LONGBRIDGE BEFORE AUSTIN. ARCHAEOLOGICAL INVESTIGATIONS AT LONGBRIDGE, KING'S NORTON, BIRMINGHAM

Publication text

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Longbridge before Austin: archaeological investigations at Longbridge, Birmingham

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Summary

Over the past 100 years the products of the Longbridge motor works have become known around the world, but the site of their manufacture has a longer history. Archaeological evaluation trenches and mitigation fieldwork at the MG Rover car factory at Longbridge in 2003-6 located a range of information relating to past landscape and occupation. There was a range of evidence for early to late medieval land use of the floodplain of the River Rea, indicating a change during the medieval period from a partly wooded environment with alder and hazel to a cleared floodplain utilised as wet meadowland. Through the medieval period there was a build up of overbank alluvium, attributed to an increase in arable cultivation in the catchment. The evidence for the medieval landscape has been related to a recent research into the landscape history of King's Norton, and broadened current knowledge. The sequence ended in the mid-16th century. During the 18th century settlement and landscape changed as new farmsteads were established in the Longbridge area, and parts of two such sites were investigated.

The archaeological project was undertaken in difficult circumstances at an industrial site, and there were considerable problems due to disturbance and contamination. However it was possible to recover archaeological and geoarchaeological evidence that have aided in understanding change in the local environment from the early medieval period onwards.

Introduction

Over the past 100 years the products of the Longbridge motor works have become known around the world, but the site of their manufacture has a longer history. Archaeological investigations were undertaken by Worcestershire Historic Environment and Archaeology Service in advance of redevelopment at the MG Rover works at Longbridge, between 2003 and 2006. A number of separate field projects were commissioned by Halcrow Group Ltd on behalf of their client St Modwen Developments Ltd, and were carried out in line with briefs prepared by Birmingham City Council.

An Environmental Impact Assessment of the development site was produced by Halcrow Group Ltd, which included an assessment of archaeological sites and historic buildings (Halcrow 2003). Archaeological evaluations of a number of areas were subsequently undertaken, comprising investigation of the former MG Rover West carparks adjacent to Bristol Road South, and of the North Works and the North Works carpark on either side of Longbridge Lane at the junction with the A38 Bristol Road (Fig 1). The fieldwork projects were carried out in step with the redevelopment of the site, and individual reports were produced for the client. Subsequently Halcrow Group Ltd produced a specification for formal publication of the archaeological results, which resulted in the present report.

This report comprises information that was presented in the client reports and summarises the more significant archaeological information. This paper also draws on other research, unavailable or not strictly relevant to the earlier reports, in order to present a synopsis of the development of the landscape prior to the motor works. The reports contain further detail, and are deposited in Birmingham Sites and Monuments Record. Building recording of elements of the car factory buildings, which was also undertaken at this period, is not discussed here. The archaeological fieldwork programme, and the outcomes of the work, can be summarised as follows:

MG Rover West Carparks. Evaluation trenches in two carpark areas in 2003 revealed a sequence of alluvial deposition, which was undated, and no evidence of occupation predating the late 19th century

(BSMR 20712; Vaughan and Darch 2003). A buried turf line was recorded overlying the alluvium, which was cut by 19th century land drains. There were extensive modern dump deposits overlying the alluvium, containing industrial debris and building rubble, probably laid down to consolidate and raise the ground level.

MG Rover North Works. Two stages of evaluation trenching were undertaken at the North Works site in 2003 and 2004 (BSMR 20723; Patrick *et al* 2003; Griffin *et al* 2004). The evaluation trenches revealed extensive alluvium, which was sampled and a good pollen sequence was obtained. Unfortunately radiocarbon dating of the sequence was unreliable, due to contamination by hydrocarbons. Parts of a post-medieval farmstead (Longbridge Farm) were excavated.

MG Rover North Works Carpark. Three stages of evaluation trenching and archaeological mitigation were undertaken in the North Works carpark and on the site of a former video store and a bank, between 2003 and 2005 (BSMR 20722 and 20737; Patrick *et al* 2003; Mann *et al* 2006). This area, east of the A38 Bristol Road and north of Longbridge Lane, produced the most significant archaeological information, despite extensive areas of modern disturbance and thick dump deposits. A number of palaeochannels and extensive alluvium was recorded, from which a dated pollen spectrum was recovered, together with plant macrofossils. Parts of a post-medieval building (Longbridge House) were excavated. The archaeological evidence from this area forms the main focus of this report.

The aim of this report is to present the archaeological results of the fieldwork, and to relate the evidence to a wider historical and archaeological context. The most significant results comprise new evidence for the past land use and vegetational history of the floodplain of the River Rea in the medieval period. New farmsteads were built in the river valley in the 18th century, accompanied by more intensive agriculture. The whole area was transformed by industrial growth as Birmingham expanded in the later 19th century, and the site was chosen for the construction of the Austin car factory, which developed into the MG Rover factory.

The archaeological investigation of parts of the MG Rover site in 2003-6 encountered numerous obstacles, including existing concrete foundations, services, ground contamination and very high groundwater levels, and the feasibility of normal approaches to archaeological sample evaluation was reduced. This should be borne in mind when considering the results. The client reports fully detail the circumstances and methods of the various stages of fieldwork.

Prior to the fieldwork reported on here, the Birmingham Sites and Monuments Record did not register any archaeological sites within the development area. The desk-based assessment undertaken as part of the Environmental Impact Assessment identified the potential for a range of archaeological evidence within the development area (Halcrow 2003). Fieldwork was undertaken in order to address a number of research aims, which were refined as work progressed. The main aims of the archaeological fieldwork comprised:

- locating prehistoric sites, particularly burnt mounds, along the course of the River Rea;
- locating any Roman settlement focussed on the Roman road or the crossing point over the River Rea;
- dating the origins of a number of farmsteads (documented in the mid-19th century);
- investigating the former of the River Rea and any environmentally-significant deposits.

During the course of the fieldwork, it became apparent that significant archaeological evidence survived relating to the palaeoenvironment of the River Rea. Considerable effort was made to realise the potential of this evidence.

Acknowledgements and personnel

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The initial desk-based study for the Environmental Impact Assessment was undertaken by Simon Woodiwiss. The various fieldwork projects were led by Simon Griffin, Andrew Mann, Chris Patrick and Tom Vaughan, who were the principal authors of the grey literature reports. Fieldwork was undertaken by Alvaro Mora-Ottomano, Christine Elgy, Elizabeth Pearson, James Goad, Anna Deeks, Angus Crawford, Marc Steinmetzer and Andy Brown. The project managers responsible were Derek Hurst and Simon Woodiwiss. Specialist analyses were undertaken by Alan Jacobs, Derek Hurst and Erica Darch (finds), Katie Head (pollen and plant macrofossils). Illustration was undertaken by Carolyn Hunt and Laura Templeton. Keith Wilkinson (ARCA, University of Winchester) undertook geoarchaeological analysis. Emma Tetlow (University of Birmingham) helpfully discussed the results of recent archaeological work at Tamebridge Park in Birmingham.

Background

The geology of the Longbridge site is complex, and the published mapping indicates that the solid geology is Kidderminster Formation sandstone and Bromsgrove Sandstone, overlain by till (boulder clay), river terrace deposits, and a relatively narrow band of alluvium associated with the River Rea (British Geological Survey 1989). Geoarchaeological investigations indicated that the geology at the North Works carpark is Boulder Clay (Wilkinson 2006). South of Longbridge Lane at the North Works, the geology is fluvioglacial sands and gravel (Terra Nova 2004). The soils examined through geoarchaeological work were identified as resembling typical stagnogley soils of the Clifton association (Terra Nova 2004).

The River Rea is a relatively small watercourse at Longbridge, flowing from west to east across the Longbridge site, and then north-east through Northfield towards the historic core of Birmingham. Its historic course is depicted on the 1884 Ordnance Survey plan (Fig 4). The river is now in a concealed culvert on the North Works factory site to the south of Longbridge Lane. Archaeological fieldwork has shown that alluvium associated with the River Rea and representing parts of the historic floodplain, is more extensive than mapped by the British Geological Survey.

The development area lies on the south-western edge of the present administrative area covered by Birmingham City Council. The development area lies wholly within the historic parish of King's Norton. Most of this parish (including the Longbridge area) became part of the City of Birmingham in 1911 (Light 1913, 179). The Victoria County History of Worcestershire gives a historical account for the parish (Light 1913, 179-191), emphasising the documentary evidence for landholding. The main focus of historical research in the local area has been the large Austin car factory (Bardsley and Corke 2006; Collins and Stratton 1993, 180-192; Sherratt 2000; Wyatt 1981). However, recent research into the settlement history of King's Norton has put understanding of the local landscape on a firmer basis (Baker 2003).

The prehistoric landscape

It is now widely acknowledged that the Birmingham plateau and its surrounding area were settled and occupied in the prehistoric period, although the direct archaeological evidence for settlement is not as extensive as nearby regions (Baker 2003, 132; Hodder 2004, 21). The evidence for prehistoric activity in the local area has been compiled and mapped by Baker (2003, 133-4, fig 3). There is a scatter of prehistoric artefacts in the Longbridge area, including a flint flake to the north-east of the Austin Sports Club (BSMR 20128), an Early Neolithic to Bronze Age axe from Tessall Lane (BSMR 20150) at some distance to the north-west, and a Neolithic javelin point and a leaf-shaped arrowhead from Rednal, to the south of the development area (BSMR 2943 and 20154). These chance finds are mostly dateable to the Neolithic, and form part of a pattern of earlier prehistoric evidence from King's Norton and across Birmingham (Baker 2003, fig 3; Hodder 2004, 23-8). There are also undated enclosures in the vicinity of the development area (BSMR 20082 and 20077), though the Birmingham SMR notes that the former

is likely to have been destroyed and gives a very imprecise location for the latter. In the detailed description of a trapezoidal enclosure (BSMR 20082; Demidowicz 1983, 107), one or more boundaries were noted as being on the same line as former field boundaries. Comparison of the plots (Demidowicz 1983, fig 14) with the 1884 Ordnance Survey map seems to confirm that at least some of the marks may be post-medieval field boundaries and a track, rather than anything of greater antiquity.

Burnt mounds are the best-known type of prehistoric monument in the Birmingham area, where there are approximately 40 recorded sites dated to the period 2000-800 BC (Hodder 2004, 28). These sites are strongly associated with watercourses, and represent dumps of discarded burnt stone from the application of 'hot stone technology', which has been interpreted as being used to create steam in sweat lodges (Hodder 2004, 37-42). The evidence for burnt mounds from King's Norton and the vicinity have been tabulated and mapped by Baker (2003, fig 3). As many as seventeen burnt mound sites have been plotted, and show a strong association with watercourses, including the River Rea, Bourn Brook, and other minor watercourses, as well as the Chinn Brook and River Cole. One estimate for the number of burnt mounds in Birmingham gives a rate of five sites per mile of stream (Barfield and Hodder 1989, 8).

The Cob Lane Park burnt mound in Bournville, situated on Griffins Brook (a tributary of the River Rea), is the most completely excavated site to date, dated to *c* 1270 BC (Barfield and Hodder 1989; Hodder 2004, 33-36, figs 14-16). The mound of burnt stone and associated features was associated with very little artefactual material, and did not form part of a settlement site. The hypothesis that burnt mounds represent the remains of sweat lodges has been discussed and tested through reconstructions (Hodder 2004, 37-43). Environmental evidence indicated that the immediate local environment of the stream was wooded in the middle Bronze Age, including alder and hazel, and the evidence from an organic layer beneath the mound suggested that the woodland was not dense at this period, with some indications of grazing animals (Hodder 2004, 35-6). The organic layer was overlain by a layer of silty clay, interpreted as colluvium washed down from nearby slopes following clearance and ploughing (Hodder 2004, 36).

The section of the River Rea in Longbridge has not been surveyed. Observation of stream bank exposures is the most common method of locating burnt mounds, and at Longbridge the banks are either partially masked by revetments or the river has been culverted. Despite the promising location of the development sites alongside the River Rea, no burnt mounds was recorded during the fieldwork at Longbridge, and the absence of any heat-shattered stone indicated that there were no burnt mounds in the areas investigated. Furthermore no prehistoric artefacts were recovered to enhance current understanding of the prehistory of south Birmingham. Although important information was recovered for the alluviation of the River Rea valley in the medieval period, together with evidence for medieval woodland and land-use, no evidence was found for alluviation during the prehistoric period. It was noted that the dated part of the alluvial sequence developed directly over Boulder Clay from the early medieval period at the North Works Carpark site, and it can be inferred that soil horizons and any earlier alluvial sequences were scoured away by high-energy flood events prior to medieval alluviation. It is likely that late prehistoric alluvial sequences survive elsewhere in the River Rea valley.

