

# Archaeological evaluation at the Sainsbury's and Life Sciences Park, Bristol Road, Selly Oak Birmingham



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## **Archaeological evaluation at the Sainsbury's and Life Sciences park, Bristol Road, Selly Oak, Birmingham**

Tom Vaughan and Jonathan Webster

With contributions by Robert Hedge

### **Summary**

An archaeological evaluation was undertaken at the Sainsbury's and Life Sciences Park, Bristol Road, Selly Oak, Birmingham (centred on National grid reference SP 0420 8300). It was commissioned by PJ Carey (Contractors) Ltd, who is redeveloping the site with a combination of retail units and academic buildings with associated car parking and landscaping.

Six trenches were excavated. The investigations were intended to determine the state of preservation, phasing and use of the canal, the wharf side activity, and a group of lime kilns adjacent. The site was cleared and levelled by the client in advance of the evaluation, which was undertaken in two stages.

The presence of a live high voltage electric cable along the route of the former canal limited the area which could be investigated safely. Due to this, to truncation associated with the previous industrial works on the site and the present groundworks, along with the great depth of modern overburden, no in situ structural remains of the canal, the lime kilns or other wharf side activity were revealed. The lime kilns appear to have been largely removed during either the construction or demolition of the last factory complex that occupied this part of the site. Sections of brick walls were recorded which may relate to these later works, and a former east to west aligned boundary wall. The state of preservation of the canal and associated structures prior to the present works cannot be commented upon.

Over two metres of overburden was recorded within all trenches, of 19<sup>th</sup> and 20<sup>th</sup> century date, with industrial waste, plastics, metal, glass and building rubble. Artefactual material was of late 18<sup>th</sup> to 20<sup>th</sup> century date, including transfer-printed china, some which appears to have been 'seconds', clay tobacco pipe of local manufacture, modern pottery and other domestic debris. A vitrified fire brick, of a type used in kilns and furnaces, whilst residual within a later dump deposit, was the only physical evidence of the presence of lime kilns on the site.

## Report

### 1 Background

#### 1.1 Reasons for the project

An archaeological evaluation was undertaken at the Sainsbury's and Life Sciences Park, Bristol Road, Selly Oak, Birmingham (centred on National grid reference SP 0420 8300). It was commissioned by PJ Carey (Contractors) Ltd, who is redeveloping the site with a combination of retail units and academic buildings with associated car parking and landscaping for which a planning application has been submitted to Birmingham City Council (reference number: 2013/02178/PA).

The site is considered to include heritage assets of archaeological interest, the significance of which may be affected by the application (Historic Environment Record references MBM 1982 and 2858).

The project conforms to a brief prepared by the Planning Archaeologist of Birmingham City Council, dated 10 August 2012 (BCC 2102; confirmed in correspondence dated 17 December 2013) and for which a project proposal (including detailed specification) was produced (WA 2014).

The project also conforms to the *Standard and guidance for archaeological field evaluation* (IfA 2008; CIFA 2014).

The event reference for this project, given by the Birmingham HER will be provided on the deposition of this report and site archive. The Worcestershire Archaeology project number is P3006.

### 2 Aims

The brief indicated that significant deposits may be defined as those likely to be of post-medieval date, relating to the late 18<sup>th</sup> century Dudley No.2 Canal and basin (MBM 1982) with associated wharves and other features, and lime kilns to the south first noted on map of 1840 (MBM 2858).

The aims and scope of this project are given in the brief (BCC 2012, Sections 5 and 6) and the project proposal (WA 2014, Section 1.2), as follows.

#### **Dudley No. 2 Canal** (HER ref. MBM 1982; previous reference BSMR 5868)

- To define the form, extent, state of preservation and significance of the canal basin;
- To identify evidence for phases of development;
- To determine if mitigation is required, either by record (ie excavation) or design (ie preservation in-situ).

#### **Lime Kilns on the south side of Dudley No. 2 Canal** (HER ref. MBM 2858)

- To define the form, extent, state of preservation and significance of the lime kilns;
- To identify the details of the form of the kilns;
- To identify evidence of the way in which lime was burned in the kilns;
- To assess the potential of deposits for the analysis of industrial residues;
- To identify evidence for phasing of the structure/s;
- To determine specific dating of the structure/s;
- To determine their relationship to the Goodman Yard kilns adjacent and other lime kilns in the region;

- 
- To determine if mitigation is required, either by record (ie excavation) or design (ie preservation in-situ).

### **3 Methods**

#### **3.1 Personnel**

The project was led by Jonathan Webster, BA (Hons), with assistance from Mike Nicholson, BSc (Hons) and James Spry BA (Hons). The project manager responsible for the quality of the project was Tom Vaughan (ACIfA, MA). Illustrations were prepared by Steve Rigby BA (Hons), and the finds analysis by Robert Hedge, MA (Cantab).

#### **3.2 Documentary research**

Prior to fieldwork being undertaken a Environmental Impact Assessment was compiled by Turley Associates (Turley Associates 2013) which included a documentary study of the investigation area carried out by Worcestershire Archaeology (Vaughan 2013).

#### **3.3 Fieldwork strategy**

A detailed specification has been prepared by Worcestershire Archaeology (WA 2014).

The first phase of evaluation, focussed on the area of the former Dudley No. 2 canal basin was undertaken on 18 and 19 August 2014 (Trenches 1-3). The second phase investigated the location of the lime kilns and was undertaken between 16 and 18 March 2015 (Trenches 4-6). The Worcestershire Archaeology project number is P3006.

#### **Dudley No. 2 canal basin investigations**

Three trenches, amounting to 54m<sup>2</sup> in area, were intended to be excavated over the postulated route of the former Dudley No. 2 Canal basin and wharf area to the immediate north of the canal. Due to health and safety constraints (a live high voltage electric cable), all of the trenches were located to the north of the line of the canal.

#### **Lime kilns on the south side of Dudley No. 2 canal investigations**

Three trenches, amounting 54m<sup>2</sup> in area, were excavated across the projected area of the former lime kilns. Again, the locations of trenches was constrained by health and safety concerns.

Deposits considered not to be significant were removed using a back hoe 3CX wheeled excavator, employing a toothless bucket and under archaeological supervision. Subsequent excavation was undertaken by hand. Clean surfaces were inspected and selected deposits were excavated to retrieve artefactual material and environmental samples, as well as to determine their nature. Deposits were recorded according to standard Worcestershire Archaeology practice (WA 2012). On completion of excavation, trenches were reinstated by replacing the excavated material.

