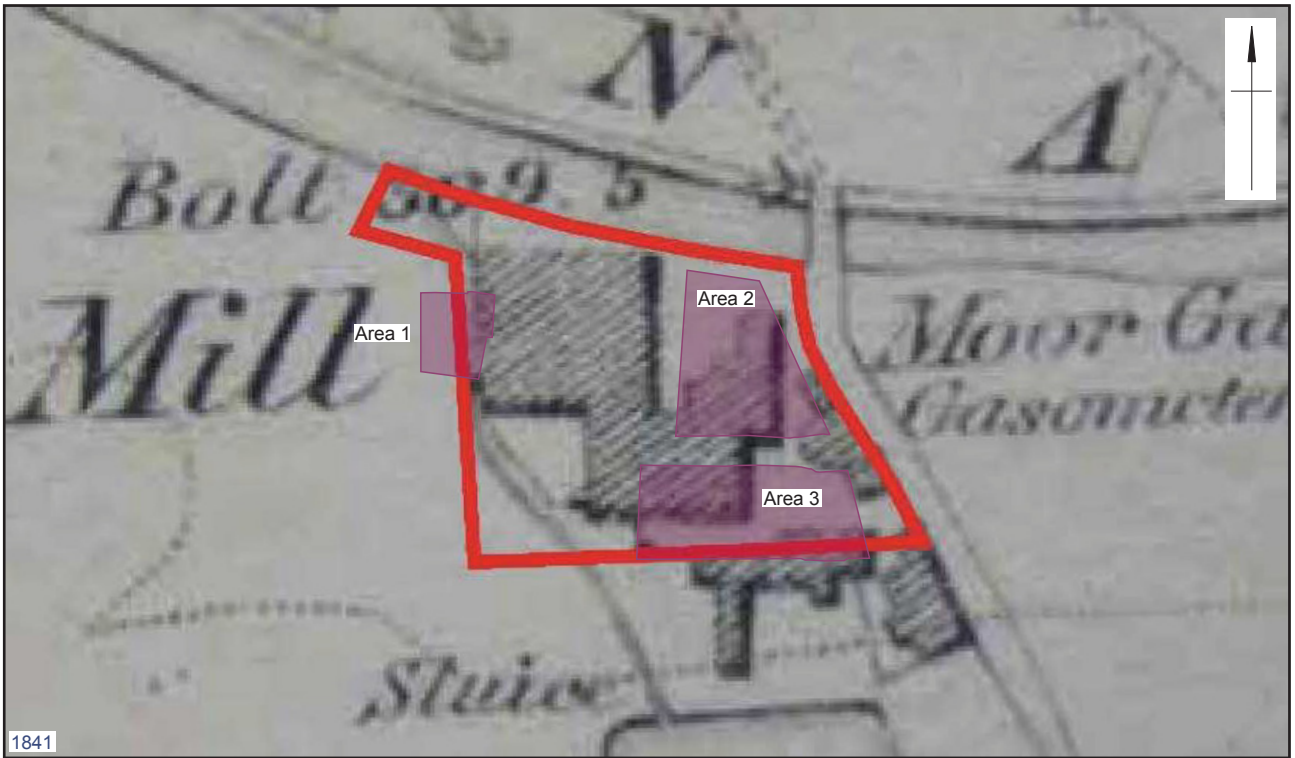
APPENDIX 4: ARCHIVE

File no.	NMR cat.	Details	Format	No. sheets	Fiche no.
1	-	Index to archive	A4		
1	-	Heritage Assessment	A4	56	
1	-	2 x WSI	A4	32	
1	B	Day Register	A4	2	
1	B	Sketch Drawing	A4	7	
1	B	GPS Co-ordinates	A4	3	
1	B	Test Trench Records	A4	12	
1	B	Context Registers	A4	5	
1	B	Context Sheets	A4	127	
1	B	Brick Records	A4	6	
1	B	Small Finds Register	A4	7	
1	B	Graphics Register	A4	5	
1	B	Site Graphics	A4	4	
1	B	Site Graphics	A3	4	
1	D	Photographic Register	A4	25	
1	D	Colour Slide	35mm	99	
1	D	Colour Slide Disc	CD	3	
1	D	B/W Contact Sheet	A4	3	
1	D	B/W Negatives	Neg.	96	
1	F	Documentary Maps	A4	4	
1	F	Documentary Research	A4	63	
1	F	Documentary Research	A4	4	
1	G	Correspondence	A4	8	
FINDS		No. of BOXES (1)			