Hodder has suggested that the large number of burnt mounds in the Birmingham area may represent a significant rise in population in the middle Bronze Age, and that a new pattern of land-use was reflected by significant clearance of woodland for cultivation (Hodder 2004, 43). However the prehistoric environmental evidence is at present neither extensive nor conclusive, and the archaeological understanding of the Birmingham area in the later prehistoric period is greatly in need of an expanded range of data for settlement and land-use. The model for the later prehistoric Birmingham area that has been developed most recently has argued that the area was settled and farmed from the middle Bronze Age onwards; archaeological evidence for settlement sites is beginning to fill out this picture for the later part of the period (Hodder 2004, 44-8).

The Romano-British landscape

The character of the local landscape in the Roman period is not very well understood at present, although settlement evidence has been compiled and mapped by Baker (2003, 134-6, fig 5). The Roman fort at Metchley in Edgbaston was established around AD 48 and occupied to around AD 200 (Jones 2001). The fort was established at the junction of major Roman roads, comprising a road which led to Droitwich and the south-west, a road to Alcester and the south, a road northwards to Wall, as well as

other routes (Hodder 2004, 59-63). The road to Alcester (Ryknild/Icknield Street) also runs through King's Norton, some distance to the east of the motor works. The alignment of the road from Droitwich to Metchley passes through the site, and is believed to be followed by the line of the A38 Bristol Road, and the B4120 Lickey Road to the south (Leather 1994, fig 2).

In King's Norton there is a scatter of Roman rural settlement sites, some of which are close to Ryknild/Icknield Street (Baker 2003, 134, fig 5). Three rural settlement sites in King's Norton have been excavated: the site at Longdales Road consisted of a rectilinear enclosure, scattered buildings, yard surfaces and associated fields. Evidence for the agricultural economy of this settlement was not extensive, but it is possible that livestock were more important than arable farming (Hodder 2004, 64-68). Two sites have been excavated at Parson's Hill, a yard surface, gullies and evidence for buildings were excavated in 1949 (Hodder 2004, 64) and in 2006 an adjacent area was excavated (Mike Hodder pers. comm.). No Roman occupation evidence has been recorded from the Longbridge area, and it may be that it was a somewhat marginal area (Baker 2003, 136).

The fieldwork at Longbridge did not record any evidence for Roman occupation, despite the proximity of the road. There was no archaeological evidence confirming the precise line of the Roman road, and it remains unproven whether the putative Roman road followed a straight alignment, followed by the post-medieval turnpike road and the modern A38, although that seems probable. Local land-use in the Roman period probably consisted of pasture and woodland. Some Romano-British settlements in the Birmingham area were abandoned before the end of the Roman period, and there is pollen evidence for the regeneration of woodland around the Metchley Roman fort in the later Roman period (Greig 2004).

The medieval landscape

General historical and archaeological framework

The question of whether the King's Norton area became an 'uninhabited wilderness' in the post-Roman period has been considered by Baker (2003, 136). Baker has argued that the survival of the alignment of Ryknild/Icknield Street Roman road through King's Norton indicates that it remained important for local communities to maintain the road in the post-Roman period (Baker 2003, 136). The argument that the survival of a Roman road implies a measure of continuity of settlement also applies to the survival of the alignment of the Droitwich to Metchley Roman road through Longbridge. Hodder has also argued that Roman road alignments and enclosures were respected by medieval boundaries, indicating continuity of farming and occupation of the landscape (Hodder 2004, 78). It is however clear from excavation that medieval settlement sites are not coincident with Roman settlement locations (Hodder 2004, 83).

The place-name evidence for King's Norton in the 8th and 9th centuries has been discussed and mapped in some detail by Baker, drawing on a range of previous research (Baker 2003, 136-140, figs 6 and 7). The evidence from Anglo-Saxon charters provides fairly clear indications that the landscape was characterised by extensive woods, together with areas of open heath, wood pasture, and some cultivated land, characteristic of a 'woodland' landscape. The settlements were certainly small and dispersed, and there are a number of *–leah* endings which were applied to settlements in a wooded environment.

At the time of the Domesday Survey in 1086, King's Norton and Bromsgrove formed the main part of the extensive royal estate of Bromsgrove, formerly held by Earl Edwin of Mercia (Williams and Martin 2002, 474-5). This large manor had 18 berewicks (outliers) documented in Domesday Book, and careful research by Baker located those in King's Norton (Baker 2003, fig 8). Two berewicks lay in the western portion of King's Norton: *Weredeshale,* which can be equated with Rednal, and *Thessale*, which can be equated with Tessall Farm. The focus of 'Rednal' was some distance south of Longbridge, whereas Tessall Farm lay close to the north on the Bristol Road, as shown on the 1822 Worcestershire map by the Greenwoods (Fig 2), although this farm does not necessarily indicate the exact location of an early medieval settlement site. It is possible that the River Rea formed the boundary between the berewicks. A large number of tenants in Bromsgrove were documented in Domesday Book although distributed over an extensive area; Baker has deduced that the average berewick had a population of 33, with four plough-teams and about a third of the land under arable cultivation (Baker 2003, 140). The woodland recorded in Domesday Book comprised about a fifth of the area of King's Norton and was scattered

across the landscape, including both coppice woods and wood pasture. Both of these types of managed woodland were economically important, as is underlined by the later documentary medieval evidence (Baker 2003, 140-2).

Baker's analysis of the data recorded in the Lay Subsidy of 1275 indicated that the population of King's Norton tripled between 1086 and 1275, implying expansion of settlement and cultivation (Baker 2003, 142-4). Nevertheless, in comparison with other areas, the woodland parish of King's Norton in the 13th century had 'a rather small population…distributed in hamlets and isolated farms scattered on the edge of extensive heaths and woods' (Dyer 2005, 59, fig 2.3). There were constant disputes between local communities in the 13th to 14th century, as attempts were made and resisted to take in land from areas of common pasture such as West Heath (Baker 2003, 144-5; Dyer 2005, 58-62).

The place-names in the western portion of King's Heath that are identified as having medieval origin are listed by Mawer and Stenton (1927, 350-9) and comprise five sites. Tessall Farm (*Thessale,* meaning unknown) and Rednal (*Wreodenhale*, 'nook of the thicket') were documented in 1086. Three other medieval settlement sites are probably of later origin: Hawkesley (*Haukeslowe*, 'hawk's hill' or 'hill of a man called Heafoc'), documented in 1275; Hollymoor Farm (*Hollemere*, 'hollow mere'), documented in 1371; and Colmer's Farm (*Colemore*, ?the marsh of the river Cole [the former name of the Rea]), documented in 1255. Two sites of these have been identified as moated sites: the excavated moated site at Hawkesley Farm (Oswald 1960; BSMR 2014) and the suspected moat at Colmer's Farm (BSMR 3009). The excavation at Hawkesley Farm moat revealed ditches dated to the 13th century, and a range of structures dated to the early 14th century including post-built buildings, timber buildings with beam slots, and a stone surface, all of which were probably service buildings and agricultural buildings ancillary to a substantial hall building (Hodder 2004, 104; Oswald 1960). The size of the moated area and the documentary evidence suggest that this was an important site in the local landscape in the 14th century. It lies 350m east of the development area. There is also some evidence for a medieval stone building at Colmer's Farm (Hodder 2004, 111); a family of the name 'de Colmer' are documented in *c* 1280 and the manor of *Colmers* is documented in the 16th century (Light 1913, 182). Moated sites in woodland areas have often been associated with the expansion of settlement in the 13th to early 14th century, and it has been argued that this was quite widespread in the south Birmingham area (Baker 2003, 145; Hodder 2004, 103).

The King's Norton Tithe Map (1840) provides a detailed survey of the local landscape in the late post-medieval period, but reveals some elements of the medieval landscape (Fig 3). The documented medieval rural settlements were interconnected by a network of minor lanes, which linked to the former Roman road. As Baker has emphasised, the post-medieval enclosed field pattern of King's Norton is broadly a survival of the medieval field pattern. King's Norton was a typical medieval 'woodland' landscape, with a field pattern largely composed of small irregular fields with curvilinear boundaries in the form of substantial hedges with large timber trees (Baker 2003, 146). This pattern of squarish fields can also be seen in the area around Longbridge. The character of medieval land use in 'woodland' landscapes was complex, and typically included small enclosed crofts, irregular open fields, woods, areas of common pasture, and wet meadow land, as Dyer has reconstructed in detail for Hanbury in Worcestershire (Dyer 1991, fig 12). Some of the field boundaries depicted on the King's Norton Tithe Map have a reversed-S shape. This has often been shown to be indicative of field boundaries that followed the sinuous curves of former ridge and furrow, planted during the enclosure of former open fields. Irregular open fields formed one element of 'woodland' landscapes (Dyer 1991, 43), and this is the context for evidence of ridge and furrow that has been recorded at a number of locations in south Birmingham (Hodder 2004, 125-6), as well as the evidence for enclosed open fields at Longbridge.

The Worcestershire rural landscape was severely affected by the Black Death of 1348-9, and estates suffered mortality rates of around 30 percent, which were raised by localised epidemics to perhaps 50 per cent by 1378 (Hargreaves 1999, 57). However it is probable that woodland landscapes were less severely affected than champion landscapes, and Baker found little evidence for shrinkage or abandonment in the north-east part of King's Heath in the 14th century (Baker 2003, 146).

The archaeological evidence: geoarchaeological and palaeoenvironmental data

The three areas archaeologically investigated at Longbridge were all located close to the original course of the River Rea, which ran through the site (Figs 1 and 4). The trenching located extensive deposits of

alluvium in these areas, and the archaeological potential of this alluvium for interpretation of the landscape history of the area was identified. At the MG Rover West carparks, alluvial clay was recorded up to 2m thick (Vaughan and Darch 2003). At the North Works site, organic alluvium over 2.5m thick was recorded immediately adjacent to the infilled channel (7.5m wide) of the River Rea (Fig 5; Patrick *et al* 2003). The alluvium and other deposits in this area were subsequently sampled by geotechnical borehole recording, and samples were taken from four cores for pollen analysis and dating. Pollen survival was excellent and provided clear indications of a typical open floodplain landscape with alder and hazel woodland, but radiocarbon dating of the cores produced extremely inconsistent dates, which was interpreted as due to organic pollutants such as diesel fuel giving very ancient dates (Griffin *et al* 2004).

Following a number of stages of fieldwork at the North Works carpark (Fig 6; Mann *et al* 2006), much more satisfactory dating evidence was obtained. Trenches in the carpark to the north of Longbridge Lane produced evidence of an extensive spread of organic alluvium, consisting of layers of organic silty clays, alluvium and small palaeochannels with organic fills. Geoarchaeological examination of monoliths established that the base of the stratigraphy was boulder clay, overlain by overbank alluvium deposited in the floodplain of the River Rea (Wilkinson 2006). Such floodplain deposits are generally held to result from human-induced soil erosion within river catchments, from the Bronze Age onwards (Robinson 1992). This sequence was dated, and it was established that the alluvium had been deposited in the medieval period (see below).

The alluvial deposits and organic clays were recorded in Trenches 1a, 1b, 2, 10, and 11-13 (Figs 7 and 8) and were approximately 0.45-0.50m deep. Within Trench 2 an extensive deposit of lighter greyish-brown sandy loam (context 2006) appeared to be slightly organic and may have formed in an area of marshy land (Fig 7). However the presence of large rounded pebbles scattered throughout much of this deposit and its sandy nature suggested some disturbance resulting from high-energy water flow (perhaps flooding). Broad expanses of organic deposits were also exposed in Trench 10 (Fig 8), and were visible as a dark grey to black humic silty clay (context 228). Similar deposits, which were mid- to dark greenish/grey organic silty clays, were also identified in Trenches 11, 12 (Fig 9: context 1204) and 13.

Several narrow palaeochannels were identified in Trenches 2, 10 and 12, either cutting through or sealed by the organic alluvial deposits. In Trench 2 (Fig 7) a narrow channel aligned east to west was filled with a dark greyish-brown silty loam (context 2011), cut into natural sandy deposits. A later channel (fill context 2012), again aligned east to west, flowed to the south of 2006.

Trenches 10 and 12 also contained narrow palaeochannels. Context 236 in Trench 10 (Fig 8; Plate 1) and context 1207 in Trench 12 (Fig 9; Plate 2) cut into the natural sandy clays (Boulder Clay). Palaeochannel 236 was aligned north-west to south-east and channel 1207 was aligned north-east to south-west. The direction of these channels and their regular form indicates that they were artificial watercourses, interpreted as channels dug to drain a marshy area. Some layers of material recorded in Trench 10 (contexts 232 and 231) on the northern edge of the channel are interpreted as the up-cast from the creation of a channel. Both of the channels in Trenches 10 and 12 were followed by post-medieval land drains, the cuts of which were clearly visible within Trench 12. Presumably this was a later attempt to improve the drainage of the area.

Bulk samples were taken from palaeochannels and organic alluvial deposits for plant macrofossils. Pollen analysis was focused upon a monolith taken through the silty organic channel and broad organic deposits in Trench 12, from which nine sub-samples were taken. Details of sample procedures, processing methods, and the results of analyses undertaken are documented in Mann *et al* (2006): the most significant results are highlighted here.