#### **3.4 Structural analysis**

All fieldwork records were checked and cross-referenced. Analysis was effected through a combination of structural, artefactual and ecofactual evidence, allied to the information derived from other sources.

#### **3.5 Artefact methodology, by Robert Hedge**

##### **3.5.1 Recovery policy**

The artefact recovery policy conformed to standard Worcestershire Archaeology practice (WA 2012; appendix 2).

##### **3.5.2 Method of analysis**

All hand-retrieved finds were examined. They were identified, quantified and dated to period. A *terminus post quem* date was produced for each stratified context. The date was used for

determining the broad date of phases defined for the site. All information was recorded on *pro forma* sheets.

The pottery and ceramic building material was examined under x20 magnification and referenced as appropriate by fabric type and form according to the fabric reference series maintained by the Service (Hurst and Rees 1992 and [www.worcestershireceramics.org](http://www.worcestershireceramics.org)).

### **3.5.3 Discard policy**

The following categories/types of material will be discarded after a period of 6 months following the submission of this report, unless there is a specific request to retain them (and subject to the collection policy of the relevant depository):

- where unstratified, including fieldwalked material;
- post-medieval pottery, and;
- generally where material has been assessed as having no obvious grounds for retention.

## **3.6 Environmental archaeology methodology**

### **3.6.1 Sampling policy**

Sampling was undertaken according to standard Worcestershire Archaeology practice (WA 2012). In the event no deposits were identified which were considered to be suitable for environmental analysis.

## **3.7 Statement of confidence in the methods and results**

Having undertaken the project the following comments may be made with regard to the methods adopted.

Although the methodology for the archaeological investigation in relation to the research aims was sound, the site constraints limited the findings of the project. These were specifically the presence of a high voltage electric cable along the projected course of the former Dudley no.2 canal, the on-going groundworks associated with the development, and the great depth of modern overburden encountered. This meant that it was not possible to locate trenches within or across the route of the canal itself, nor was it possible to reveal a full stratigraphic profile down to undisturbed geology within any of the trenches. The aims of the project cannot therefore be considered to be fully met.

# **4 The application site**

## **4.1 Topography, geology and archaeological context**

The site has undergone substantial changes in comparison with its previous state of just a few years ago. Extensive groundworks had been undertaken by the client, involving landscaping which had removed all previously extant structures and landscape features.

The investigation area lay along a ridge in the southern part of the site. The ground dropped to the west and north-west which had been emphasised by the developer reducing the ground levels in the centre of the site. Trenches 1-3, lay on a slight hummock along the above ridgeline with the ground dropping away to the north towards the Bourn Brook, and to the west, which was further emphasised by a bank that dropped away to the south adjacent to the electric cable.

The site lies within part of the Wildmoor Sandstone formation, sedimentary bedrock that accumulated from riverine deposited sand and gravels intermixed with fine silts and clays that is suggestive of a floodplain or coastal landscape, dating to between approximately 246 to 251 million years ago in the Triassic period. This is mapped as being overlain by Till of the Mid Pleistocene to Diamicton epochs, roughly 2 million years ago during the Quaternary period. These deposits were formed during glacial maximum and later retreat as glacial melt caused a landscape of moraines of Till with outwashes of sand and gravels from the seasonal and post glacial melts (BGS 2014).



A synthesis of the known and potential archaeology that is directly related to the Dudley no. 2 canal basin, lime kilns and associated structures is found below. For detailed information on the archaeological background of the site as a whole, please see Vaughan (2013, paragraphs 17.22 – 17.43).

Present day Selly Oak is part of Northfield Parish, which was historically part of Worcestershire, until 1911, when it became part of Birmingham. Agricultural fields are shown on the 1840 tithe plan. Residential housing extended into the area in the early part of the 19<sup>th</sup> century with the expansion of industrial works in the immediate vicinity, such as a brickyard and the Oak Tree Tannery (BSMR 20733) to the immediate south of the site. Allotments to the west of the site are first shown on Ordnance Survey maps of 1916/7 which covered a far larger area than today.

The construction of the Worcester and Birmingham Canal between 1811 and 1815 (along the eastern side of the site) influenced the character of the whole area, leading to the establishment of new industries. The canal linked with Dudley No.2 Canal (MBM 1982), which led to increased traffic at the junction of the two, with the wharf and canal basin serving the metal works located to the south and immediate north.

Later industrial expansion in the region was encouraged by greater transportation and distribution opportunities provided by the canal, and in the latter part of the 19<sup>th</sup> century after the construction of the Birmingham and West Railway line. A metal and wire works that occupied the central part of the development site from 1876 to the late 20<sup>th</sup> century, created large quantities of waste material, dumped on site which dramatically altering the topography of the north-facing hillslope.

Development of the site in the mid 20<sup>th</sup> century included the in-filling of the Dudley No.2 Canal, expansion of the Battery Works to the south and the tipping area to the north (Vaughan 2013, references 17.6-9). With the closure of the Battery Works in the latter half of the 20<sup>th</sup> century, a retail park was developed on the southern part of the current works.

#### **4.1.1 Dudley no. 2 canal basin (MBM 1982)**

Aligned east to west across the southern third of the development area, the Dudley No.2 Canal was linked to the Worcester and Birmingham Canal at its east end opposite the Goodman's Yard lime kilns (see below). The junction is within the east side of the site, and the canal ran on towards Dudley to the west. Within the site, there is map evidence for a basin and wharves to the north and south of the canal (1840 tithe map, 1857 Blood's tithe map, 1884, 1890, 1916, 1945 OS maps). The main canal basin, stop lock and cottages (now all demolished or infilled) date from the canal's opening in 1798. In effect, the canal provided the infrastructure for further industrial development of the area. The canal was finally closed in 1955 and was filled-in in the 1960s to provide car parking for the factory workers. A more detailed account of the canal in this area is provided by Hewitson (see Vaughan 2013, reference 17.27).