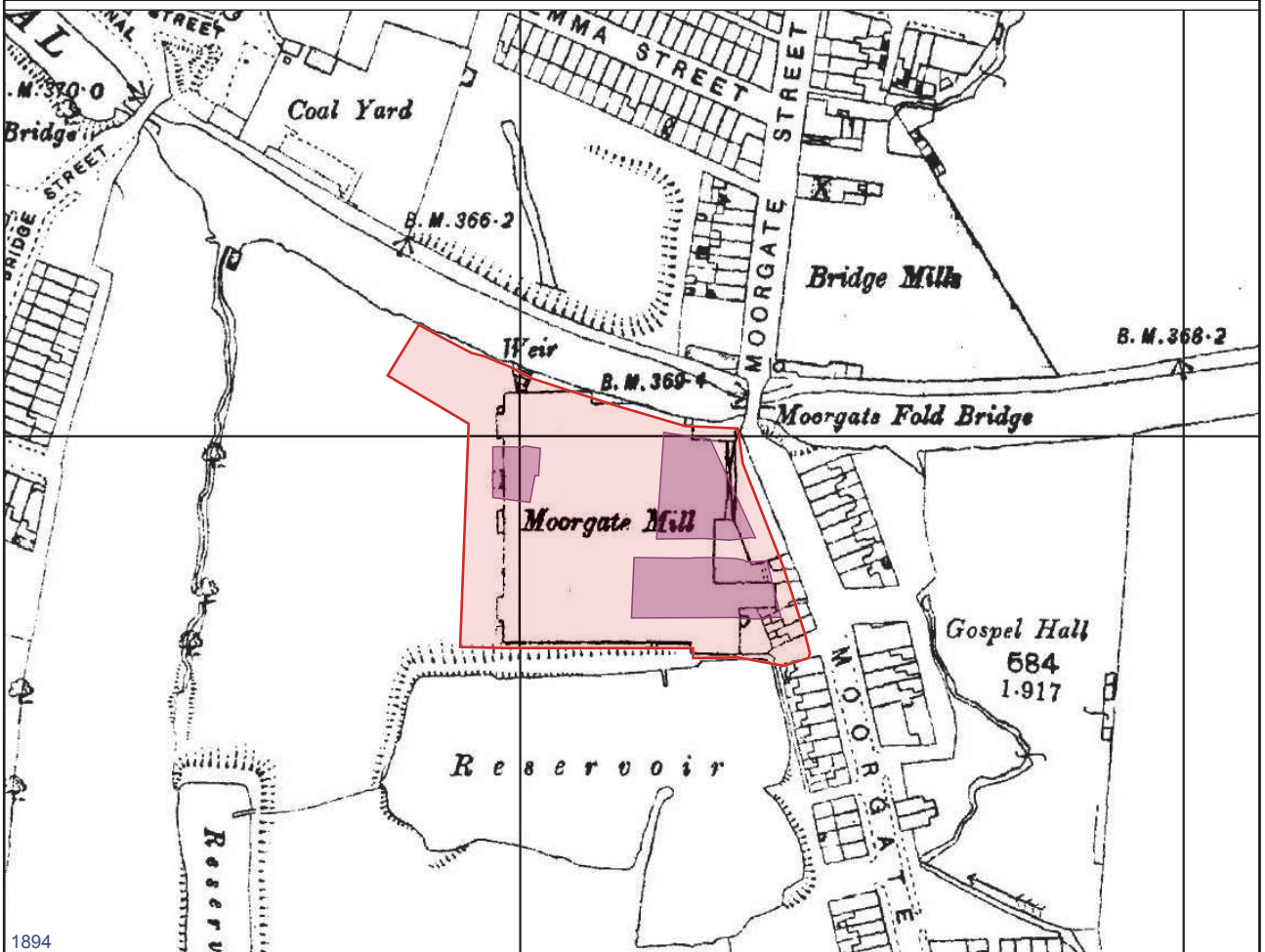


	<p>Site boundary</p> <p>Excavation areas</p>		<p>Date: November 2012</p> <p>Scale: Main graphic 1:1250 @ A4</p> <p>Path: Y:\Projects\66930_Moorgate Mill_Blackburn\Drawing Office\Report Figs\Eval19-11-2012</p>	<p>Revision Number: 1.0</p> <p>Illustrator: CB</p>
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Site location Figure 1



