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An Archaeological Evaluation
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DIGBETH COLD STORE, BIRMINGHAM
AN ARCHAEOLOGICAL EVALUATION 2007

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SUMMARY

In Autumn 2007 Ingleby (1733) Ltd commissioned Birmingham Archaeology to undertake an archaeological evaluation of land adjoining Digbeth Cold Store, Birmingham (centred on NGR SP 07498655). The evaluation was undertaken in order to detail the extent, significance and location of archaeological deposits, and to provide a basis for an informed strategy for archaeological mitigation.

A desk-based assessment carried out prior to the evaluation identified a high potential for archaeological deposits on the site relating to the earliest settlement of Birmingham, and the medieval and post medieval development in the core of the city. Of particular archaeological interest was potential evidence for early medieval occupation along the Digbeth frontage as well as the medieval boundary ditch previously identified to the northwest. A total of five trial-trenches were excavated, to provide as representative a sample as was possible of the site, given the constraints imposed by present land-use.

The earliest layers encountered were a sequence of waterlain deposits which included pottery of 12th-13th century date. These pre-dated the cutting of the town boundary ditch. The environmental evidence from these deposits suggested that they were laid-down before the surrounding area was settled, although they could not be precisely dated. The next event was the layout of a broad town boundary ditch. This feature was also recorded in an earlier excavation to the northwest of the site, and probably went out of use in the 13th century. A group of medieval pits and post-holes were recorded in the backplot area to the rear of the Digbeth frontage. During the medieval-early post-medieval period the site was largely given over to tanning, forming part of a wider zone of industrial activity also extending to the northwest. This tanning industry was represented by pits, some containing traces of timber lining. One later tanning pit contained pottery of 16th-17th century date.The latest activity is represented by brick-built structures, of 19th century or later date. Towards the Digbeth frontage these formed courts adjoining the Digbeth frontage.

Pollen and beetle preservation was generally excellent. The pollen assemblages in particular were very well preserved with high concentrations of palynomorphs. The palaeoenvironmental evidence from the organic sequences suggests that the deposits accumulated either prior to human occupation at the site (pre-12th century), or shortly after the establishment of the medieval settlement. The organic deposits may indeed be much older and date to the prehistoric period, although a lack of reliable dating of the sedimentary sequences prevents a precise chronology from being obtained. Due to the significant lack of organic deposits encountered in Birmingham city centre as a whole that are suitable for palaeoenvironmental studies, combined with the potential of these deposits having developed in the prehistoric period, it is recommended that a portion of samples taken during the archaeological evaluation undergo full pollen, beetle and plant macrofossil analyses.

DIGBETH COLD STORE, BIRMINGHAM
AN ARCHAEOLOGICAL EVALUATION 2007

1 INTRODUCTION

In Autumn 2007 Birmingham Archaeology carried out an archaeological evaluation on land adjacent to Digbeth Cold Store (hereafter referred to as the site, centred on NGR SP0749 8655, Fig. 1). The work was commissioned by Ingleby (1733) Ltd, with advice from Environ UK Ltd in advance of a proposed development.

This report outlines the results of a field evaluation, which was carried out in accordance with the Institute of Field Archaeologists Standard and Guidance for Archaeological Evaluations (IFA 2001).

The evaluation conformed to a brief produced by Birmingham City Council and a Written Scheme of Investigation (Birmingham Archaeology 2007 (Appendix 1), which was approved by the Local Planning Authority prior to implementation. This is in accordance with guidelines laid down in Policy 8.36 of the City Council's Unitary Development Plan, the City Council's Archaeology Strategy, which has been adopted as Supplementary Planning Guidance and Government advice in Planning Policy Guidance Note 16 (PPG16, DoE 1990).

2 LOCATION AND GEOLOGY

The site is located in the historic core of Birmingham (Fig 1) bounded on the northwest by Park Street, on the southwest by Digbeth, on the southeast by Allison Street and Well Lane on the northeast. Orwell Passage extends from Allison Street into the site (Fig. 2).

At the time of the evaluation the majority of the site was occupied by buildings fronting onto Park Street, Digbeth and Allison Street. The open areas on the site consisted of a car park on the northeastern side of the site, as well as yards behind 139-136 Digbeth, and a yard fronting on to Digbeth to the southeast of the Cold Store.