#### **4.1.2 Lime Kilns (MBM 2858)**

The presence of lime kilns along the southern side of the Dudley no. 2 canal basin is indicated on the 1840 tithe map although they were not noted 1<sup>st</sup> edition Ordnance Survey map of 1884. The tithe shows a total of five kilns which were displayed as a tight repeated M shaped dotted line with possible kiln entrances to the north-north-west and south-south-east. This was identical to five kilns that were noted to the east on the opposite side of the canal which were investigated in 2004 (Goad and Crawford 2004). These investigations (BSMR 20726) revealed the presence of the lower portion of the three southernmost kilns. They were constructed from brick, with coal and lime still present within the internal parts of the kilns and large quantities of 'raked out' material deposited around much of the surrounding area. The kilns were found to have been rebuilt at a later stage of their use with a later floor being built at a higher level than the original. Research undertaken on the local area noted that "...lime burning was established near Whitehouse's wharf soon after the canal was cut. The lime found a ready sale among all the farms in the district..." (Thomas nd). In addition to its use as a fertiliser the rapid expansion of the industrial towns of the region, not to mention the various structures associated with the new canals, rail and road

schemes meant that the demand for lime was higher than ever; for mortar, in leather tanning and gas 'purification'. It is however during the later 19<sup>th</sup> century that the kilns became disused and abandoned, which suggests that the local demand for lime was being satisfied from elsewhere.

#### **4.1.3 Previous archaeological interventions**

This phase of works is the latest in a series of investigations and evaluations across the development area that date back to 2001 when Worcestershire Archaeological Service undertook an evaluation in the proposed development area (Patrick *et al* 2001), followed by the evaluation and later excavation of the Bourn Brook area in 2003 and lime kilns at Goodman's Yard in 2004 (Goad and Crawford 2003; Goad, Head and Crawford 2004). In addition to this archaeological investigations have been undertaken in association with the construction of the new Aston Webb Boulevard link road along the north-west side of the site (EBM 405).

#### **4.2 Current land-use**

The area of investigation had been used as a landfill site for much of the 20<sup>th</sup> century with a combination of general domestic refuse and industrial waste being dumped. On arrival for this phase of works these dumps had been removed and all former visible structures and landscape features levelled, whilst much of the centre of the site was in the process of being reduced further as part of the development.

### **5 Structural analysis**

#### **5.1.1 Dudley No. 2 Canal basin: Trenches 1-3**

The trenches and features recorded are shown in Figures 1-4 and Plates 1-6. The results of the structural analysis are presented in Appendix 1.

##### **5.1.1.1 Trench 1**

Trench 1 was excavated to the north of the canal basin to investigate the canal side and associated surfaces and structures to the north (Plate 1). It was excavated to an average depth of 1.05m below the present ground surface with additional sondages to a depth of 2m at the south end of the trench (138.56m AOD) and 1.75m at the north end (139.56m AOD).

The trench lay within a substantial modern dump (104) of material (at least 1.33m+ thick) that contained a combination of clinker and ash along with modern brick rubble, wood, plastics and metal fragments, from 0.42m below the current ground surface level in the north down to 1.10m in the south. This was sealed by a dumped band of modern material (103) that averaged 0.32m across the length of the trench and comprised sand and gravels that were mixed with ceramic building material (CBM), plastics and frequent charcoal throughout. This in turn was covered by up to 0.42m of red clay (102) mixed with concrete and brick rubble along with frequent plastics and metal fragments throughout. This was overlain by between 0.28-0.36m of dark brown silty clay topsoil (101) that contained frequent modern artefacts, CBM and domestic waste throughout.

No significant deposits or structural remains were identified. There were no deposits predating the 20<sup>th</sup> century.

##### **5.1.1.2 Trench 2**

Trench 2 was excavated to the west of Trench 1 to the immediate north of the canal in an attempt to investigate possible structures, deposits and surfaces associated with the construction, evolution and association with the canal (Plate 2). Excavated to an average depth of 1.03m (due to the instability of the trench sides), at the south end a sondage was excavated to a depth of 2m whilst in the northern end a sondage was opened to a depth of 1.64m. The deposits in Trench 2 were similar to those in Trenches 1 and 3, comprising modern dump deposits extending below the limit of excavation.

A loosely compacted silt and sand (204) was seen at the base of the trench that contained very frequent brick and concrete inclusions throughout, along with plastic, cloth, tarmac and metal fragments that indicate a late 20<sup>th</sup> century date. This deposit was seen from an average of 0.83m below the present ground surface level and was overlain by a coarse sand and clay mix (203) that included wood and plastic fragments along with general CBM and domestic refuse inclusions and averaging 0.5m in thickness across the trench. This was in turn sealed by a 0.10m thick deposit of loosely compacted loam (202) that contained frequent glass, plastic, CBM and other items of domestic waste. Finally this was covered by a coarse sand and clay mix topsoil that contained frequent modern detritus and waste throughout the deposit which averaged 0.26m in thickness although was seen to become thicker to the south.

No significant deposits or structural remains were identified. There were no deposits predating the 20<sup>th</sup> century.

#### **5.1.1.3 Trench 3**

Excavated at a right angle to, and off the south-west side of, Trench 2, this trench was parallel to the canal basin, Trench 3 was placed to identify structures associated with the canal (Plate 3). It contained deposits that were identical to, and with similar depths, as those in Trenches 1 and 2.

No significant deposits or structural remains were identified. There were no deposits predating the 20<sup>th</sup> century.

### **5.1.2 Area of Lime Kilns: Trenches 4-6**

#### **5.1.2.1 Trench 4**

Trench 4 was excavated in the south-west corner of the site and was the westernmost of the second phase of evaluation (Plate 4). It was placed over the postulated westernmost extent of the kilns on a parallel course. It was excavated to an average depth of 1.20m, with sondages at either end of the trench that descended 2.07m below the present ground level (135.54m AOD) at the east end and 2.03m (136.21m AOD) at the west. These sondages were filled in immediately after recording due to health and safety concerns.

The trench contained mixed deposit (402) which comprised a dark sandy grit with frequent CBM, concrete and industrial waste, including ash, charcoal and clinker throughout. This material had multiple tip lines and bandings throughout and appeared to have been the result of a deliberate demolition and deposition of large quantities of material. This material was at least 1.67m in depth and descended beyond the limit of excavation. This deposit sat within a large cut, 403, with almost vertical sides that descended to an unknown depth and appeared to be on a north-west to south-east alignment. At the east end of the trench a thin sandy clay deposit (404) was seen that contained several laminations of charcoal and lime rich bands that measured roughly 0.01m in thickness, dipping from north to south. This deposit measured 1.78m+ in depth and continued beyond the limit of excavation. All of the above was sealed by 0.20m of modern demolition (401) set within a matrix of dark greyish brown silty clay that appeared to have been disturbed during the current redevelopment of the area.