Dating the alluvium

Radiocarbon dates were obtained from the fill of a palaeochannel and from organic alluvium in Trench 12 (Fig 9). The results showed that the sequence could be firmly dated to the medieval period (Table 1; University of Waikato 2006). *Rubus* seeds and charcoal fragments from context 1206, the fill of a palaeochannel, were dated to between 890 cal AD to 920 cal AD and 940 cal AD to 1040 cal AD (95.4% probability, 2σ), dating this deposit to the early medieval period. Charcoal fragments and one charred cereal grain from context 1204 were dated to between 1460 cal AD to 1650 cal AD (95.4%

probability, 2σ). The mean age of the upper part of the sequence, overlying the palaeochannel, is therefore 1555 cal AD, dating to the late medieval/early post-medieval period.

Sample	Material	Laboratory code	$\delta^{13}C$ ‰	Radiocarbon age BP	Calibrated age (2σ)	Mean calibrated age
Context 1204, sample 4	Charcoal fragments and cereal indet. grain	Wk19031	-25.6 ±0.2	322± 39 ^{14}C BP	1460 cal AD to 1650 cal AD	1555 cal AD
Context 1206, sample 3	*Rubus* seeds and charcoal fragments	Wk19030	-26.3 ±0.2	1032± 31 ^{14}C BP	890 cal AD to 920 cal AD and 940 cal AD to 1040 cal AD	948 cal AD

Table 1 Radiocarbon dating of samples from North Works Carpark

Pollen analysis

A pollen percentage diagram was constructed and divided into three pollen assemblage zones, which are described below (Fig 10).

LBN 1: 77cm–62cm. At the base of the deposits within palaeochannel fill 1206, the pollen sequence was equally dominated by herbs, primarily Poaceae undiff. (grasses), trees and shrubs. These arboreal values comprised mainly *Alnus* (alder) and *Corylus* (hazel), both taxa rising steadily through this first pollen zone (LBN 1). Other trees and shrubs were at much lower values and included *Betula* (birch), *Quercus* (oak), and *Salix* (willow). Although grasses dominated the herb pollen suite, other taxa included low numbers of *Ranunculus acris*-type (meadow buttercup), Rosaceae such as *Filipendula* (meadowsweet) and *Potentilla*-type (cinquefoil/tormentil), *Plantago lanceolata* (ribwort plantain), (Lact.) *Cichorium*-type (e.g. *Taraxacum officinale* (dandelion)), and *Bidens*-type (bur-marigold). There were also a few rare types including the wetland herb *Callitriche* (common water-starwort), and Dipsacaceae most probably *Scabiosa* (scabious) found on banks and drier pastures. *Calluna vulgaris* (heather) was present but in low values, as were spores, dominated by *Polypodium* (polypody fern).

LBN 2: 62cm–37cm. Throughout the upper half of palaeochannel fill 1206, and throughout the lower half of deposit 1204 Poaceae undiff. (grasses) began to rise, mirrored by a steady but gradual fall in *Alnus* (alder) and *Corylus* (hazel). *Betula* (birch), *Quercus* (oak), and *Salix* (willow) all rose slightly, while there were occasional grains of *Pinus* (pine), *Ulmus* (elm), *Tilia* (lime), *Hedera* (ivy), *Ilex* (holly), and *Viburnum opulus* (guelder rose). Heathland plants also rose slightly, represented by *Calluna vulgaris* (heather). Other herbaceous taxa were similar to the previous zone, although there was a notable rise in both *Filipendula* (meadowsweet) and *Potentilla*-type (cinquefoil/tormentil). This zone also saw the beginnings of a rise in *Plantago lanceolata* (ribwort plantain), continuing to increase up through the profile. There were also new additions to the herb community including occasional grains of *Cirsium*-type (thistle), *Centaurea nigra* (lesser knapweed), *C. scabiosa* (greater knapweed), Apiaceae, and *Sorbus*-type.

LBN 3: 37cm–3cm. Through the upper half of deposit 1204 up to the modern levelling layers for the car park (context 1202), the pollen sequence recorded a continuing increase in Poaceae undiff. (grasses), and a fall in *Alnus* (alder) and *Corylus* (hazel). The sequence was also characterised by an

increase in dandelion vegetation and *Plantago lanceolata* (ribwort plantain), mirrored by a fall in *Filipendula* (meadowsweet). Other herbs were similar to previous zones, although there was a slight increase in some of the rare types including *Cirsium*-type (thistle). A few new introductions, not seen in previous zones, included wet-loving herbs such as *Polygonum persicaria* (persicaria) and *Cicuta virosa* (cowbane), as well as meadowland and grassland colonisers *Centaurea cyanus* (cornflower), *Ononis*-type (restharrow), *Pastinaca sativa* (wild parsnip), and *Anthemis*-type (chamomile).

Discussion of the pollen evidence. The base of the sequence examined, deposit 1206 within palaeochannel 1207, was dated to the early medieval period. The rise in grasses from the top of zone LBN 1, some time between 948 and 1555 cal AD, begins a trend to a fully cleared landscape. There is no significant change in vegetation at the transition zone between the top of the palaeochannel (context 1206) and the start of the overlying alluvium (context 1204), indicating that this landscape change was underway while the channel was still active. There are a few indicators of a wetter environment such as common water-starwort, sedge, and persicaria, but these are only occasionally present and are probably localised to the river edge environment. The only other feature of this transition is the rise in dandelion, which may indicate a slight increase in wet meadowland beside the river. Alternatively, the increase in dandelion and grasses may highlight an increase in cultivation. By zone LBN 3, following the transition, it seems that a mosaic of grassland and woodland developed, with grassland and herb communities expanding as the landscape was farmed.

Alder and hazel continued to decline but it was probably these taxa, which colonised areas beside the river where it was wetter and left undisturbed by human agency. Although only occasionally present, lime may have colonised the surrounding area as pollen percentages provide misleading counts due to this taxon being insect-pollinated and therefore a low pollen producer. Lime would have grown within a mixed woodland of oak and some pine, while birch, an early coloniser, may have taken the opportunity to temporarily occupy more open areas as clearings appeared. As the grassland expanded and the landscape opened up, species diversity increased within the herbaceous community forming a mosaic of dry and wetland vegetation dominated by grasses. The presence of cornflower (*Centaurea cyanus*) pollen within zone LBN 3 is notable, as Greig (Colledge and Greig 1992) believes this to be characteristic of medieval but not Roman cornfield weed floras, which agrees with the radiocarbon dating.

It appears that vegetation development in the Longbridge area was complex, with a mosaic of wetland/meadowland herbs and a mixed alder/hazel woodland beside the river, sections of pasture nearby which gradually expanded, and arable land further removed from the site together with an open mixed woodland of oak and lime on drier slopes in the surrounding area.

Plant macrofossils

The organic content of the processed environmental samples from North Works carpark Trench 2 (contexts 2006 and 2011) was low, although the presence of fragmented charcoal and possibly coal contributing to the dark appearance of the deposits. Highly humified and unidentifiable woody material or bark was the only organic matter recovered. The poor results from these deposits were also mirrored within other deposits from Trenches 10 and 12, although more material was processed. Insect remains were also absent from these samples, although processed in the appropriate manner.

The small numbers of plant macrofossils from Trench 12 samples were dominated by blackberry (*Rubus fruticosus* agg) and raspberry (*Rubus idaeus*) seeds that are common in woods, hedgerows and marginal ground. These probably survived due to their robust nature. Occasional buttercup (*Ranunculus acris/repens/bulbosus*) seeds were also recovered, as well as bugle (*Ajuga* cf *retans*) seeds that are native to woods/shady places and damp grassland. The poor survival of plant macrofossils across the site limited the ability to recreate the environment throughout the sequence, although the remains do not contradict the results produced through the pollen analysis.

Comparative evidence from the North Works site

At the North Works site, to the south of Longbridge Lane, better developed alluvial deposits were located than at the North Works carpark. The deposits were relatively more organic (and more clayey) than those in the North Works carpark, as well as thicker. Here, well-preserved remains of beetles and

possibly mites survived, and in the lowermost layer of Trench 4 (context 4013) seeds of rush (*Juncus* spp) and small wood fragments were moderately abundant. However, as discussed above, attempts to date these deposits were largely defeated, although one deposit was successfully dated suggesting that these deposits were also of medieval date (1210-1310 cal AD; Griffin *et al* 2004).

Other comparative evidence

Very few comparable pollen sequences or even palaeoenvironmental evidence are available from the general area. Archaeological assessment of silts in the moat at the medieval moated site at Hawkesley Farm did not produce palaeoenvironmental material (Lockett and Pearson 2001). At the comparable Bourn Brook site in nearby Selly Oak deposits were dated to the 15th and 16th centuries (Goad *et al* 2004). At this site the pollen in particular, and also the plant macrofossil evidence, reflected a typical historic floodplain landscape. This was characterised by wetland or meadowland type herbs such as dandelion, suggestive of an open damp grassland environment. The river edge itself was colonised by alder (*Alnus)*, or a mixture of alder and hazel (*Corylus*), although values were not as high as at North Works Carpark. At both sites numbers of other arboreal species were comparable suggesting that mixed woodland distant from the site was also present, most probably colonising the drier landscape away from the immediate floodplain.

More widely, the quantity of detailed palaeoenvironmental evidence from the west midlands for past land use and vegetational history was limited until recent years. New results have largely come from rural areas, particularly associated with gravel quarrying, and much of the evidence has related to the prehistoric period. Recent fieldwork at Tamebridge Park, Perry Barr, in north Birmingham produced pollen and insects remains from a palaeochannel in the floodplain of the River Tame which were dated rather later, to between the early 3rd millennium BC and the 3rd century AD. The Tamebridge Park site showed evidence of a change from a dense wooded environment to open grassland (Emma Tetlow pers comm; BSMR 20774).

General discussion of medieval landscape evidence.

When first examined, the pollen suite from the North Works carpark suggested that the sequence dated to the late Bronze Age/early Iron Age due to the dominance of trees and shrubs. However following the radiocarbon results it was clear that the pollen sequence spanned the medieval period, beginning in the early medieval and finishing during the late medieval period. The dominance of trees and shrubs in the early medieval period is distinctive, and appears to characterise this part of the valley of the River Rea. Alder and hazel would have thrived in the damp conditions and it appears that the valley bottom was not intensively used at this period. However the earliest channels from which the pollen was obtained appear to be artificial in nature, and can best be interpreted as drainage ditches.

The riverside environment in the 10th to 11th century was hazel and alder woodland, growing in a wet environment, alongside which was some cleared wet meadowland which appears to have been managed with drainage ditches. The evidence demonstrates that there was extensive woodland in the floodplain in the early medieval period (10th to 11th century). Although the pollen evidence reflects the documentary evidence for extensive woodland at this period, it is the case that land that was suitable for use as wet meadow was highly valued in the early medieval period and was cleared of woodland. This evidence for rather low-intensity land use can be placed within the context of the general historical model discussed above, which indicates that the early medieval population of this area (historically part of the large estate of Bromsgrove) was relatively low, at least up to the mid-11th century.

The riverside environment changed during the medieval period, with a rise in evidence for grassland and a decline in the hazel and alder woodland. The occurred while the channels were still open, and can be interpreted as medieval woodland clearance. The valley floor was more intensively used as wet meadow, and managed for the production of hay and for grazing, the normal pattern of medieval land-use of floodplains. The pollen evidence also shows that clearance opened up more land as dry pasture, with some evidence for arable cultivation. The deposits of overbank alluvium can be interpreted as resulting from an increase in arable cultivation within the catchment of the River Rea. There is widespread evidence for medieval alluviation from lowland river valleys in Britain, which has been directly linked to a rise in population in the early 14th century and an associated increase in land under arable cultivation leading to soil erosion (Brown 1997, 226-7). The evidence for more intensive use of

the valley bottom as meadowland, at the same time as an increase in the extent of arable cultivation, is in accord with the general historical model that has been outlined for the area. There was a rise in population in the local area by the early 14th century, reflected by the establishment of new rural settlements, notably moated sites. It is tempting to suggest that most of the landscape change indicated at Longbridge occurred in the early 14th century, rather than earlier, although the imprecision of the radiocarbon dating means that interpretation should be somewhat cautious.

The upper part of the alluvium was dated to the late medieval period or early post-medieval period. The pollen evidence indicated that there was no substantial change in the late medieval landscape, and the continued deposition of alluvium also points in this direction. However the upper part of the alluvial sequence was truncated or disturbed by modern levelling, and no information was available for subsequent change in the landscape.

The geoarchaeological and palaeoenvironmental evidence recovered from the fieldwork at Longbridge can be interpreted within the framework of archaeological and historical evidence for this part of King's Norton in the medieval period. The medieval 'woodland' landscape was not static, but rather changed during the period, although the contrast with champion landscapes would have remained obvious. In contrast to the broad-brush model outlined above, the evidence from Longbridge has provided a much more precise and nuanced picture of very localised environments and medieval land use. Such evidence allows a deeper understanding of the ways in which medieval communities actively managed their local environments. It is through such detailed evidence, in combination with landscape history such as Baker's study of medieval King's Norton (2003), that research into the medieval landscapes of the west midlands can be carried forward (Hooke 2002).