The solid geology below the site consists of a Keuper Sandstone ridge that runs below Birmingham from the southwest to the northwest, a geological fault in this has resulted in a sharp ridge falling away from the centre of the city, to the north of the site, towards the River Rae valley floor to the south of the site (Ramsey 2007, 2). The drift geology consists of sand and gravel boulder clays, with some alluvial deposits on the Rea Valley floor *(ibid.).*

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

An archaeological desk-based assessment has been prepared for this site and provides a detailed assessment of the historic and archaeological background (Ramsey 2007). Only a summary of the assessment is provided here.

The site lies close to the centre of the medieval town of Birmingham, immediately east of the Parish Church. There is little doubt that the southwestern half of the site has been settled since the Middle Ages, probably since the foundation of the town in 1166, and that the street and property pattern is to a large extent derived from that period. The Digbeth, Deritend and Bordesley thoroughfare was the major route into the city from the east.

Previous excavations immediately to the north of the study area identified surviving below-ground archaeological deposits of medieval to post-medieval date. A large ditch identified in the adjacent Park Street excavations is likely to be an original feature of the town, denoting the back boundary to the Digbeth plots. This ditch is likely to continue into the study area. Another ditch, denoting the back boundaries to the slightly later Park Street plots was also identified. Evidence of industrial activity throughout the post-medieval period was also recovered.

Within the site itself, cartographic evidence suggests that the original burgage plot boundaries were respected until the 19th century. This assessment also highlighted the importance of natural water resources in the area, with a pool suggested as being present in the northeast corner of the site in the 16th century, with later wells and springs also documented.

The frontage of Digbeth was built up by the end of the 17th century, with cartographic evidence from the 18th century illustrating the development of these long thin plots. Documentary evidence from trade directories lists the inhabitants with a range of trades, including metalworkers, for which Birmingham had national and international repute.

The desk-based assessment highlighted the potential for below-ground archaeological deposits to survive within the study area, especially waterlogged environmental deposits, which can answer important questions regarding the origin and development of the city. A previous assessment highlighted the archaeological potential of the standing structures within the study area (Hislop 2005).

4 AIMS

The aim of this trial trenching (Birmingham Archaeology 2007, 2) were to define the extent, survival and significance of any archaeological deposits within the area of proposed development in order to inform future strategies for archaeological mitigation.

Specifically the aims were:

- To assess the survival of domestic/industrial activity from the medieval period onwards, as represented by structures and industrial deposits.
- To assess the survival of deposits of potential environmental interest.
- To assess the potential of the site to contribute towards an appreciation of the historic development of Birmingham/Digbeth and its surrounds.

5 METHOD

A total of five trenches, each 15m long and 2m wide were excavated across the site (Fig. 2). The desk-based assessment carried out prior to the commencement of the evaluation informed the trench location plan, although constrains of modern land use, access and health and safety issues also affected the location of the trenches.

Modern overburden was removed using a JCB and 360 degree tracked mechanical excavator with a toothless ditching bucket, working under direct archaeological supervision, down to the top of the uppermost archaeological horizon or the natural subsoil. Subsequent cleaning and excavation was by hand.

All stratigraphic sequences were recorded. Features were planned at a scale of 1:20 or 1:50, and sections were drawn through all cut features and significant vertical stratigraphy. A

comprehensive written record was maintained using a continuous numbered context system on *pro-forma* context and feature cards. Written records and scale plans were supplemented by photographs using monochrome, colour slide and digital photography.

The environmental sampling policy followed the guidelines contained in the Birmingham Archaeology Guide to On-Site Environmental Sampling. Recovered finds were cleaned and marked. Treatment of all finds conformed to guidance contained within 'A Strategy for the Care and Investigation of Finds' published by English Heritage.

The full site archive includes all artifactual and/or ecofactual remains recovered from the site. The site archive will be prepared according to guidelines set down in Appendix 3 of the Management of Archaeology Projects (English Heritage, 1991), the Guidelines for the Preparation of Excavation Archives for Long-term Storage (UKIC, 1990) and Standards in the Museum Care of Archaeological collections (Museum and Art Galleries Commission, 1992). Finds and the paper archive will be deposited with the appropriate repository subject to permission from the landowner.

6 RESULTS (FIG. 2)

This section of the report provides a summary of the results.

Trench 1

Trench 1 (Fig. 3, Plate 1) was located as close to the Digbeth frontage as was possible (Fig. 2). The trench was located to assess the potential for archaeological deposits dating to the earliest occupation of Birmingham. The trench was aligned northeast-southwest and measured 12m long and 2m wide.