No significant deposits or structural remains were identified. There were no deposits predating the 19<sup>th</sup> century.

#### **5.1.2.2 Trench 5**

Orientated north-north-west to south-south-east, Trench 5 was placed to the immediate east of Trench 4 and aligned at a right angle to the postulated alignment of the lime kilns (Plate 5).

At the north end of the trench lay a large brick retaining wall (509) that stretched north-east to south-west across the southern quarter of the site. South of this a humic rich loam (508) that contained modern plastics along with a high organic content butted a second smaller brick wall (507) to the south. Two courses thick, this wall was made of well fired machine made bricks that

were unfrogged and bonded with a light greyish yellow lime rich bond. This wall measured at least 0.90m in depth and was seen to extend at least 2m in total before becoming obscured by material to the east and west of the area of investigation. To the immediate south of this wall and butting it was a band of light greyish yellow sand rich clay (504), almost identical in form and make up to deposit (404) in Trench 4 and (505) below. This deposit measured 3.70m in length by at least 1.15m in depth. This material contained a thin band of charcoal and occasional lime inclusions along its upper edge. This was truncated to the south by a large intrusive feature (502). This had vertical sides to an unknown depth, at least 1.70m+ (136.18m AOD) and appeared to have been orientated roughly south-west to north-east. It was infilled by a deliberately deposited dark gritty loam which contained high quantities of CBM, concrete and metal inclusions throughout, along with several fragments of plastic material. This feature also truncated (505; same as 504) and is thought most likely to be part of the same deposit although due to the truncation of [502] it was impossible to prove this. All of the above was sealed by 0.25m of modern demolition (501), set within a silty clay matrix, thought to be disturbance associated with the current redevelopment.

No significant deposits or structural remains were identified. There were no deposits predating the 19<sup>th</sup> century.

### 5.1.2.3 Trench 6

Orientated roughly north-east to south-west this trench was moved 6m to the west of its originally intended position due to the ongoing development works and moving plant (Plate 6). Dump deposit (603) was revealed at 136.21m AOD and comprised a gritty matrix infilled with quantities of CBM, metal and industrial waste throughout. It was truncated by wall (604), a single brick width, of well fired, machine made unfrogged red bricks. It is considered to be an internal wall, and is thought to have been part of the former factory building on the site. This was sealed by an average of 0.75m of mixed deliberately deposited material (602) that included CBM, industrial waste, plastics and metals throughout and was demonstrated to have been associated with the demolition of the factory complex and was itself covered by 0.15 of mixed silty clay (601) similar to that in Trenches 4 and 5.

No significant deposits or structural remains were identified. There were no deposits predating the 19<sup>th</sup> century.

## 5.2 Artefact analysis, by Robert Hedge

The artefactual assemblage recovered is summarised in Tables 1–3.

Period	Material Class	Material Subtype	Object Specific Type	Count	Weight(G)
post-medieval/modern	ceramic		brick	4	476
post-medieval/modern	ceramic		pot	1	22
post-medieval/modern	ceramic		roof tile	1	186
post-medieval/modern	metal	copper alloy	token	1	6
post-medieval/modern	slag		clinker	1	24
modern	ceramic		brick	5	4128
modern	ceramic		clay pipe	1	2
modern	ceramic		pot	11	98
modern	glass		window	2	58
undated	stone		slate	1	26
TOTALS				28	5026

Table 1: Quantification of the assemblage

The assemblage came from six stratified contexts and could be dated from the late 18<sup>th</sup> century onwards (see Table 1). Using pottery as an index of artefact condition, this was generally average

with the majority of sherds displaying low levels of abrasion; mean sherd size, at 10g, is considered average, and possible even high, given the dominance of fine-walled wares within the assemblage.

Broad period	Fabric code	Fabric common name	Count	Weight(g)
Post-medieval	78	Post-medieval red ware	1	4
Post-medieval/modern	83	Porcelain	1	22
Modern	81.4	Miscellaneous late stoneware	1	14
Modern	85	Modern china	8	60
Modern	101	Miscellaneous modern wares	1	20
Totals			12	120

*Table 2 Quantification of the pottery by fabric*

### 5.2.1 Summary of artefactual evidence by period

For the finds from individual contexts, including specific types of pottery, see Tables 3 and 2 in that order and in combination.

The discussion below is a summary of the finds. Where possible, dates have been allocated and the importance of individual finds commented upon as necessary. The majority can be broadly dated to the late 18<sup>th</sup> and 19<sup>th</sup> centuries, so this period will be considered as a whole.

#### *Late 18<sup>th</sup>/19<sup>th</sup> century*

The majority of the pottery recovered was 19<sup>th</sup> century transfer-printed china, in a range of common patterns including Willow pattern and Asiatic Pheasants. Several other pieces are worthy of note: fill (402) of possible ditch (403) contained a fine-walled red earthenware cup with even black glaze exhibited traces of an over-painted gold pattern including the word 'Jubilee', presumably pertaining to Queen Victoria's golden (1887) or diamond (1897) jubilee celebrations. From the same context, a plain porcelain saucer with hand-painted overglaze decoration and a china saucer/plate fragment with underglaze monochrome line decoration and subsequent overglaze hand-colouring were recovered. The latter exhibited signs of pitting in the glaze, and may have been a 'second'. There are no known local pottery manufacturing kilns of this date in the locality, but these finds may indicate local overglaze decoration of plain vessels and 'seconds' imported from elsewhere.

A clay pipe fragment also from fill (402) bore the stamp of 'REYNOLDS MAKER BIRM', thought to refer to the Reynolds family works operating in Aston, Birmingham in the mid-to-late 19<sup>th</sup> century (Oswald 1975, 197).

Of the diagnostic pieces of building material, one 'Glenboig' fire-brick from modern layer (401) is of particular interest, as it exhibits signs of vitrification along one face and is of a type produced in Glenboig for the purpose of lining furnaces and kilns, and may relate to alterations or repairs to the limekilns recorded on the site. Glenboig firebricks were produced from around 1830 up to the mid-20<sup>th</sup> century (Monklands Memories 2015).