Post-medieval to early 20th century landscape and settlement

General historical and archaeological framework

The essentially rural character of the medieval landscape continued into the 16th to early 19th centuries. There is some evidence in the form of field boundaries that some medieval irregular open fields were enclosed in the local area, which would have taken place in the 16th or 17th century. However it is clear that in general the medieval 'woodland' landscape, with its dispersed settlement pattern, survived up to the mid-19th century, as was the case for the wider landscape of King's Norton (Baker 2003, 146). The site of Rednal Mill has been located on the River Rea at Longbridge (Fig 1; Demidowicz 1982). It is likely that this mill was early post-medieval in origin, but it been demolished before the mid-19th century.

The area is mapped in detail on the King's Norton tithe map of 1840 (Fig 3) and detail of landuse can be gained from the tithe apportionment (transcribed by Budd 1983). The map depicts the later post-medieval landscape, which includes many elements of the medieval landscape (as discussed above). The tithe map shows the present Bristol Road South and Lickey Road as turnpikes with a tollgate. Longbridge Lane is shown on its present alignment.

The tithe map shows a regular group of buildings south of Longbridge Lane; this was later known as 'Longbridge Farm', but is labelled 'Longbridge House' on the map (and 'Longbridge House Farm' on the 1838 tithe apportionments). The map shows a second farm (described as house, farm buildings, yard and garden) north of Longbridge Lane; this was recorded as Longbridge House on later maps. These two farm buildings were partly excavated during fieldwork at Longbridge (see below).

Interestingly, the 'Longbridge' place-name was not mentioned by Mawer and Stenton (1927), presumably because it was not considered to be historically significant. The Greenwoods' Worcestershire map of 1822 (Harley 1962) is possibly the earliest known documented use of the place-name, which Mills (1991, 214) explains as self-explanatory and of recent origin. The Greenwoods' map (Fig 2) shows 'Bongbridge' for Longbridge, due to an engravers' error (Harley 1962, 38).

The later 19th century saw further change to this landscape, as is shown on the 1884 Ordnance Survey plan (Fig 4). The Halesowen Railway was constructed *c* 1881 and is shown, mostly as a single track, within a cutting from its junction (Halesowen Junction) with the Birmingham and Gloucester Railway.

The construction of the railway occasioned some straightening of the River Rea in the vicinity of the site of Rednal Mill. A farm called Beaumoors and two semi-detached houses were built at this period on the west side of Bristol Road.

The beginnings of substantial change to the local landscape occurred at the end of the 19th century and are depicted on later Ordnance Survey plans, which initiated the process that led to a completely industrialised and landscape. The factory that was to become the Longbridge Works was constructed in 1892 (Wyatt 1981). It was built for White and Pike Ltd for the production and printing of tin boxes. The works consisted of a main building, with other buildings to the south, a tall chimney, and what appear to have been two semi-detached houses on the road frontage. The Longbridge Pumping Station was also built. During this period the Halesowen Railway was reduced to a single track between the junction and the present Bristol Road.

The first Longbridge Motor Works began production in 1906, using the derelict works formerly occupied by White and Pike Ltd. The works grew rapidly into what has been described as a seemingly disorganised jumble of forge, machine shops and assembly shops (Sherratt 2000, 11). However the development of the car factory are outside the scope of this report

The archaeological evidence: post-medieval farmsteads

In two of the areas investigated at Longbridge, structural remains were located that were identified as documented post-medieval farm buildings. Archaeological evaluation followed by limited excavation at North Works revealed structural remains of Longbridge Farm (Patrick *et al* 2003; Griffin *et al* 2004). North of Longbridge Lane at the North Works carpark, another area was excavated and part of Longbridge House was revealed (Mann *et al* 2006).

North Works: Longbridge Farm

Archaeological investigation at MG Rover North Works revealed structural remains of Longbridge Farm depicted on the tithe map of 1840 (Figs 3 and 12; Plate 3). The earliest phase was a metalled surface (context 814). Brick walls 802, 803, 804, 805 and 806 represented a single phase of building, built within clearly-defined construction cuts with sandstone foundations at the base. The excavated building appears to represent a long rectangular farm outbuilding, and a smaller building with a brick floor adjoining to the southwest, opening onto a cobbled yard (context 814) (Plate 4).

Artefacts from Longbridge Farm, by Derek Hurst

The artefactual assemblage was quite limited in quantity and range and the stratified material comprised only ceramic building material. This was all bricks, which were a handmade type with a general thickness of about 60mm (2.5 inches), and which could be dated broadly to the 18th century, possibly pre-1784 when the brick tax was imposed and encouraged thicker bricks to be made (Smith 1985). Bricks with these proportions were found in walls 802, 803, 804, 805, and 806. There were also some narrower bricks (2.25 inches from 803, 804, and 805) which were probably earlier in date (later 17th century), but they were all found in association with the thicker type and so are most likely to indicate the re-use of building materials rather being direct evidence for the presence of an earlier phase of buildings on the site. The unstratified material comprised a small amount of pottery (eight sherds), all post-medieval redwares of the 18th century.

Discussion of the Longbridge Farm evidence

The excavated area in conjunction with map analysis confirms that the structural remains are related to buildings associated with Longbridge Farm. The Tithe Map of 1840 and First Edition OS mapping of 1884 (Figs 3 and 4) clearly show Longbridge Farm as a series of building ranges surrounding a central yard area with a trackway leading southwards over a small bridge crossing the River Rea. The buildings show no fundamental alteration on later Ordnance Survey mapping, though additional detailing shows evidence of a ground-floor gateway, off-centre (northwards) in the north range. It is likely that the excavated building remains are of this northern range, and that the gateway was positioned at the south end of the recorded brick buildings (Figs 11 and 12). The cobbled surface is most likely part of the central farmyard area entered from the main road to the west through the gateway. The bricks clearly

indicate that these farmstead buildings were in the mid- to late 18th century. There was no evidence of any earlier phases or structures within the excavated area. It is likely that the considerable truncation of the site by the subsequent factory development had removed all traces of the other buildings associated with Longbridge Farm, with remains only surviving in the raised area adjacent to the Bristol Road. Certainly further eastwards a marked drop in the modern ground level indicated the likely total truncation of any further remains relating to Longbridge Farm in this direction.

North Works Carpark: Longbridge House

Structural remains were recorded in Trench 9 in North Works carpark (Fig 13) consisting of brick walls and one sandstone wall, and an area of cobbled surface (Plate 5). These were identified as the remains of Longbridge House, as shown on the tithe map of 1840.

The earliest deposit was a layer of dark brown silty clay that probably represents a buried topsoil. This layer was cut by the construction trenches of four walls (103, 105, 140 and 141). The earliest of these was a sandstone wall (105), aligned east to west (Plate 6). This wall was constructed of large sandstone blocks that had been worked to create a visible edge on the northern side and was cut by the three other walls that were aligned north to south. Walls 140 and 141 extended southwards and were visible within the southern baulk of the trench, although these sections had been removed in the modern period.

To the east of the walls was a cobbled yard (142) defined by the walls 141 and 145 (Plate 7). The cobbled yard surface lay directly upon clay. To the east of the yard surface numerous pits and postholes were recorded. Of particular interest was pit 129 that was square in plan and had at least nine stakes of various diameters around its edge, but its function was not established. A ditch (118) to the north-east of the excavated area presumably acted as a drainage or boundary ditch to the east of the building.

Artefacts from Longbridge House (Trench 9 and 10), by Alan Jacobs

A pottery assemblage was retrieved from Trenches 9 and 10 and consisted of 69 sherds weighing 1535g. In addition fragments of tile, brick, tobacco pipe, land drain, glass, bone and an iron nail were recovered (Jacobs 2006). The group came from 14 stratified contexts and could be dated from the post-medieval period onwards. Level of preservation was generally fair with the majority of sherds displaying only moderate levels of abrasion.

Post-medieval Red Sandy ware comprised the largest single element of the assemblage (28 sherds) and ranges in date from the 17th to the 18th century. Forms represented comprise pancheons and a small cup, the fabric with white laminated inclusions strongly indicating an 18th century date for these forms. A number of creamware forms (twelve sherds) and two sherds of a Nottingham Stoneware tankard were the only other post-medieval sherds recovered, which were all of 18th century date.

The 19th century pottery consisted of just three fabrics, and was dominated by modern stone china (23 sherds), predominantly plates and cups. A few sherds of willow-pattern ware were recovered (possibly intrusive), together with two very small fragments of porcelain (a cup and possibly a saucer), and two fragments of miscellaneous modern stoneware (a large pancheon).

A number of fragments of post-medieval roof tile were recovered, together with fragments of horseshoe-shaped land drains, clearly of early 19th century date. This form of land drain was used from about 1820 to the 1840s when technological improvements replaced this type with round pipes.

Discussion of the Longbridge House evidence

The buried remains of Longbridge House were located in Trench 9. Preservation was good despite significant archaeology only being 0.40m below the present ground surface. Damage caused to the underlying archaeology by modern buildings was limited, although more damage was caused during its demolition and foundation removal. Various phases of sandstone and brick walls were uncovered together with external yard surfaces and structures. The earliest brick walls dated to the mid- to late 18th century, with some evidence for later additions. Although not dated, the postholes, pits and ditch to the east of the walls are assumed to be in some way associated with the building, and are contemporary.

During the 19th century (between 1820-1840) to the north of Longbridge House there was evidence of deliberate drainage of a broad marshy area prone to flooding, by constructing a ditch within which a land drain was later inserted. Fragments of land drain within other areas of the organic clays suggest that more than one drain may have been inserted, although no trench cuts were visible. The level of survival of Longbridge House, therefore, was similar to that found for Longbridge Farm.

General discussion of the post-medieval farmsteads

The excavation of small areas of two later 18th century farmsteads produced rather limited evidence for well-built brick buildings and refuse disposal. The farmsteads were clearly established on new sites, as part of the widespread process of intensification of agriculture in the area. The partial evidence from these sites did not allow detailed interpretation of the organisation of the farmsteads or the function of individual structures.

Conclusions

The archaeological investigations described here produced evidence for two distinct aspects of the rural landscape of the Longbridge area of King's Norton: the early medieval to late medieval landscape, and the early modern landscape.

Alluvium and waterchannels in an area close to the River Rea provided information on medieval land use from the 10th century to the 16th century. The geoarchaeological and palaeoenvironmental evidence was sufficiently detailed and well-dated to allow some reconstruction of the local vegetational history. Synthesis between this evidence and broader research into the landscape history of King's Norton has provided insights into the medieval woodland landscapes that characterised the south Birmingham area. This evidence is of particular interest, and demonstrates that alluvial deposits even in relatively small valleys have research potential for understanding past landscapes. It was possible to recover a dateable pollen sequence from one part of the Longbridge site, but in another area this approach was frustrated by modern contamination (Plate 8). Clearly it is essential to sample different areas of industrialised landscapes to ensure that the full potential of such areas can be identified and understood. The survival of significant palaeoenvironmental evidence in what appeared to be an unpromising industrial landscape needs to be highlighted. Longbridge can be compared to an industrial site at Tamebridge Park, Perry Barr, in north Birmingham: at this brownfield site, alluvium and a palaeochannel dated to the prehistoric to Roman period survived beneath thick 19th century dumping (Emma Tetlow pers. comm.; BSMR 20774).

The limited structural evidence from two documented farmsteads reflects the development of a newly reorganised agricultural landscape in the later 18th century. Fragmentary parts of the foundations of the farmsteads survived beneath modern truncation, associated with features and yard surfaces. Limited archaeological evidence survived by chance in these areas, and it is clear that 20th century construction and levelling had completely removed any other contemporary evidence.

The fieldwork at Longbridge was undertaken piecemeal over a period of time, and the character of the former industrial site presented serious challenges to evaluation and investigation. It is clear that although the recovery of significant archaeological deposits in such urban industrial environments presents considerable challenges, it is definitely worthwhile, and needs to be pursued in the context of redevelopment in the Birmingham area.

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Plate captions

Plate 1 Longbridge North Works Carpark, Trench 10. Channel 236 looking west

Plate 2 Longbridge North Works Carpark, Trench 12. Palaeochannel 1207

Plate 3 Excavated farm buildings at Longbridge Farm (Longbridge North Works). General view looking north showing brick wall foundations

Plate 4 Excavated farm buildings at Longbridge Farm (Longbridge North Works). Detail showing building at south end of range (walls 805, 806) with entrance

Plate 5 Excavated farm buildings at Longbridge House (Longbridge North Works Carpark). Overall view looking east, showing brick and sandstone wall foundations.

Plate 6 Part of the excavated farm buildings at Longbridge House (Longbridge North Works Carpark). Detailed view looking north, showing brick and sandstone wall foundations (contexts 103, 105, and 140*)*.