1841



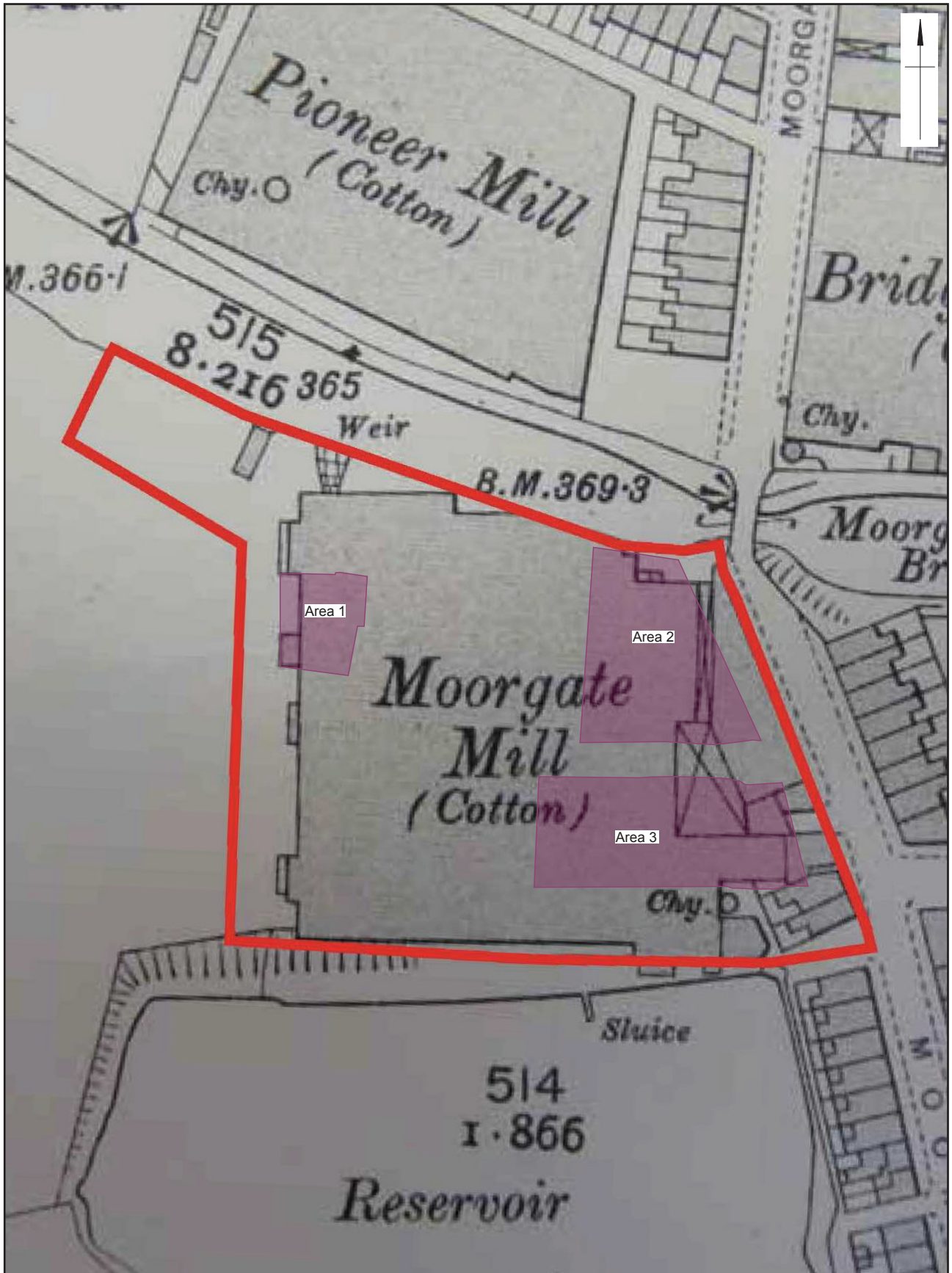
1894




<p> Site boundary</p> <p> Excavation areas</p>	<p>Reproduced from the 1841 and 1894 Ordnance Survey 1:2500 Landmark © map with the permission of the controller of Her Majesty's Stationery Office © Crown copyright, Wessex Archaeology, Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB. Licence Number: 100028190. Digital data reproduced from Ordnance Survey data © Crown Copyright (year) All rights reserved. Reference Number: 100020449. This material is for client report only © Wessex Archaeology. No unauthorised reproduction.</p>		
<p>Date:</p>	<p>December 2012</p>	<p>Revision Number:</p>	<p>1</p>
<p>Scale:</p>	<p>not to scale</p>	<p>Illustrator:</p>	<p>CS</p>
<p>Path:</p>	<p>Y:\Projects\86930_Moorgate Mill_Blackburn\Drawing Office\Report Figs\Eval\19-11-2012</p>		