#### *20<sup>th</sup> century*

A small quantity of 20<sup>th</sup> century pottery and window glass was recovered from layer (401) and (603) respectively. A corroded copper alloy pub token from (402) is thought to be 20<sup>th</sup> century in date, though a 19<sup>th</sup> century date cannot be ruled out. The part-legible text reads: [---]RPIN .LD .OUSE ..AVERN [---] ST WEST.

context	material class	material subtype	object specific type	count	weight(g)	start date	end date	tpq date range
401	ceramic		pot	1	22	1810	1880	1900 - 2000
	ceramic		pot	1	20	1900	2000	
	ceramic		brick	1	1458	1830	1936	
	ceramic		brick	1	332	1700	1900	
402	ceramic		brick	1	488	1800	1900	1887 - 2000
	ceramic		pot	4	22	1800	1900	
	ceramic		clay pipe	1	2	1860	1885	
	ceramic		pot	1	4	1800	2000	
	ceramic		pot	1	14	1800	1950	
	ceramic		pot	1	4	1887	1897	
	slag		clinker	1	24	1650	1900	
	metal	copper alloy	token	1	6	1700	1950	
	ceramic		pot	1	22	1750	1900	
	ceramic		pot	1	8	1800	1900	
404	stone		slate	1	26			1800 - 1900
	ceramic		brick	2	130	1800	1900	
602	ceramic		brick	3	144	1650	1900	1950 - 2000
603	glass		window	2	58	1950	2000	
	ceramic		pot	1	4	1800	1900	
604	ceramic		roof tile	1	186	1700	2000	1800 - 1900
	ceramic		brick	1	2052	1800	1900	

Table 3: Summary of context dating based on artefacts

## 6 Synthesis

No significant archaeological deposits or structures were revealed. The archaeological investigations did not reveal any in situ structural remains relating to the late 18<sup>th</sup>/early 19<sup>th</sup> century canal, the wharves, the lime kilns or other associated contemporary activity. A number of brick structures were identified which appear to relate to the later 19<sup>th</sup> century metal factory and later Battery Works, which occupied the southern portion of the site until the late 20<sup>th</sup> century. Extensive industrial deposits, over 2m deep, appear to relate to dumping associated with these works and their subsequent demolition.

The location of the trenches was constrained by the presence of a high voltage electric cable, which lay along the approximate route of the canal. It was therefore not possible to investigate the canal directly, and consequently, no comment can be made about the state of preservation of the canal prior to the present development.

The finds from this site are consistent with industrial and domestic activity subsequent to the construction of the canal. The presence of several inexpertly decorated sherds of porcelain and stone china suggests that the sourcing and decoration of plain wares and/or 'seconds' may have occurred in the local area. Quantities of pottery waste are understood to have been recovered from other archaeological investigations nearby (Laura Griffin, pers. comm.), which may support this hypothesis. A vitrified fire brick, of a type used in kilns and furnaces, whilst residual within a later dump deposit, was the only physical evidence of the presence of lime kilns on the site.

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## 7 Publication summary

Worcestershire Archaeology has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, Worcestershire Archaeology intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

*An archaeological evaluation was undertaken on behalf of PJ Carey (Contractors) Ltd, at the Sainsbury's and Life Sciences Park, Bristol Road, Selly Oak, Birmingham (centred on National grid reference SP 0420 8300).*

*Six trenches were excavated. The investigations were intended to determine the state of preservation, phasing and use of the canal, the wharf side activity, and a group of lime kilns adjacent. The site was cleared and levelled by the client in advance of the evaluation, which was undertaken in two stages.*

*The presence of a live high voltage electric cable along the route of the former canal limited the area which could be investigated safely. Due to this, to truncation associated with the previous industrial works on the site and the present groundworks, along with the great depth of modern overburden, no in situ structural remains of the canal, the lime kilns or other wharf side activity were revealed. The lime kilns appear to have been largely removed during either the construction or demolition of the last factory complex that occupied this part of the site. Sections of brick walls were recorded which may relate to these later works, and a former east to west aligned boundary wall. The state of preservation of the canal and associated structures prior to the present works cannot be commented upon.*

*Over two metres of overburden was recorded within all trenches, of 19<sup>th</sup> and 20<sup>th</sup> century date, with industrial waste, plastics, metal, glass and building rubble. Artefactual material was of late 18<sup>th</sup> to 20<sup>th</sup> century date, including transfer-printed china, some which appears to have been 'seconds', clay tobacco pipe of local manufacture, modern pottery and other domestic debris. A vitrified fire brick, of a type used in kilns and furnaces, whilst residual within a later dump deposit, was the only physical evidence of the presence of lime kilns on the site.*

## 8 Acknowledgements

Worcestershire Archaeology would like to thank the following for their kind assistance in the successful conclusion of this project, Françoise Brimelow (Turner & Townsend Plc), Tim Hull (BWB Consulting Ltd), Chris Donachie (Riley Consulting), Clive Meddon (P J Carey (Contractors) Ltd), and Mike Hodder (former Planning Archaeologist, Birmingham City Council).