Plate 7 Part of the excavated farm buildings at Longbridge House (Longbridge North Works Carpark). Detailed view looking east, showing brick and sandstone wall foundations (contexts 141 and 145), cobbled surface (context 142), and postholes and pits (context 129 to right of image).

Plate 8 Longbridge North Works. North end of aborted trench showing contaminated ground water

Figure captions

Figure 1 Locations of fieldwork areas and recorded archaeological sites in area

Figure 2 Greenwood and Greenwood map of Worcestershire 1822

Figure 3 Part of King's Norton Tithe Map 1840

Figure 4 Ordnance Survey map 1884

Figure 5 Longbridge North Works: location of archaeological trenches and plotted historic course of River Rea

Figure 6 Longbridge North Works Carpark: location of archaeological trenches

Figure 7 Longbridge North Works Carpark: west-facing section of Trench 2

Figure 8 Longbridge North Works Carpark: east-facing section of Trench 10

Figure 9 Longbridge North Works Carpark: section of Trench 12

Figure 10 Pollen diagram, North Works Carpark

Figure 11 Longbridge Farm , North Works (Trench 8)

Figure 12 Longbridge Farm as shown on Ordnance Survey plan 1884

Figure 13 Longbridge House, North Works Carpark (Trench 9)

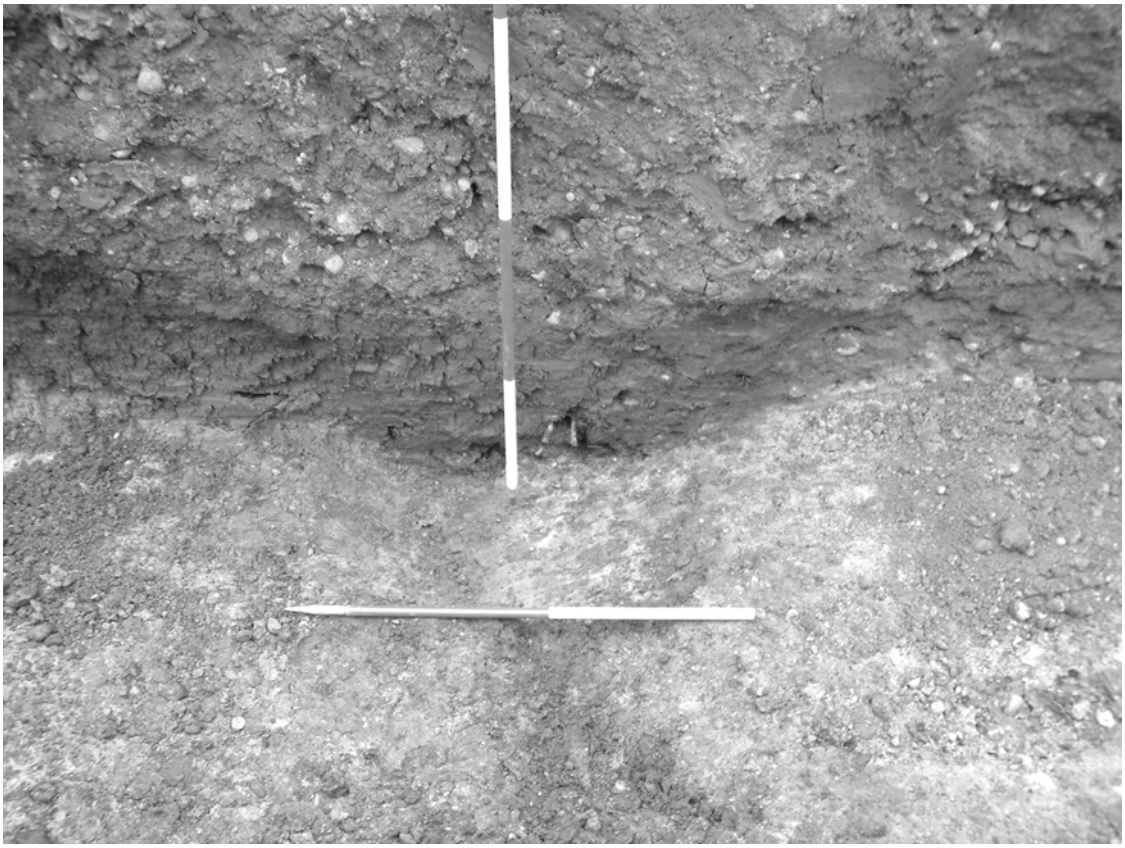


Plate 1

Plate 2

Plate 3

Plate 4

Plate 5

Plate 6

Plate 7

Plate 8

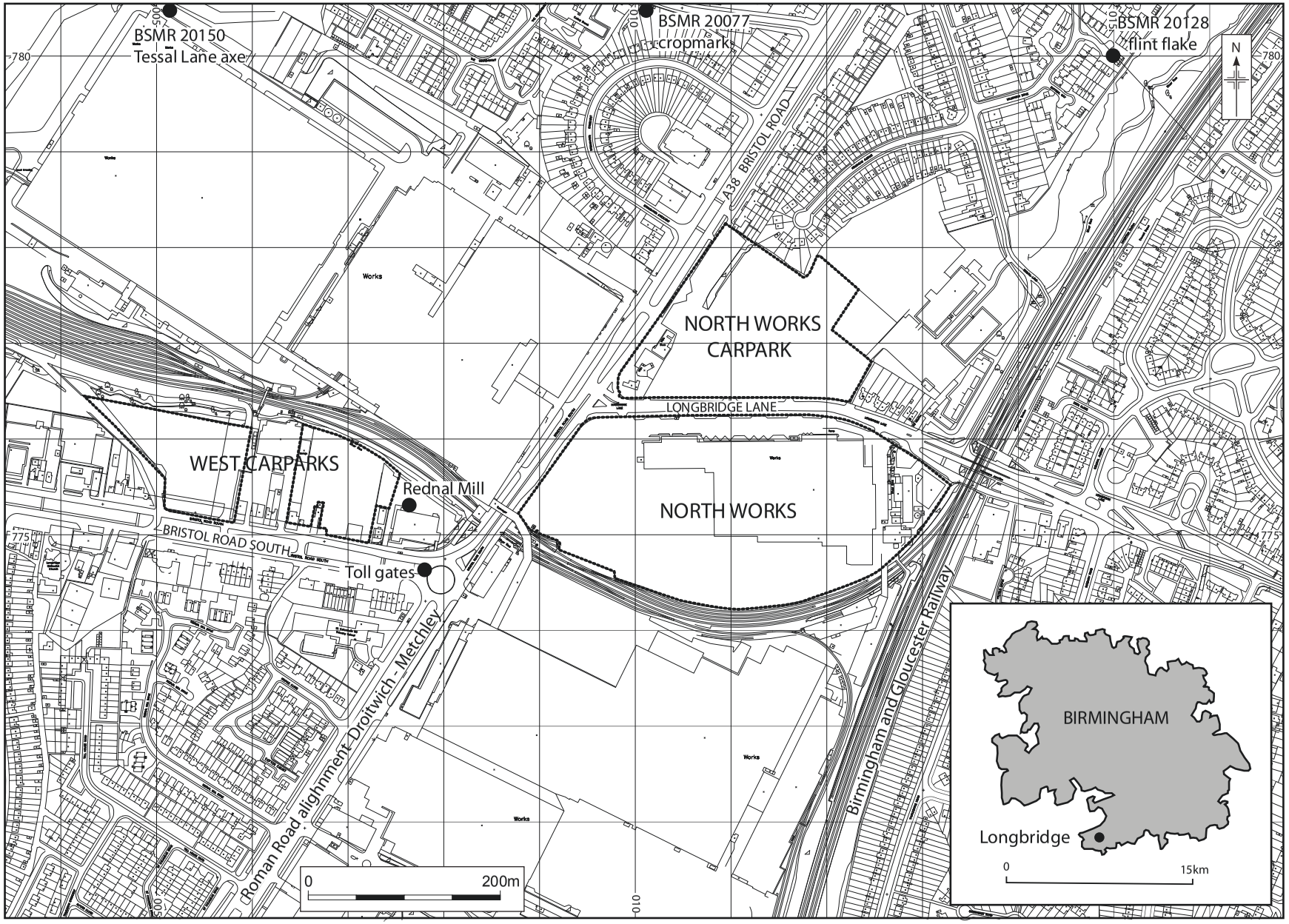

BSMR 20150
Tessal Lane axe
BSMR 20077
cropmarks
BSMR 20128
flint flake
N
A38 BRISTOL ROAD
NORTH WORKS
CARPARK
LONGBRIDGE LANE
WEST CARPARKS
Rednal Mill
NORTH WORKS
BRISTOL ROAD SOUTH
Toll gates
Roman Road alighnment Droitwich - Metchley
Birmingham and Gloucester Railway
Works
780
775
0
200m
BIRMINGHAM
Longbridge
0
15km

Fig 1

Fig 2


N
STAFFORDSHIRE
Northfield
Kings Norton
Moseley
Alvechurch
King's Norton historic parish boundary

Fig 3

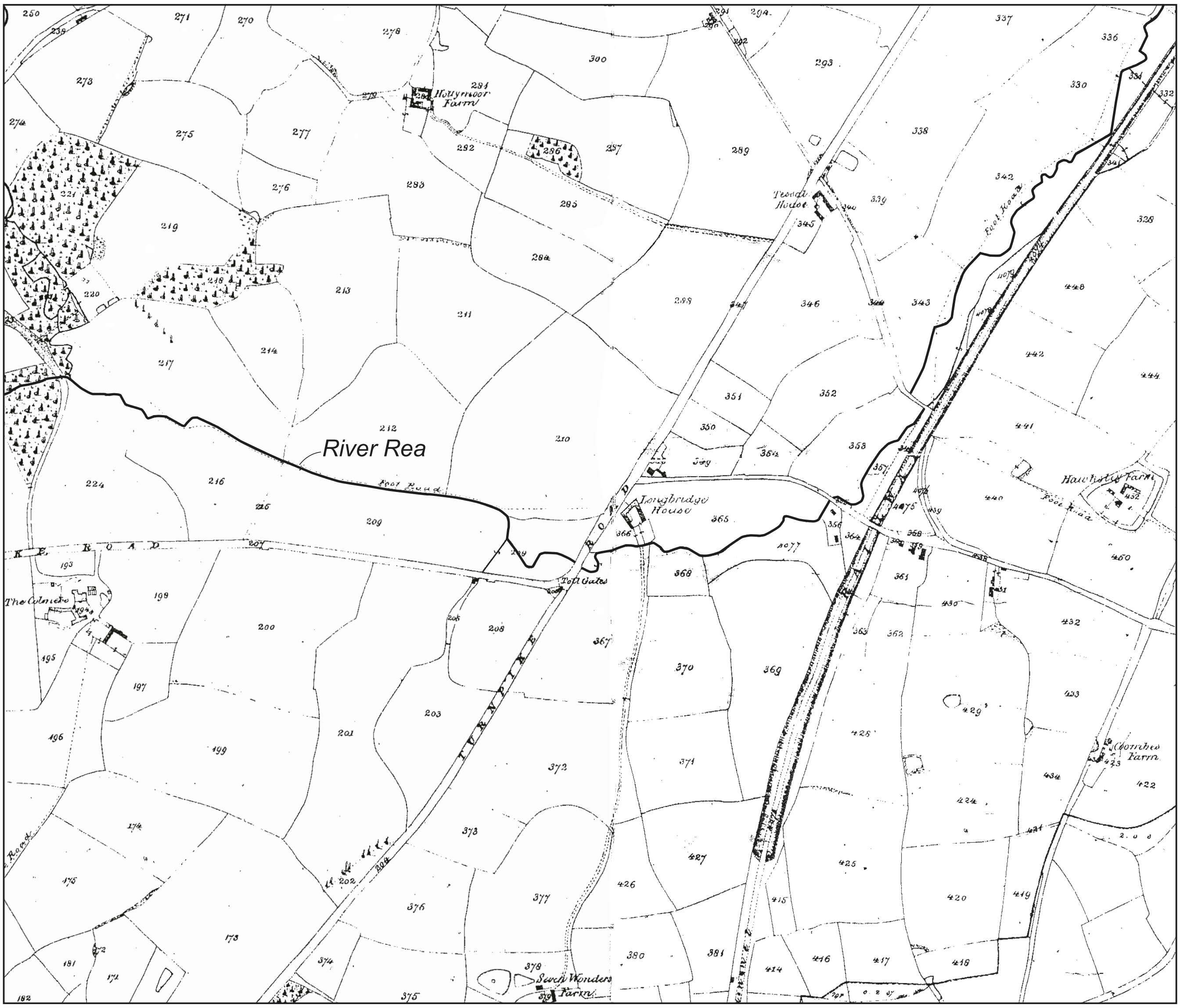

River Rea
Hollymoor Farm
Longbridge House
Toll Gates
Hawkesley Farm
Coombes Farm
Seven Wonders Farm
The Colmers
Foot Road