The natural subsoil consisted of compact red clay (1017) which was encountered at 105.94m AOD at the northeastern end of the trench, and at 105.85m AOD at the southwestern end of the trench. At the northeastern end of the trench a deposit of soft sand and gravel (1037), measuring a maximum of 0.24m in depth was recorded overlying the natural subsoil. The nature of this deposit was ambiguous and it may have been a naturally-occurring deposit of sand.

At the northeastern end of the trench was a sandy-silt layer (1038, not illustrated) rich in charcoal. It had a maximum depth of 0.4m.

A number of pits and post-holes dug through the natural subsoil (1017) were identified. The largest of this feature group (1007) was sub-circular in plan, 1.1m in diameter and 0.65m deep. Its primary fill (1006) of clay rich silt contained a single sherd of medieval pottery dating to the late 12th-13th century. The upper fill (1005) produced a single sherd of 18th century pottery, which may be intrusive.

Two post-holes were identified towards the southwestern end of the trench. The deeper of the two (1022) measured 0.35m deep and 0.3m in diameter had an un-compacted clay-rich fill. To the northeast of this feature was a shallow post-hole (1019), 0.1m deep with a diameter of 0.26m deep. Its primary fill produced a single sherd of medieval pottery dating to the early 13th century.

Other cut features were truncated by the later brick foundations. Towards the extreme northwestern edge of the trench was a well (1024), cut through layer 1038 (see above) and

into the subsoil. The well was 1.6m in diameter, but could only safely be excavated to a depth of 0.7m. The well had been capped by a brick-built dome (1025) and it had been backfilled with loose rubble (1026). This contained pottery dating to the 19th century.

A rubbish pit (1010) was located towards the northeastern end of the trench. The pit was at least 1.2m wide and 0.8m deep. The fills of this feature consisted of a silt (1018) rich in brick and tile rubble, overlain by a clay deposit (1011). These fills both contained 18th century pottery. To the west of the pit was a post-hole (1008). It survived to a depth of 0.5m and had a diameter of 0.35m. The primary fill (1009) probably contained the degraded remains of a post which was recorded in the lower 0.12m of the feature. Both features 1008 and 1010 were truncated by brick walls (see below).

The remaining features comprised of brick-built foundation walls. These can be resolved into four buildings (Structures A-D). Structure A comprised a cut for the foundation trench (1034), the brick wall (1035) and its backfill (1036). Structure B comprised a cut for the foundation trench (1033), the brick wall (1032) and its backfill (1031). Structure C comprised the foundation trench (1013), the brick wall (1028), and its backfill (1014-1015). Finally, Structure D comprised a cut (1030), a brick wall (1029), and its backfill (1016). Comparison with the map of 1860 (Hislop 2005, fig. 8) suggests that these are the partially exposed remains of a range of buildings laid out on the southeastern side of Court No. 12, itself laid out at a right angle to Digbeth. The opposite side of this court comprised the King's Head Public House.

A layer of brick demolition rubble (1003, 1004) overlay the demolished brick buildings. This rubble was sealed by the modern yard surface, which consisted of a layer of reinforced concrete (1001/1002) beneath a brick yard surface (1000).

Trench 2

Trench 2 was located in the backplot area of 136 Digbeth (Figs. 4-5, Plate 2). The purpose of the trench was to assess the potential for backplot activity associated with medieval settlement at Digbeth, and to locate the town boundary ditch identified in previous archaeological work to the northwest of the site. The trench was 15m long and up to 4m wide and excavated (in steps) to a depth of 1.9m below the modern ground surface (at 106.7m AOD.

The natural subsoil (2000), a compacted sand was encountered at an approximate depth of 107m AOD.

The earliest deposit encountered within the trench consisted of a layer of very dark brown waterlogged organic material (2001) which produced a single sherd of pottery dating to the late 12th-13th century.

This layer had been cut by a large ditch (2007). Only the southwestern edge of this feature was identified within the trench. The same ditch was more fully recorded in Trench 3 (see below). In Trench 2 the primary ditch backfills comprised shallow bands of alternating layers (2020, 2021, 2022 and 2035) some rich in sand, others rich in waterlogged material, all dipping quite steeply into the feature. At the northeastern end of the trench deposits 2008 and 2018 could have been formed as an upper fill of this ditch although pottery from the uppermost of these two layers (2008) was dated to the 16th century. These layers may be equivalent to backfill layer 3019 in Trench 3.