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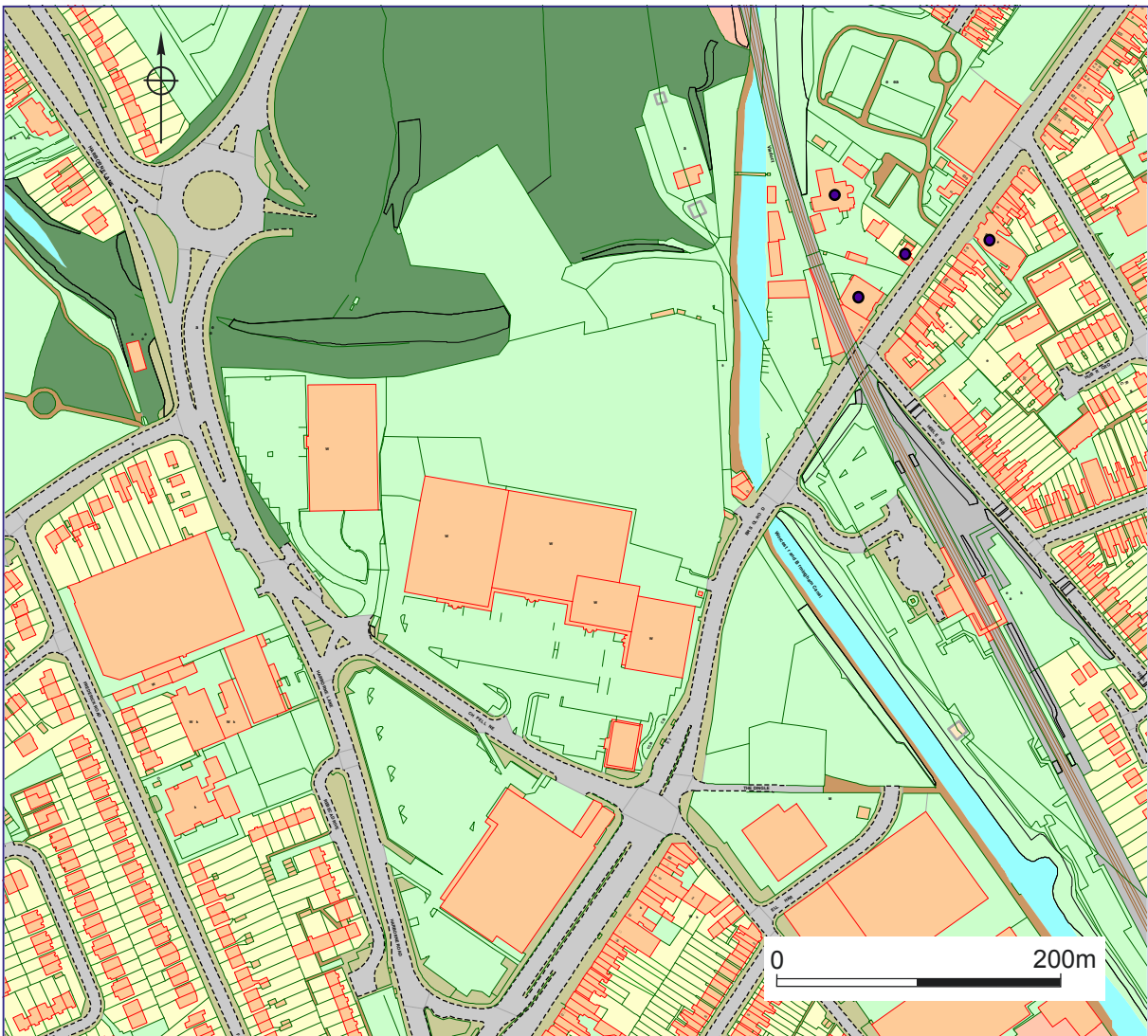
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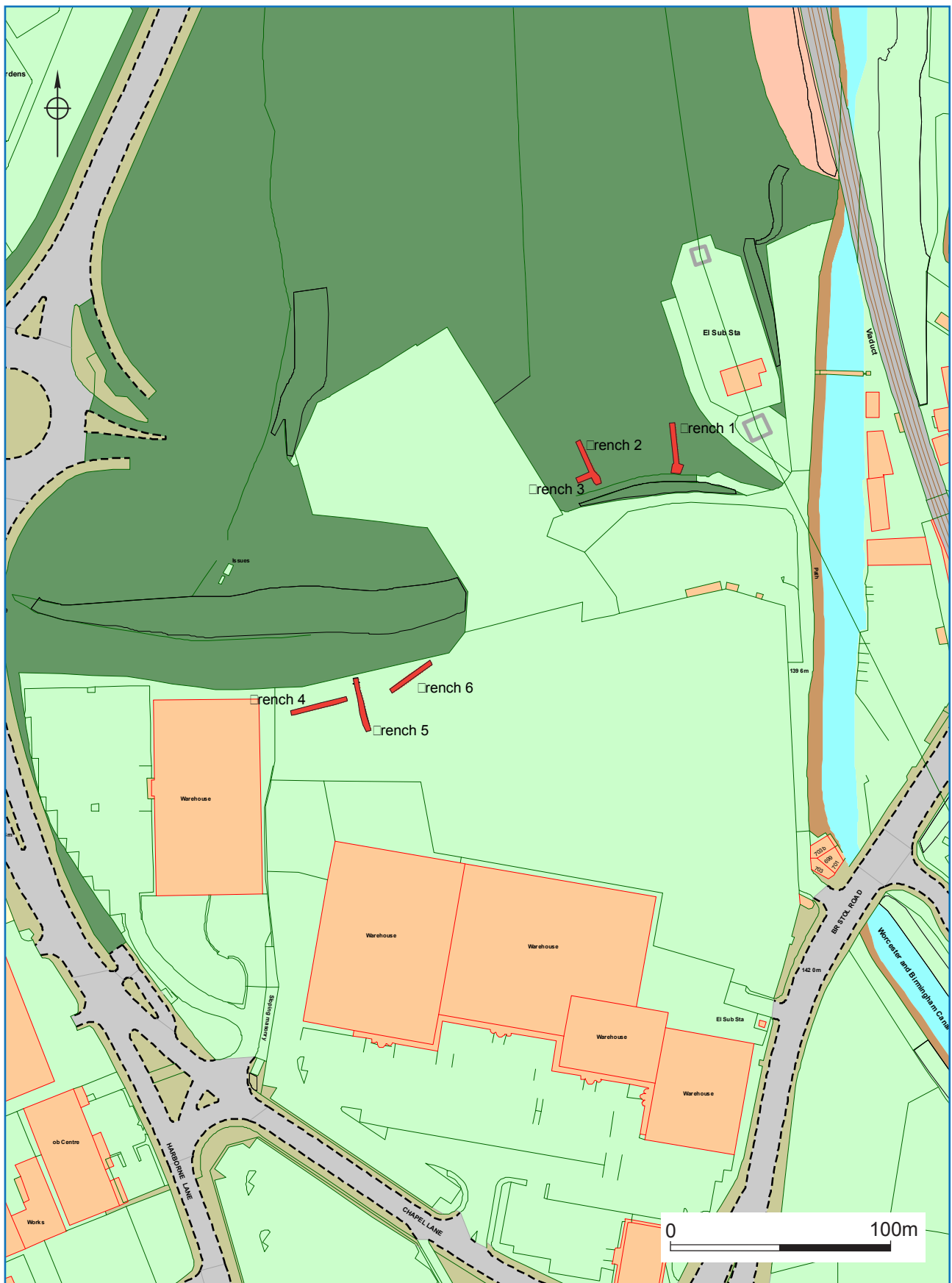
**Figures**