Excavation areas overlain on the 1841 and 1896 OS Maps

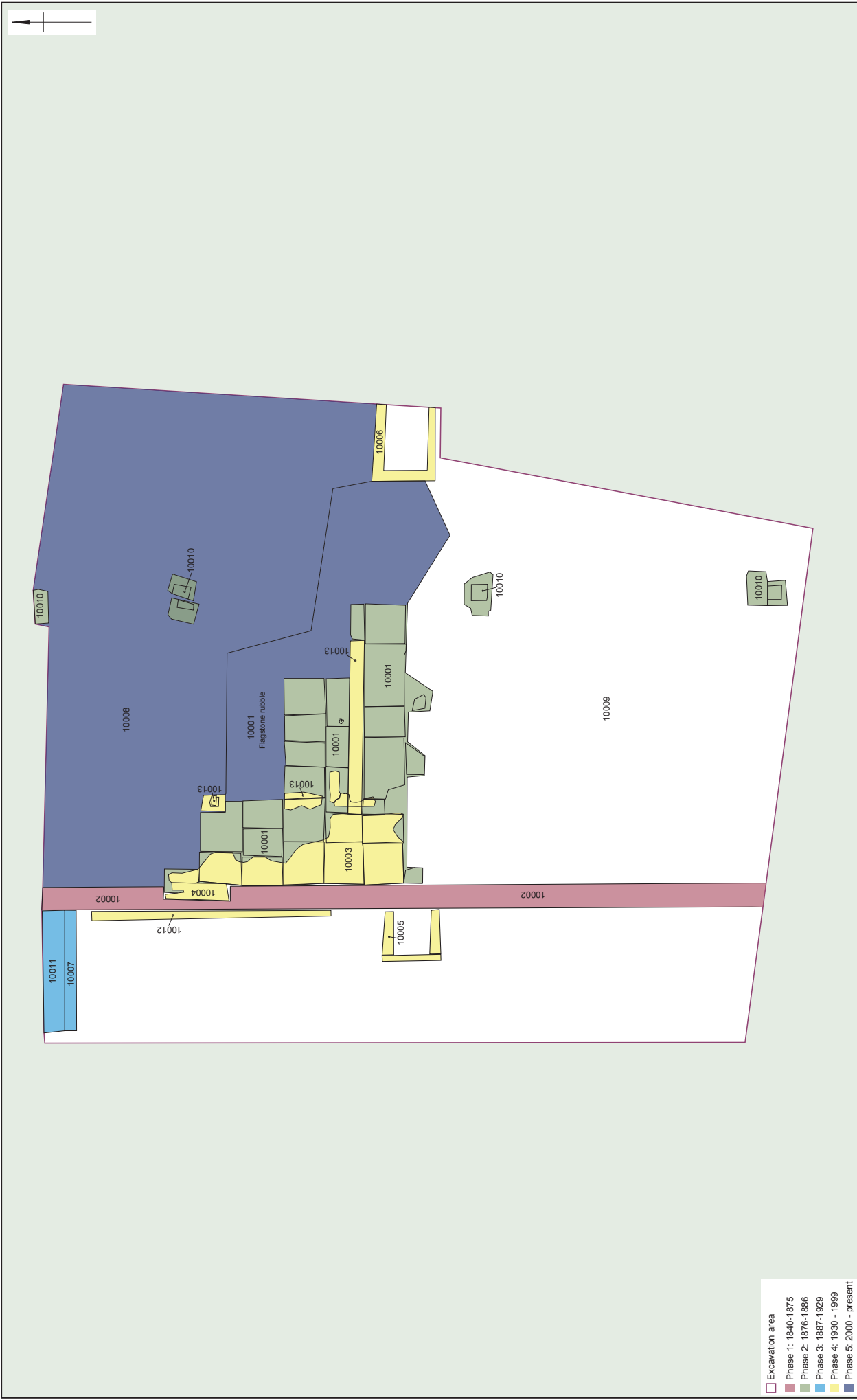
Figure 2



<p> Site boundary</p> <p> Excavation areas</p>	<p>Reproduced from the 1911 Ordnance Survey 1:2500 Landmark © map with the permission of the controller of Her Majesty's Stationery Office © Crown copyright, Wessex Archaeology, Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB. Licence Number: 100028190. Digital data reproduced from Ordnance Survey data © Crown Copyright (year) All rights reserved. Reference Number: 100020449. This material is for client report only © Wessex Archaeology. No unauthorised reproduction.</p>		
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Excavation areas overlain on the 1911 OS Map

Figure 3



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<p>Plan of identified features in Area 1</p>		<p>Path: Y:\Projects\86930_Moorgate Mill_Blackburn\Drawing\Official\Report Figs\Eval19-11-2012</p>	

Figure 4



- Excavation area
- Phase 1: 1840-1875
- Phase 2: 1876-1886
- Phase 3: 1887-1929
- Phase 4: 1930 - 1999
- Phase 5: 2000 - present

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Plan of identified features in Area 2