Fig 4

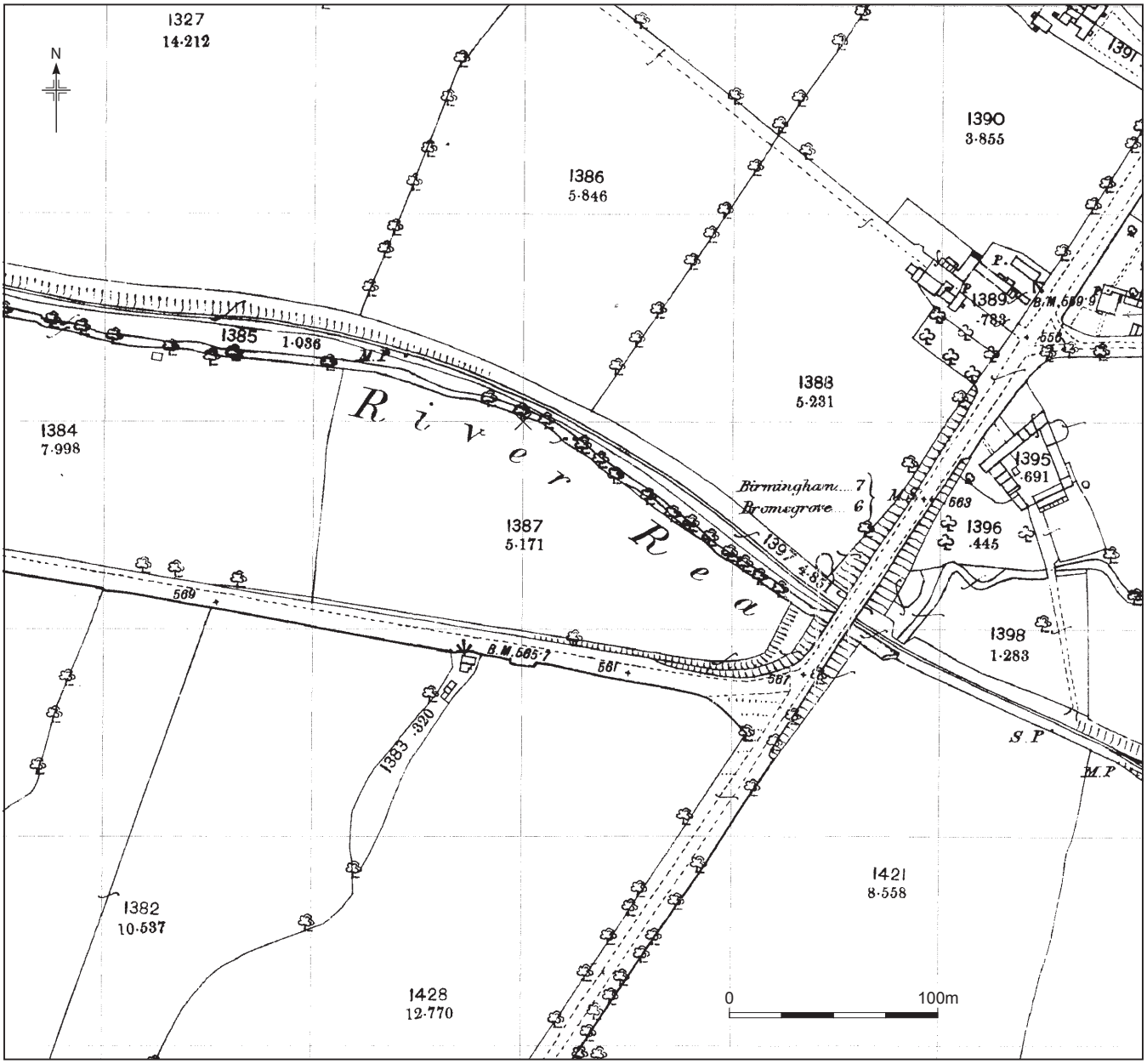
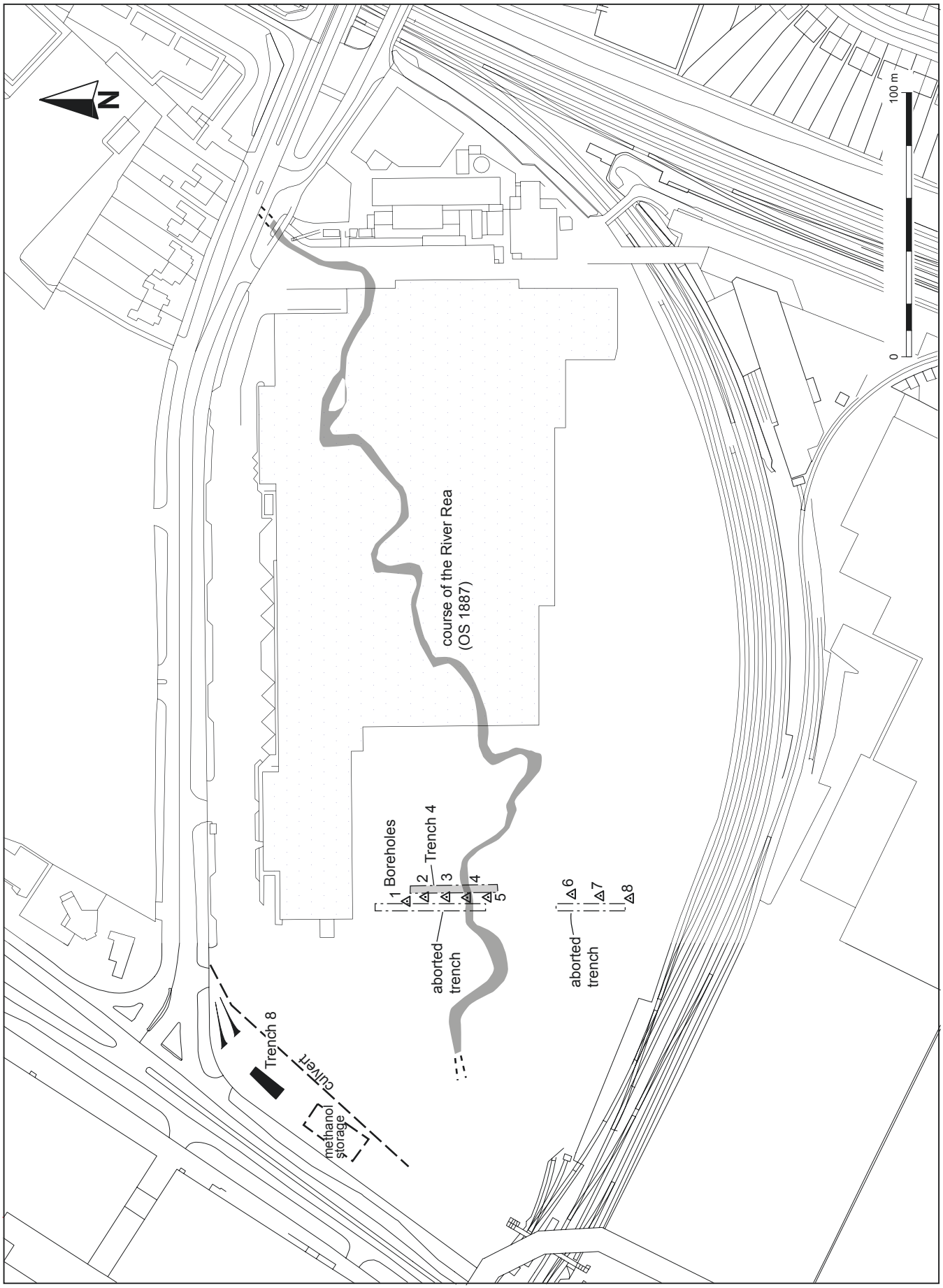

N
1327
14·212
1386
5·846
1390
3·855
1391
1385
1·036
M.P.
River Rea
1388
5·231
1389
·783
B.M.559·9
556
1384
7·998
1395
·691
Birmingham 7
Bromsgrove 6
M.S.
563
1387
5·171
1397
4·65
1396
·445
569
B.M.565·7
567
567
1398
1·283
1383
·920
S.P.
M.P.
1421
8·558
1382
10·537
1428
12·770
0
100m

Fig 5


N
0
100 m
course of the River Rea
(OS 1887)
Boreholes
1
2
3
4
5
Trench 4
aborted
trench
6
7
8
aborted
trench
Trench 8
culvert
methanol
storage

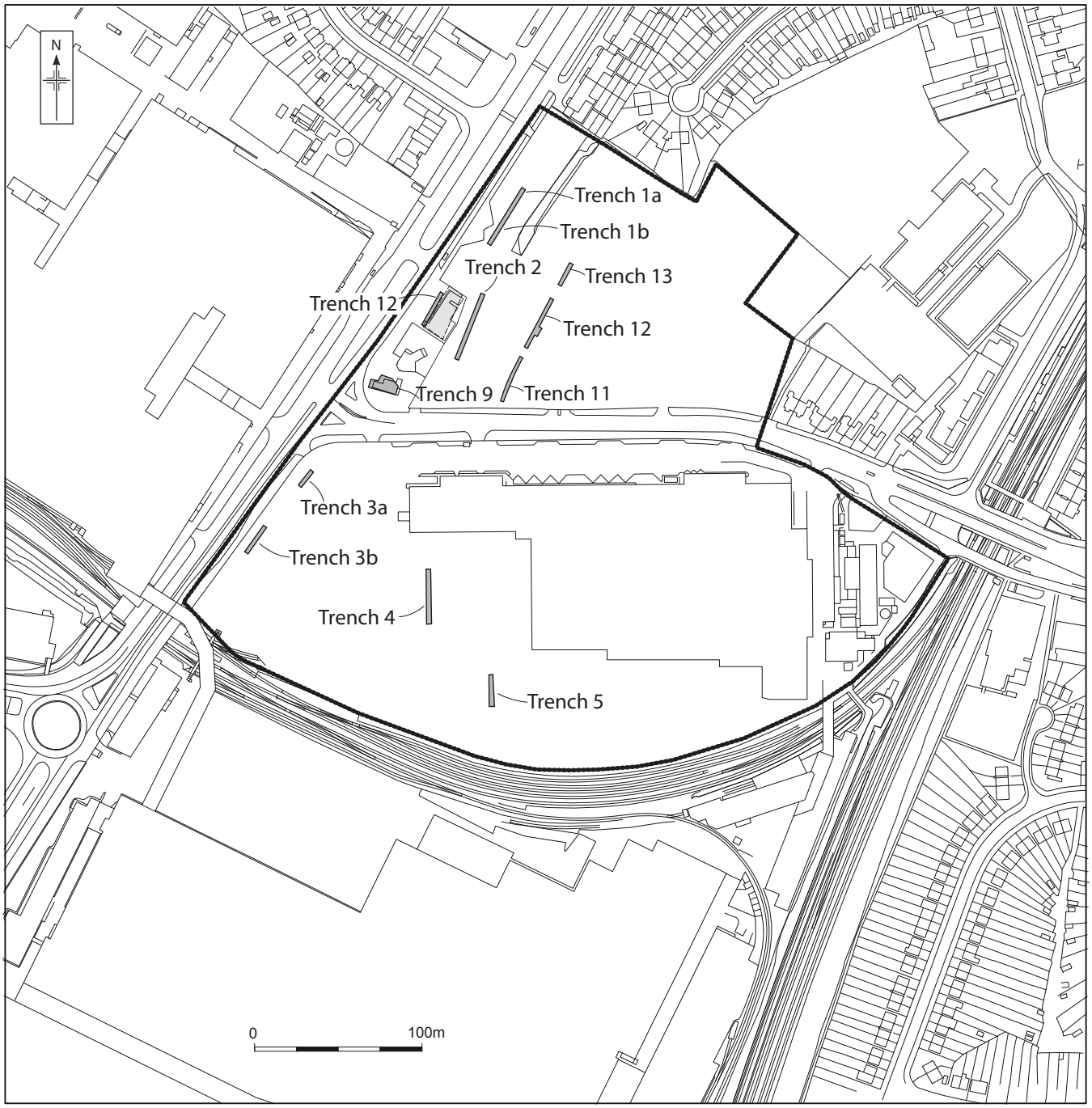
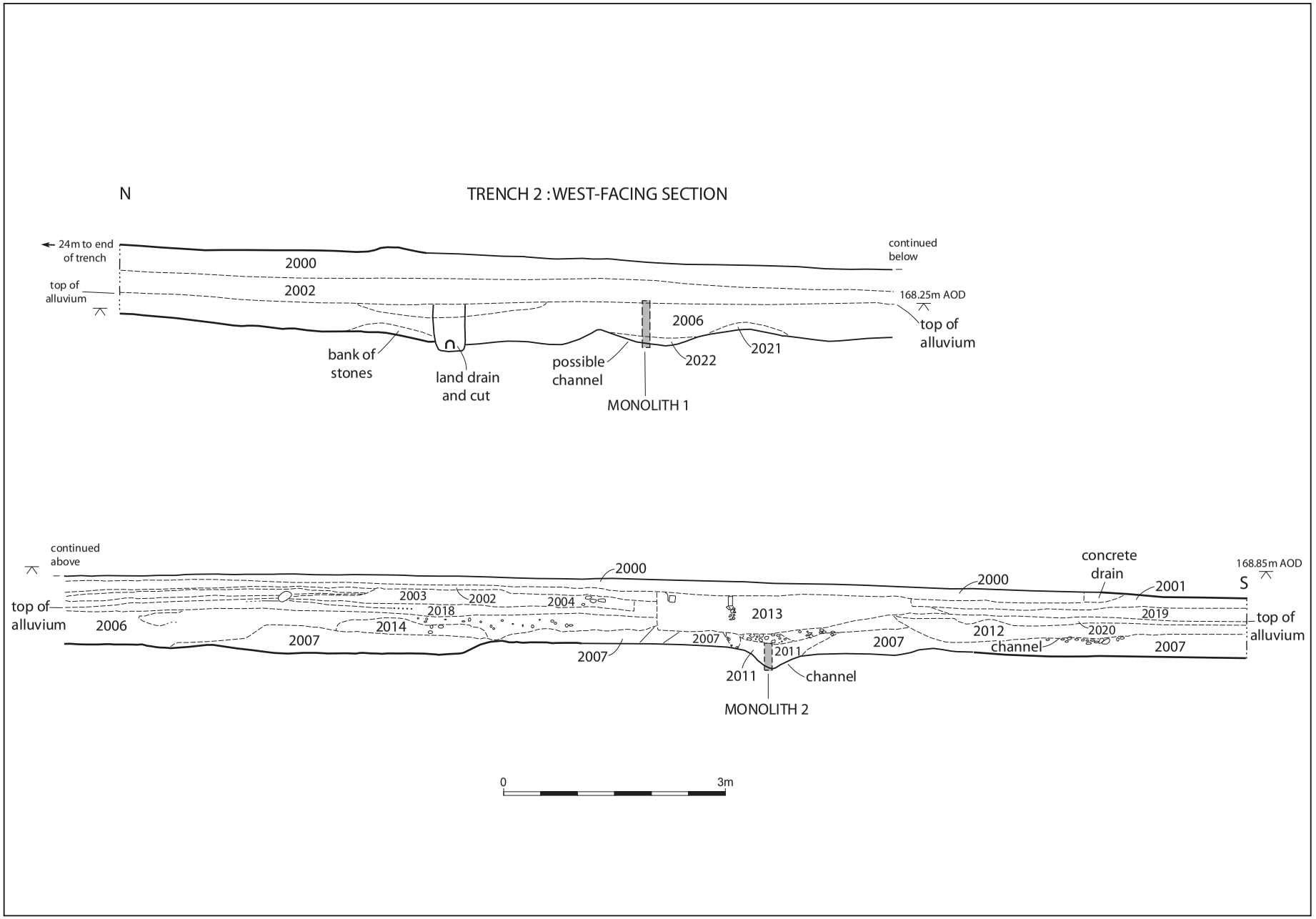