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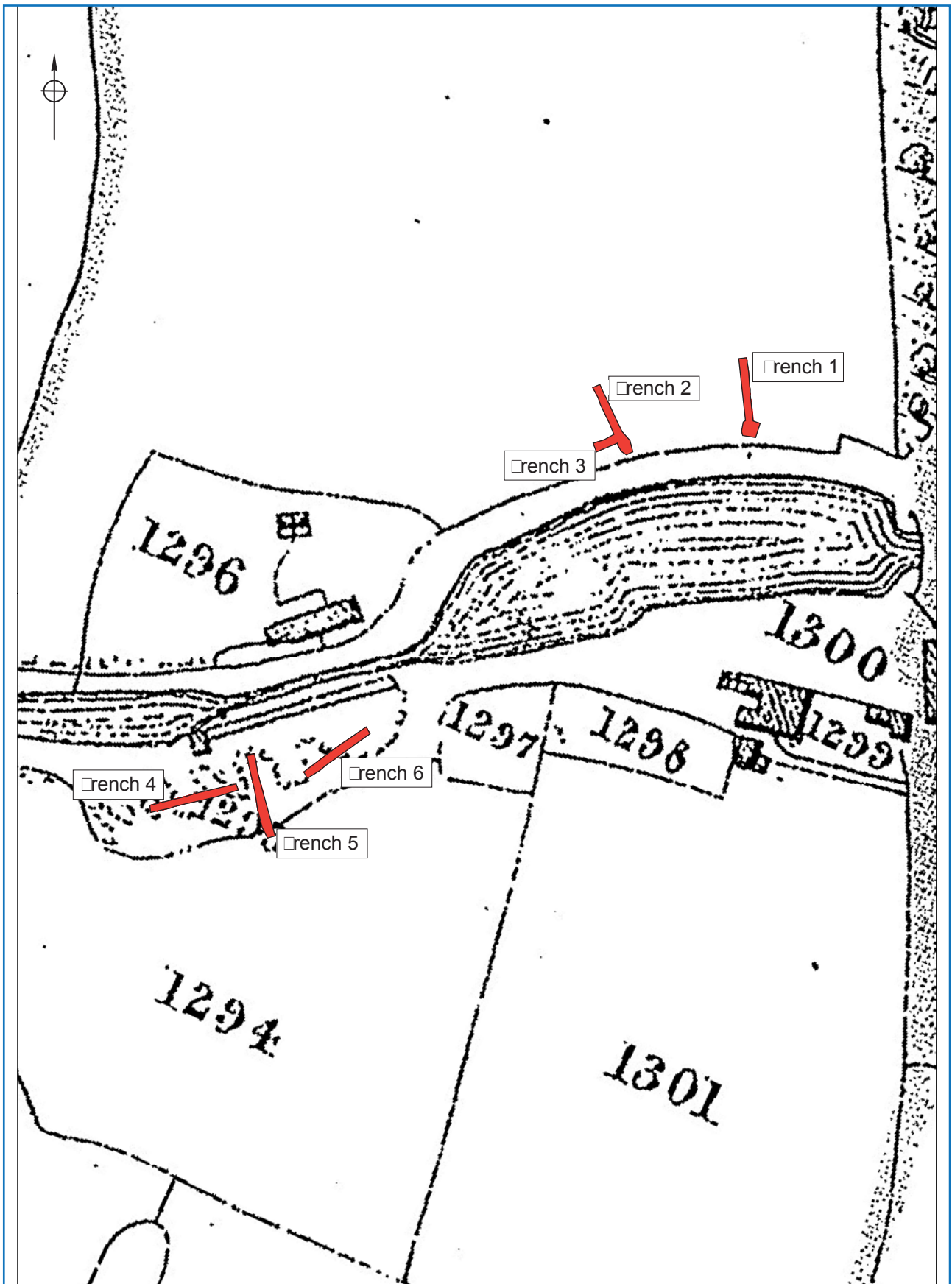
Location of the site