The lower ditch fills were sealed by a grey silt rich layer (2015) with clay lenses towards its base. This layer had a maximum depth of 0.7m. The layer was cut by a large feature, probably a pit (2004, not illustrated in section), partly located at the southwesternmost end of the

trench. It was apparently lined with a thick layer of clay (2005 not illustrated) and was backfilled with clay silt (2006, not illustrated) containing many roof tile fragments. Pottery from this fill dated to the mid 13th-early/mid 14th century. Also cutting silt rich layer 2015 was another large probable pit (2014), again only partly recorded within the trench. The pit was 2.94m wide and 0.84m deep. Again, there was evidence that it had been lined with clay. Its primary backfill (2003) contained quantities of rubble, particularly towards its northeastern edge. Pottery from this layer was dated to the 17th century. The overlying silt-rich deposit (2002) which backfilled the majority of the feature also contained pottery of the same date.

At the northeastern end of the trench, and also extending in to Trench 3, was a large pit or possible ditch (2017) which was a minimum of 3.2m in width and 0.95m in depth. One of the earlier backfills (2019) of this feature produced pottery dating to the 17th century. This was overlain by a brick floor or demolition horizon (2020) which may be contemporary with pit 2014.

There are at least two phases of brick built structures in this trench. The earlier of these consisted of a brick built foundation wall (2033) aligned northwest-southeast, apparently respecting the southwestern edge of the large ditch (2007). The bricks used in the construction of this wall were narrow and had the appearance of early hand-clamped bricks. This layer seems to have been sealed by a brick rubble demolition layer (2030).

Later phases of 19th and 20th century brick built footings (2031 and 2024) cut the possible brick rubble demolition layer. These in turn were sealed by brick rubble demolition layers (2023 and 2026). The area of the trench was sealed by a make-up deposit (2011) for the modern tarmac surface (2009).

Layer 2001 contained a quantity of tree pollen, primarily alder, birch and oak. Sampling the context at several depths indicated a reduction of alder over time, with beech dominating in the later stage of its deposition. The large insect fauna from this layer contained water beetles associated with slow-flowing, or stagnant water. The insects also suggest that rough or grazed ground was present in the surrounding area. Most notably perhaps, the insect fauna did not contain any indicators of local settlement, and this layer probably pre-dates the formal settlement of this part of Birmingham.

Trench 3

Trench 3 (Figs. 4-5, Plate 3) formed an extension to the northeast of Trench 2, and was essentially a continuation of Trench 2. Trench 3 was excavated in order to define the northward extent of the medieval boundary ditch and explore the potential archaeological deposits associated with medieval and post-medieval activity, especially industrial activity to the north of the town boundary. The trench was 15m long and up to 3m wide and was excavated to a maximum depth of 2m (in steps) below the modern ground surface. The natural subsoil was identified at 1.8m (106.72m AOD) below the modern ground surface.

The earliest feature identified was a cut (3010), aligned northeast-southwest. This may be interpreted as an anthropogenic feature such as a pond, or a natural feature, such as a river or stream channel. Infilling this cut or natural feature were a series of layers (3008, 3009, 3011, 3012, 3024, 3025, 3031, 3036; 3030, 3031, 3047) which appear to tip towards the southwest. These layers were comprised of waterlogged organic material, including lenses of sand, which in at least part of the sequence define the individual context interfaces. Pottery was retrieved from one of the later layers (3024) in the sequence which was dated to the late 12th-early 13th century.

These layers were sealed by a layer of redeposited natural subsoil (3007). This was a compact yellow clay sand and gravel. Layer 3007 was truncated by the northeastern edge of the large ditch 3021. The overall width of this ditch (including the southwest part of the ditch, recorded in Trench 2 (numbered 2007) was 9.5m. Although the full extent of the ditch profile could not be ascertained within the confines of the trench, investigations by auger suggest that the ditch was more than 2m in depth, when measured from the modern surface. The ditch 3021 was backfilled with silts (3019, 3020, 3001and 3032) rich in waterlogged organic material, interspersed with lenses of clean sand. Some of the upper fills of ditch 3021 (and layer 2008, see Trench 2, above) produced pottery dating to the 15th and 16th centuries. This later dating material may be intrusive, and derive from later features cut into the ditch.