N
Trench 1a
Trench 1b
Trench 2
Trench 13
Trench 12
Trench 12
Trench 9
Trench 11
Trench 3a
Trench 3b
Trench 4
Trench 5
0
100m

Fig 6

Fig 7


N
TRENCH 2 : WEST-FACING SECTION
24m to end of trench
continued below
top of alluvium
2000
2002
168.25m AOD
top of alluvium
2006
2021
2022
bank of stones
land drain and cut
possible channel
MONOLITH 1
continued above
top of alluvium
2006
2003
2018
2002
2004
2000
2013
2000
concrete drain
2001
168.85m AOD
S
2019
top of alluvium
2014
2007
2007
2007
2011
2012
2020
channel
2007
2007
2011
channel
MONOLITH 2
0
3m

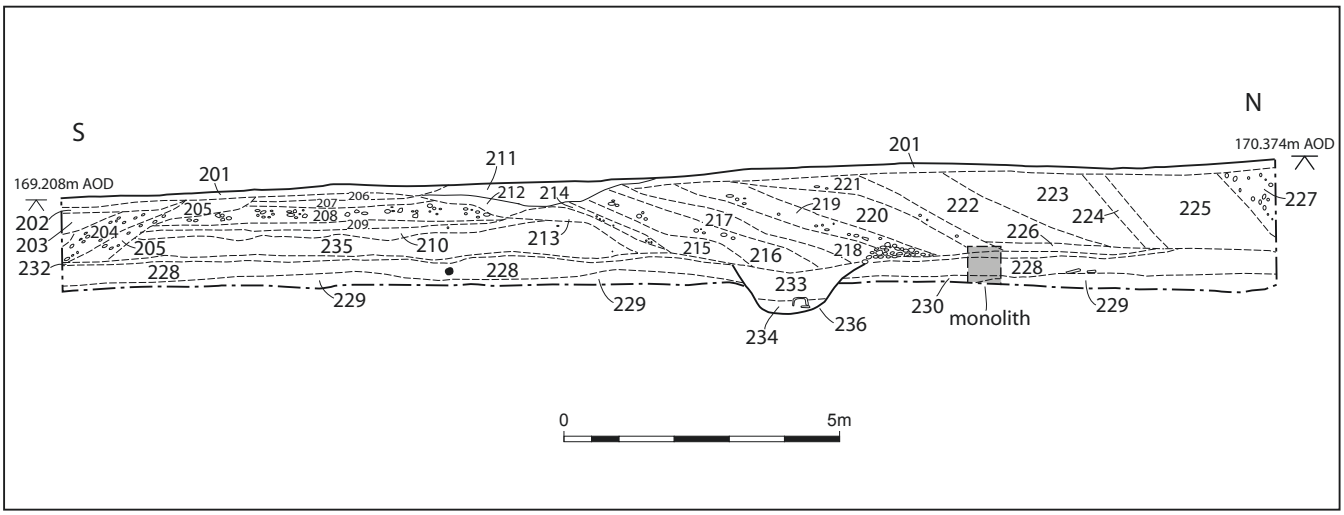

S
N
169.208m AOD
170.374m AOD
201
211
212
214
206
207
208
209
205
204
202
203
232
235
210
213
228
229
217
215
216
218
219
220
221
222
223
224
225
226
227
233
234
236
230
monolith
0
5m

Figure 8

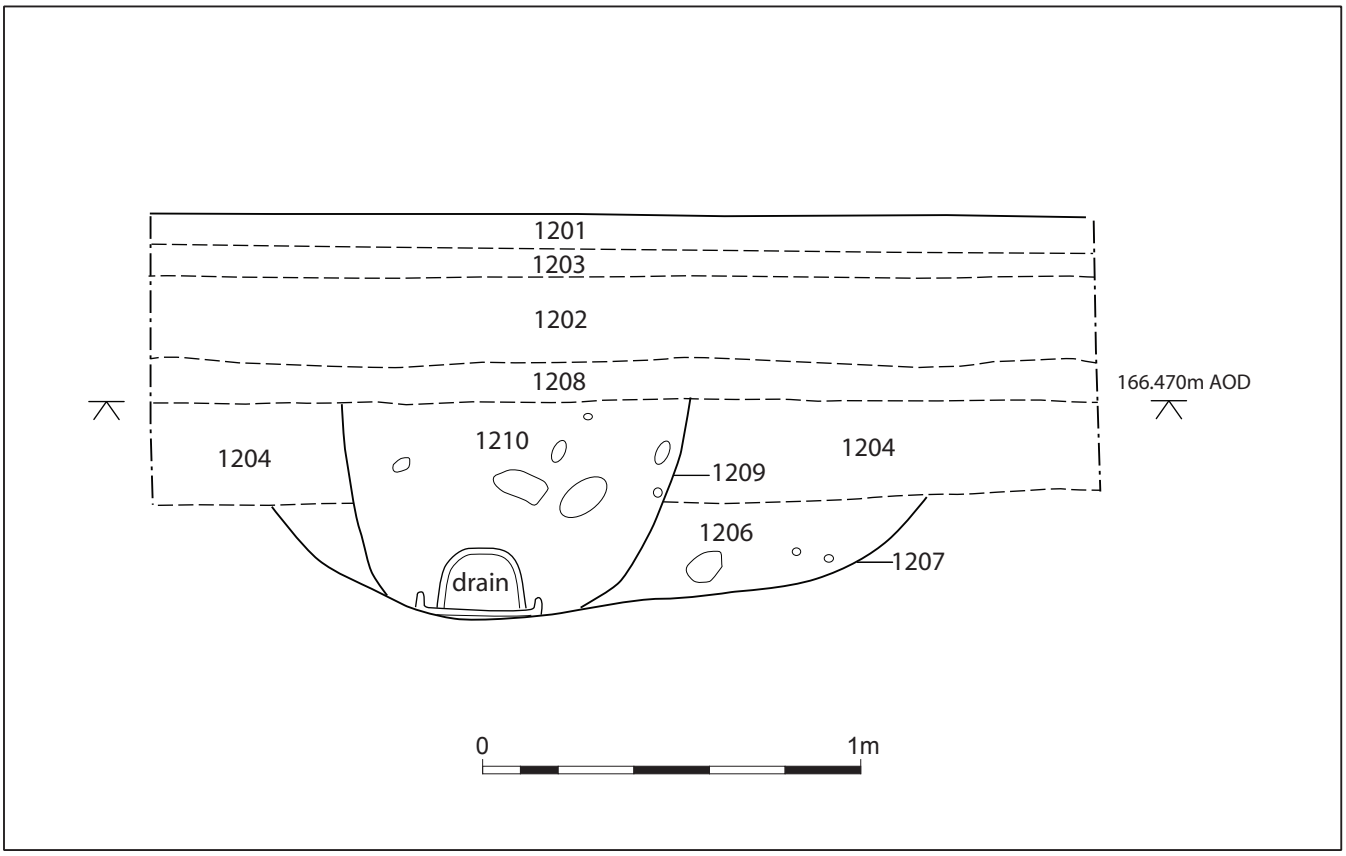

1201
1203
1202
1208
166.470m AOD
1204
1210
1209
1204
1206
1207
drain
0
1m

Fig 9

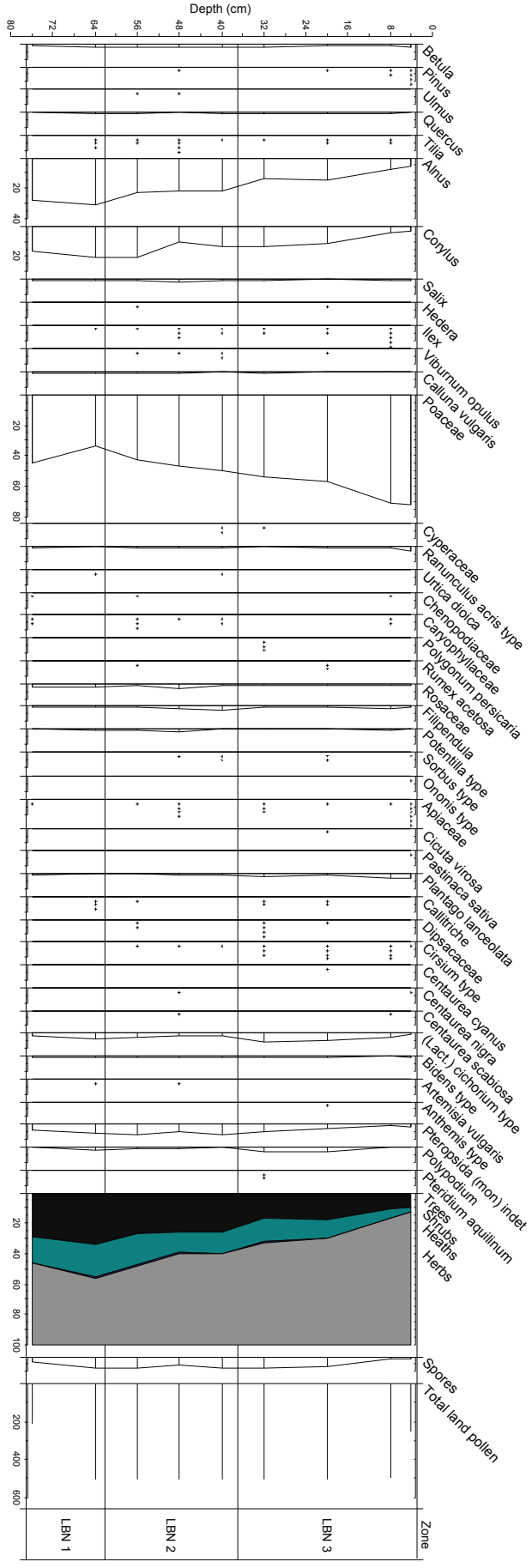

Depth (cm)
80
72
64
56
48
40
32
24
16
8
0
Betula
Pinus
Ulmus
Quercus
Tilia
Alnus
Corylus
Salix
Hedera
Ilex
Viburnum opulus
Calluna vulgaris
Poaceae
Cyperaceae
Ranunculus acris type
Urtica dioica
Chenopodiaceae
Caryophyllaceae
Polygonum persicaria
Rumex acetosa
Rosaceae
Filipendula
Potentilla type
Sorbus type
Ononis type
Apiaceae
Cicuta virosa
Pastinaca sativa
Plantago lanceolata
Callitriche
Dipsacaceae
Cirsium type
Centaurea cyanus
Centaurea nigra
Centaurea scabiosa
(Lact.) cichorium type
Bidens type
Artemisia vulgaris
Anthemis type
Pteropsida (mon) indet
Polypodium
Pteridium aquilinum
Trees
Shrubs
Heaths
Herbs
Spores
Total land pollen
LBN 1
LBN 2
LBN 3
Zone