Figure 1



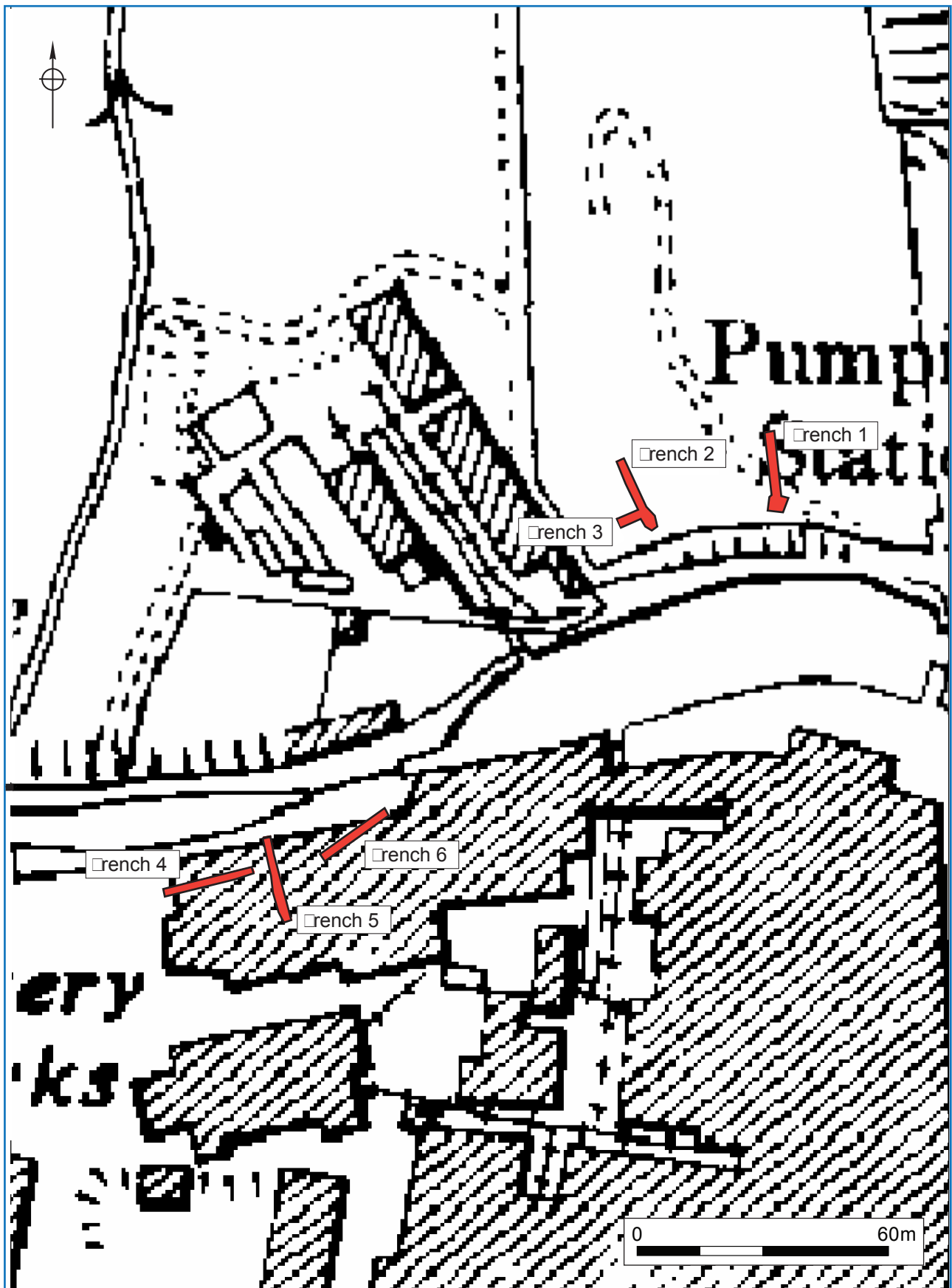
Location of trenches

Figure □



Aerial photograph of trench locations overlain on 1861 tithe map

Figure 1



Trench locations overlain on 1999 edition Ordnance Survey map

Figure 1

**Plates**

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*Plate 1: General view of Trench 1 looking south*



*Plate 2: General view Trench 2 looking south-east*

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*Plate 3: General view of Trench 3 looking south-west*



*Plate 4: General view of Trench 4 looking west*

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*Plate 5: General view of Trench 5 looking north*



*Plate 6: General view of Trench 6 looking north-east*

## Appendix 1 Trench descriptions

### Main deposit descriptions

Context	Feature/Context type	Description	Height /depth	Interpretation
TRENCH 1				
101	Modern Layer	Friable dark greenish brown sandy loam	0.36m	Mixed modern topsoil that has been disturbed in recent history with frequent plastics and CBM throughout. Mixed clay which is the result of a deliberate redeposition and containing frequent CBM, concrete fragments, metal and plastics throughout Mixed band with high concentrations of modern demolition and refuse materials with CBM, concrete, metal and plastics throughout Modern mixed deposit with large quantities of concrete, CBM, and plastics throughout.
102	Layer	Firm mid orangey red	0.42m	
103	Layer	Loose mid yellowish grey rubble	0.32m	
104	Layer	Friable mid bluish brown rubble	1.33m +	
TRENCH 2				
201	Modern Layer	Friable dark greenish brown sandy loam	0.26m	Mixed redeposited topsoil with frequent modern waste material, plastics, etc., throughout Loosely compacted deposit with very high frequency of glass, plastics and CBM along with general domestic waste throughout
202	Layer		0.1m	
TRENCH 3				
Same deposits as in Trenches 1 and 2 above.				
TRENCH 4				
401	Modern Layer	Loose dark brownish grey silt loam	0.20m	Large quantities of CBM/concrete Contained moderate CBM, concrete metal and occasional plastic fragments throughout Thought to be the result of demolition of former building structure. Vertical sides that drop beyond the limit of excavation and appears to be roughly north-west to south-east orientation Occasional flecks and band of charcoal and mortar on occasion. Laminations average 0.01m in thickness; 19 <sup>th</sup> century CBM
402	Modern Fill	Firm dark brownish black sandy silt	1.67m	
403	Ditch Cut		1.67m	
404	Layer	Moderately compact mid reddish orange sandy clay	1.78m+	

**TRENCH 5**

501	Modern Layer	Loose dark brownish grey silt loam	0.25m	Same as 401. Large quantities of CBM, concrete and metal fragments throughout
502	Ditch Cut		1.70m	Thought to be the result of demolition of the former building. Edges of feature almost vertical and extend beyond the limit of excavation
503	Modern Fill	Firm dark brownish black sandy silt	1.70m	Same as 402, contains moderate CBM, concrete and metal fragments along with occasional plastics
504	Layer	Moderately compact mid reddish orange sandy clay	0.75m	Occasional flecks of charcoal and lime throughout but otherwise sterile in nature. Thought to be the same as 505 but due to truncation by 502 it was impossible to determine the exact relationship
505	Layer	Moderately compact mid reddish orange sandy clay	1.70m	Occasional flecks of charcoal and lime throughout but otherwise sterile in nature. Thought to be the same as 504 but due to truncation by 502 it was impossible to determine the exact relationship
506	Wall Structure		0.27m	Well fired machine made unfrogged brick wall that was L shaped in fashion and appeared to represent a former structure within the recent factory
507	Wall Structure		0.90m	Well fired machine made unfrogged brick wall, two courses thick and at least 2m in length extending beyond the limit of the excavation in an east to west direction.
508	Layer	Moderately compact dark brownish blue sandy loam	0.90m	Humic 'dark earth' type deposit with large percentages of industrial waste such as ash and clinker throughout.
509	Wall Structure		0.87m	North-east to south-west aligned retaining wall that stretched across much of the development area. Constructed from unfrogged well fired machine made red brick.

**TRENCH 6**

601	Modern Layer	Loose dark brownish grey silt loam	0.15m	Large quantities of CBM, concrete and metal fragments throughout along with occasional fragments of plastic
602	Layer	Firm mid yellowish brown loamy sand	0.75m	Deposit which is dipped to the southeast with moderate fragmented CBM throughout. Appears to be a deliberately deposited band of material that drops below the limit of
603	Layer	Firm dark greyish brown sandy silt	0.89m	As with 602, this deposit dips to the southeast and appears to be the mixed deposit of a deliberate deposition
604	Wall Structure		0.18m	Machine made unfrogged well fired red brick wall, two courses thick that appears to be a former structure associated with the former factory building that was demolished in the 20th century.

## **Appendix 2 Technical information**

### **The archive**

The archive consists of:

- 2 Field progress reports AS2
- 2 Photographic records AS3
- 146 Digital photographs
- 6 Scale drawings
- 6 Trench record sheets AS41
- 1 Box of finds
- 1 CD-Rom/DVDs
- 1 Copy of this report (bound hard copy)

The project archive is intended to be placed at:

Birmingham Museum and Art Gallery  
Chamberlain Square  
Birmingham, B3 3DH  
Tel: 0121 3032834