Sealing this backfilled feature was a soil-rich layer (3005), 0.4m deep. Pottery from this layer dated to the late 16th-early 17th century. Cutting this layer were several pits (3015, 3023; 3038 and 3040, not illustrated) which dated to the post-medieval period. This feature group measured an average of between 0.7 and 1.1m in diameter, and between 1.1m and 0.44m in depth. They were backfilled with silt, often rich in slag, coal, and brick rubble. This feature group contained pottery dating to the 17th-18th century, although a sherd of probable residual 15th-16th century pottery was recovered from layer 3017 in pit 3015. At the northeastern end of the trench was a larger pit (3028), measuring at least 2.24m wide and 0.64m deep, although its full extent could not be determined within the trench. It contained pottery dating to the 18th century.

Brick and concrete built structures (not illustrated) including brick and concrete built footings (3035 and 3037), an associated cobbled and tarmac surface (3034 and 3045) and a brick built cellar (3042) dated to the 19th and 20th centuries were also located. Overlying these demolished structures was a make-up layer (3003) for the modern car park surface (3002).

The pollen assemblage from layer 3025 was dominated by alder, although shrub and herb pollen was also recorded. Layer 3012 contained a similar pollen assemblage to deposit 3025, but included occasional grains of cereals. Layer 3024 was again dominated by alder, with beech, oak and pine also present. The insect fauna recovered from layer 3025 were similar to those found in context 2001, although a less diverse range was represented in the sample from layer 3025.

Trench 4

Trench 4 (Fig. 6, Plate 4) was located to the northeast of the Cold Store to assess the significance of any archaeological deposits, especially in relation to the medieval town boundary ditch thought to be located in the immediate vicinity. The trench was aligned northwest-southeast and measured 15m long and 4m wide and was excavated (in steps) to a depth of 1.78m (106.67m AOD).

During the excavation of this trench a pit backfilled with suspected asbestos tiles was encountered (4010). Therefore, for health and safety reasons, the majority of the southeastern end of the trench was backfilled once a basic record had been completed. Only the northwestern 4m of the trench was investigated in detail.

The natural subsoil was not identified within this trench. The trench probably exposed the backfill (4019) of a large cut feature (4018), whose limits were not recorded within the excavated area of the trench. The backfills of this feature consisted of alternating bands of quite clean sand and clay (4005) and dark grey silt with a high content of waterlogged organic material (4023 and 4022), tipping downwards towards the west. The uppermost fills of the ditch (4019 and 4020) were rich in silt. Pottery from layer 4019 has been dated to the 12th-

13th centuries. The feature is probably the continuation of the large ditch identified in Trenches 2/3.

Cut into the top of this backfilled ditch were two pits (4012 and 4016), both circular in plan. These were lined with wooden planks (4015 and 4017) preserved by waterlogged conditions and backfilled with lime. The larger of the two pits (4016) was 1.1m in diameter and 0.2m deep. The lime backfill (4014) of this feature contained pottery dating to the late 12th to early 13th century, although this could be residual. The smaller of the two pits (4012) was 0.7m in diameter and 0.12m deep. Its lime backfill (4011) was solid, so that only limited hand-excavation was possible.

These backfilled pits were sealed by two deposits of dark grey silt (4002) which together had a combined depth of 0.8m. These layers were cut by a brick built cellar (4003) which had been backfilled with brick and concrete demolition rubble (4013). Several modern pits including the pit filled with probable asbestos were also cut through these soil levels. Above was the make-up deposit (4001) for the modern car park (4000).

Trench 5

Trench 5 (Figs. 7-8, Plate 5) was excavated close to the western wall of a warehouse fronting onto Allison Street. The trench was aligned north-south and was located in order to assess the significance of any archaeological deposits relating to the medieval and post medieval occupation of Digbeth. The trench was 4m wide and 10.5m long and was excavated (in steps) to a depth of 1.7m (106.21m AOD) below the modern ground surface.