Fig 10

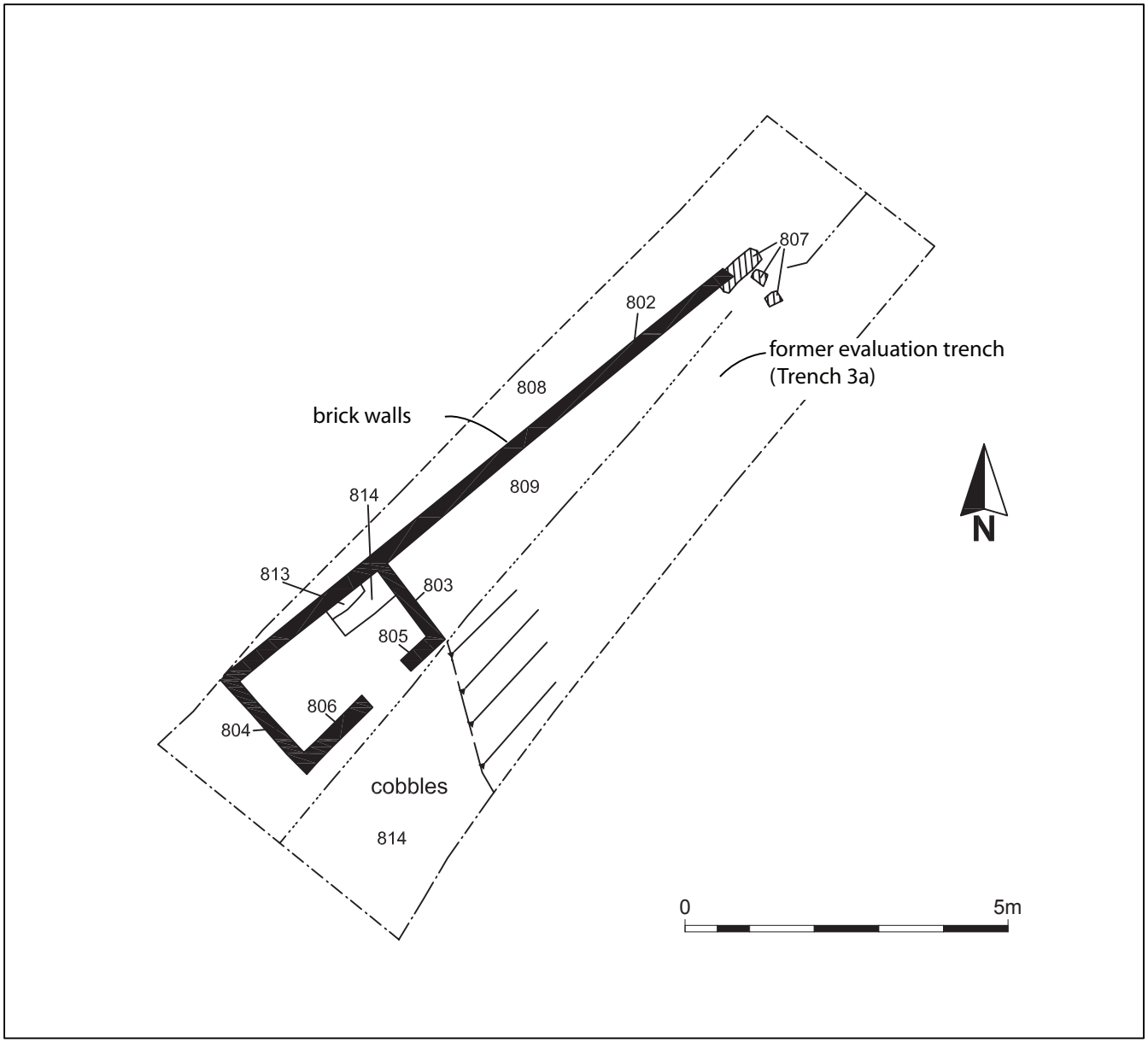

807
802
former evaluation trench
(Trench 3a)
808
brick walls
809
814
813
803
805
806
804
cobbles
814
N
0
5m

Fig 11

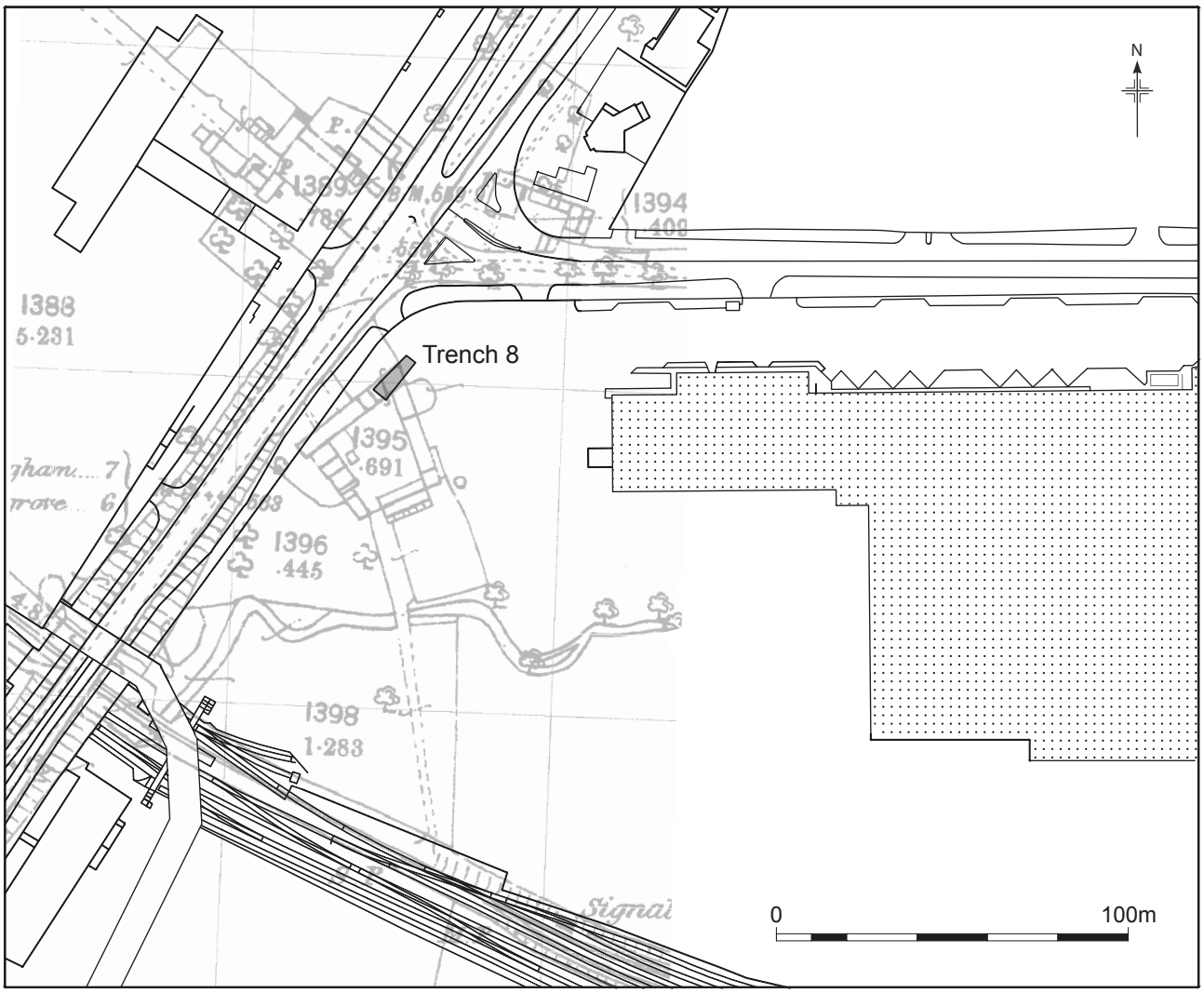

N
1388
5·231
1394
Trench 8
1395
·691
1396
·445
1398
1·283
Signal
0
100m

Fig 12

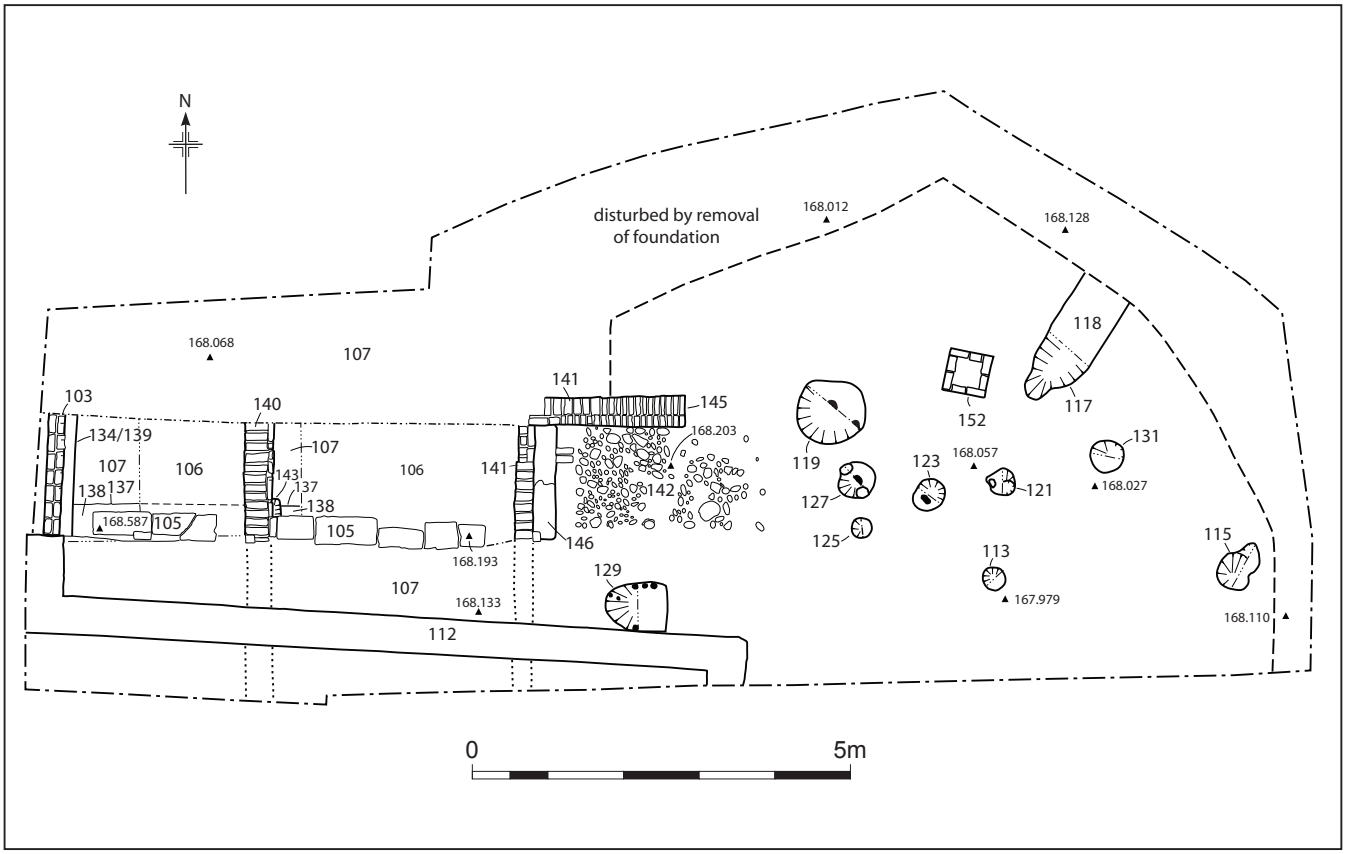

N
disturbed by removal
of foundation
168.012
168.128
168.068
107
118
103
140
141
145
134/139
107
106
106
141
168.203
119
152
117
131
107
143
137
138
137
138
142
123
168.057
121
168.027
127
168.587
105
105
168.193
146
125
115
129
113
107
168.133
167.979
112
168.110
0
5m

Fig 13