Figure 5

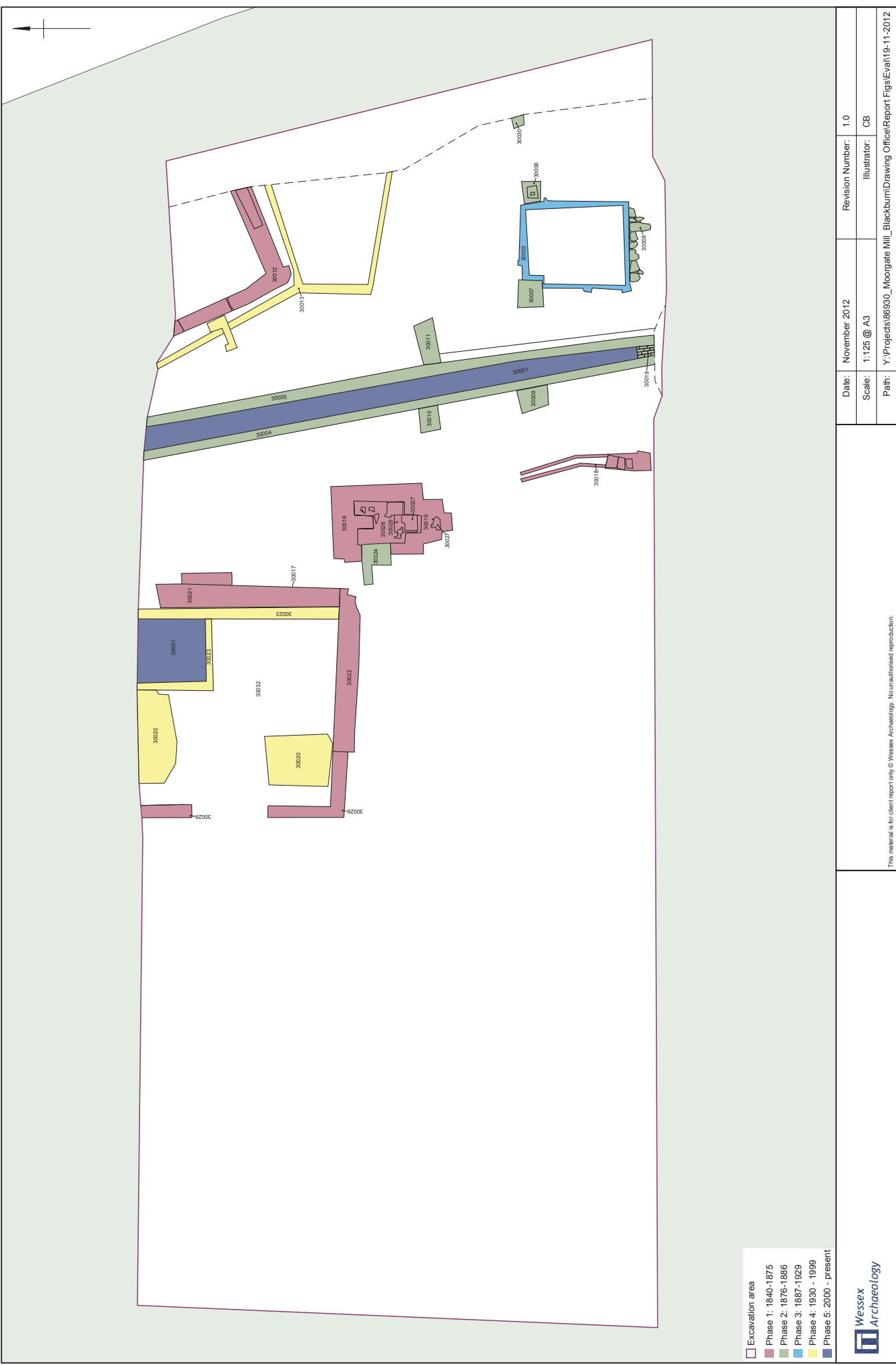


Figure 6
Plan of identified features in Area 3



Plate 1: General shot of the Site, prior to excavation.



Plate 2: Stone plaque previously on Moorgate Street frontage.


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Plate 3: Area 1. General view, looking south, showing wall **10002** and floor **10011**.



Plate 4: Area 1. Stone plinth with cast iron base plate for roof support **10010**.

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Plate 5: Area 1. Overflow channel observed during watching brief.



Plate 6: Area 2 General view looking north-west.

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Plate 7: Area 2. General view looking south-west.



Plate 8: Area 2. Detail of flue structure including early stone wall **20038** and floor alterations.

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Plate 9: Area 2. Wall **20005** and fire brick boiler structure **20072**.



Plate 10: Area 2. Pad stones **20007**.

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Plate 11: Area 2. Machinery plate **20023**.



Plate 12: Area 2. Original floor **20051** & partition **20058**.

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Plate 13: Area 2. Overall view of flue looking north.



Plate 14: Area 2. Wall 20047.

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Plate 15: Area 2. Tank structure **20028**.



Plate 16: Area 3. Continuation of flue.

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Plate 17: Area 2. Firebrick retort arch.

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