Excavation exposed the top of the natural subsoil (5030) which consisted of clay rich yellow sand. The earliest deposit encountered in the trench was a layer (5020) 0.2m deep of silt and soil from which a single sherd of pottery dating to the 13th century was retrieved. Cutting this layer was a large feature (5024/5035), only the northeastern edge of this was visible within the trench. As recorded, it measured a minimum of 1.5m in width, 2m in length and 0.44m in depth. The backfill (5021) of the feature consisted of sandy silt rich in waterlogged organic material and contained pottery which has been dated to *c* 1500-1550. A series of layers overlay the feature. The earliest of these (5022) was a dark soil rich silt with pottery dating to *c* 1500-1550. Above this, 5023 was a layer of crushed plaster or mortar with roof tile, dating to the mid 16th century, sealed by a layer of soil-rich silt (5034).

Cutting these layers and the earlier feature was a large pit (5017/ 5032). The full extent of this feature was not evident within the trench, although it measured a minimum of 7m long and 1m wide and was excavated to a depth of 0.6m. The feature appears to have contained a wooden structure, consisting of square cut upright stakes and wooden planks, preserved by the waterlogged conditions. These were left *in situ.* The primary backfill of the feature was a layer of sand (5018), sealed by a layer of bark or wood chippings (5019 and 5031), preserved by the waterlogged conditions, and a dark grey soil and silt (5015 and 5025) rich in pieces of waterlogged wood and cattle horncores. The upper fills of this feature (5014 and 5033) contained pink clay and crushed mortar or plaster. Finds from these backfills dated to the 16th and 17th centuries.

A layer of soil rich silt (5009) up to 0.7m deep sealed this feature. Pottery from this layer dated to the 17th and 18th century. Two phases of brick built structures were identified in the trench. Layer 5009 was cut by a foundation (5027) for a brick-built wall (5029) aligned northeast-southwest. To the northwest was an associated cobbled surface (5028). The surface was sealed by a layer (5008) consisting of black soot or crushed burnt coal and finely crushed brick and grey silt laid down in laminated lenses, cut by a further feature 5013.

Cutting this layer and the majority of further deposits was a brick built foundation wall (5001) associated with a brick lined tank or sump (5005). Further to the south was the outer corner of a brick built structure, probably a cellar (5013). This had been backfilled with various deposits of rubble, mixed with soil (5003), sand (5012), and crushed brick (5026) with large concrete pieces and reinforcing (5010). Together these represent the demolition layers of the latest buildings in this area of the site. This rubble had been overlaid by a layer of hardcore (5011) which acted as a levelling layer for the current car park surface (5000).

7 THE FINDS

7.1 Pottery

TABLE 1: Pottery spot-dates (S. Ratkai)

Strat. unit	*Assoc. cut*	*Date*	*Comment*
1005	1007	18th c	Layer 1005 may be late slumping into feature 1007
1006	1007	late 12th-early 13th c	
1011	1010	18th c	crucible
1012	Layer	early 19th c	crucible
1014	1013	?early 19th c (some residual material)	possible slipware waster
1015	1013	?early 19th c (some residual material)	possible blackware waster
1016	1030	19th c	
1018	1010	18th c	
1021	1019	?early 13th c	
1026	1024	19th c	
2001	Layer	late ?12th -13th c	
2002	2014	*c* 1600-1650?	
2003	2014	17th c	
2006	2004	mid 13th-early-mid 14th c	
2008	2007	16th c	
2019	2017	later 17th c	
3001	3021	15th-16th c	
3004	Layer	17th c possibly early 17th c	
3005	Layer	late 16th-e17th c?	
3017	3015	15th-16th c	probably residual
3022	3028	early-mid 18th c	possible coarseware waster
3024	Layer	late 12th-e 13th c	
3024	Layer	?late 12th-mid 13th c	SF1 no ctxt no. on bag SF1=3024
3027	3023	late 17th-early 18th c	

4002	Layer	17th c?	possible blackware waster
4014	4016	late 12th-early 13th c	
4019	4018	?late 12th-13th c	
5009	Layer	17th c	one intrusive creamware sherd late 18th c
5012	5013	*c* 1790-1800	
5014	5017	17th c	
5015	5017	17th c	
5018	5017	16th c?	
5019	5017	17th c	blackware wasters
5020	Layer	13th c possibly late 12th c	
5021	5024	*c* 1500-1550	
5022	5024	*c* 1500-1550	
5023	Layer	mid 16th c	
5025	5032	md 16th c	
5036	5032	mid- late 16th c	

8 ENVIRONMENTAL ASSESSMENT BY DR T. HILL, DR D. SMITH AND DR B. GEAREY

8.1 Introduction

There is limited geoarchaeological evidence dating to the prehistoric period in Birmingham, with such deposits restricted to late-glacial organic remains encountered during the excavation of the Birmingham Moat (Watts 1980). The majority of the finds in the region date to the 12th century onwards and relate to the establishment of Birmingham as a market town and its subsequent development into an industrialised post-medieval city.

During ground investigations, organic-rich deposits were encountered within a number of the trenches excavated across the site. Trenches 2 and 3 yielded abundant organic contexts which were deemed suitable for palaeoenvironmental assessment. Birmingham Archaeo-Environmental (BA-E) liaised with Birmingham Archaeology in order to develop a sampling strategy suitable for the deposits encountered which included pollen and beetle assessments.

8.2 Methods

Sample selection

The majority of the deposits encountered during the ground investigations at Digbeth Cold Store were minerogenic sediments with low organic content. As a consequence these were not deemed suitable for palaeoenvironmental consideration.

Previous excavations at Park Street (Patrick and Ratkai in press) to the northwest of the present site identified a ditched feature, interpreted as a former town boundary. It was believed that this ditch would cross the site. Therefore, Trenches 2 and 3 were positioned in order to establish the location and potential extent of this feature. During the excavation of Trenches 2 and 3, the ditch was encountered and organic-rich deposits were also present to the north and south of the feature. Due to the overall lack of organic material in the ditch itself, initial interpretations suggested that these deposits may either be natural in origin, or alternatively that they may relate to the original cutting of the ditch or a later phase of ditch

clearance during its use. See Plates 6-7 for the locations of the organic-rich deposits. In order to refine this interpretation, samples were taken from a number of the organic-rich contexts encountered in both trenches.

Pollen assessment

A total of six samples were assessed for pollen preservation. Samples were taken from the following contexts:

- Trench 2, layer 2001 – A black well humified organic-rich deposit, overlying natural sands. Spot samples were taken for pollen from the top, middle and bottom of the context. Sample numbers 12, 14 and 16.
- Trench 3, 3025 – A dark brown-black organic-rich deposit overlying natural sands. Sample number 26.
- Trench 3, 3012 – A dark brown-black organic-rich layer above context 3025. Sample number 25.
- Trench 3, 3024 – A thin dark brown organic rich layer located above layer 3012. Sample number 21.

Pollen preparation followed standard techniques including KOH digestion, HF treatment and acetylation (Moore *et al.,* 1991). At least 125 total land pollen grains (TLP) excluding aquatics and spores were counted for each sample.

Beetle assessment

A total of two samples were assessed for beetle preservation. As organic deposits had been encountered to the north and south of the town boundary ditch, a basal sample from each organic sequence was chosen for consideration. Bulk samples were therefore taken from the following contexts:

- Trench 2, 2001 – A black well humified organic-rich deposit, overlying natural sands. Sample number 17.
- Trench 3, 3025 – A dark brown-black organic-rich deposit overlying natural sands. Sample number 11.

This assessment was carried out in order to establish the following:

1) Are insect remains present? And if so, are they of interpretative value?
2) Do the insect remains from these samples provide information about the nature of the environment in the area at the time that these deposits formed?
3) Do the insect remains suggest what materials may have been deposited in the features?
4) What were the water conditions in the feature?
5) How do these insect faunas compare to others in Birmingham and other sites of this period.

The samples were processed using the standard method of paraffin flotation as outlined by Kenward *et al* (1980). The weights and volumes of the individual samples are included in Table 2. Insect remains were sorted from the flot and examined under a low-power binocular microscope. The system for 'scanning' faunas as outlined by Kenward *et al*. (1985) was followed in this assessment.

8.3 Results

The preservation of pollen and beetle remains was found to be good in the majority of the samples assessed. The abundance and diversity of the pollen present in all six samples was very high. This enables secure inferences to be made regarding the possible age and palaeoenvironment at the time of deposit formation.

Pollen

Counts of 125 (TLP) were achieved for all six samples. Preservation was excellent in all deposits, with most pollen grains showing low levels of corrosion, crumpling or breakage. This indicates minimal reworking of the sediment, suggesting the assemblages derive from a relatively local source (i.e. from vegetation close to the site).

Context 2001 was found to be a relatively thick (>0.50m) organic unit and homogonous in nature (see Plate 6). Three spot samples were taken from the top (sample 12), middle (sample 14) and bottom (sample 16) of the unit. These three samples were found to be almost wholly composed of tree pollen, with *Alnus* (alder), *Betula* (birch) and *Quercus* (oak) dominating the pollen assemblages, whilst *Umlus* (elm) and *Tilia* (lime) also contribute but to a much lesser extent. *Corylus avellana*-type (hazel; sweet gale) was also present, as well as occasional Poaceae (wild grasses) grains and Pteropsida (ferns) spores.

The basal sample (sample 16) was dominated by *Alnus* (*c* 60% TLP), with *Betula*, *Quercus*, *Tilia* and *Ulmus* also contributing *c* 22% TLP. However, with height through context 2001, a gradual reduction in the abundance of *Alnus* was noted. *Alnus* was found to only contribute *c* 25% TLP in the upper pollen sample (sample 12), with *Betula* now dominating the assemblage (*c* 53% TLP). Herb and shrub taxa rarely contributed more than 20% TLP throughout the unit.

Three further samples were assessed for pollen from the sequence of organic-rich contexts encountered in the northern section of Trench 3 (see Plate 7). Context 3025 (sample 26) was found to overlie the basal sands, which was in turn overlain by contexts 3012 (sample 24) and 3024 (sample 21; although these contexts were also interbedded with other deposits of varying organic content). Context 3025 produced a pollen assemblage dominated by *Alnus* (*c* 65% TLP), with occasional grains of *Betula* and *Quercus*. Whilst trees species were again found to dominate this assemblage, shrub and herb species were found in greater abundance than encountered in context 2001. *Corylus avellana*-type, Poaceae, Cyperaceae (sedges), *Rumex* (docks) and Pteropsida each contribute less than 10% TLP to the assemblage.

Context 3012 (sample 24) contained a very similar pollen assemblage to context 3025, with *Alnus* once again dominating (*c* 48% TLP), with *Betula* and *Quercus* recorded, whilst *Pinus* (pine) was also present (although in low abundances). A similar shrub and herb assemblage was also encountered, although occasional grains of *Cerealia*-type (cereals) were recorded (*c* 4% TLP).

The upper sample from context 3024 (sample 21) was also dominated by *Alnus* (*c* 45% TLP), supported by *Betula*, *Quercus* and *Pinus*. However, grains of *Tilia* (*c* 5% TLP) and *Ulmus* (*c* 2% TLP) were also found in this sample, whilst *Corylus avellana*-type was also in greater abundance than in the underlying samples (*c* 20% TLP).

Beetles

The insect taxa recovered from the flots are listed in Table 2. The taxonomy used for the Coleoptera (beetles) follows Lucht (1987).

The numbers of individual insects present is estimated using the following scale: + = 1-2 individuals ++ = 2-5 individuals +++ = 5-10 individuals ++++ = 10+ individuals +++++ = 20+ individuals.

When discussing the insect assemblages recovered, two considerations should be taken into account:

1) The identification of the insects as present are provisional and are made without direct comparison to reference Coleoptera. In addition, many of the taxa present could be identified to species level during a full analysis, producing more detailed information. As a result, all identifications should be regarded as incomplete and possibly biased.

2) The various proportions of insects or plant remains suggested are notional and likely to be subjective.

Context 2001 (sample 17)

This large insect fauna is dominated by a range of water beetles such as the *Ochthebius spp*., *Hydreanea spp*., *Laccobius spp*. and *Coleostoma orbiculare*. Most of these genera are associated with slow-flowing, often stagnant, water (Hansen 1986). There are also indications that stands of waterside vegetation stood within the deposit (this is suggested by the *Donacia / Plateumaris spp*.).

The insects present also clearly suggest the nature of the landscape surrounding the ditch. Species such as the *Apion* and *Sitona* are often associated with rough ground and grazed areas, as is the 'garden chaffer' *Phylopertha horticola* (Koch 1992). Additional proxy evidence for grazing is also suggested by the remains of the *Geotrupes* and *Aphodius* dung beetles recovered (Jessop 1986).

There are, however, no indicators for the presence of trees or woodland. This is clearly in contrast with the results from the pollen assessed at this location which contained evidence for substantial tree cover. This probably suggests that the insects are derived from a more immediately local source; whereas the pollen, which is most likely wind-born, is likely to be derived from further afield. There is no insect evidence that any substantial amounts of urban, settlement or domestic waste were dumped into this feature. Settlement waste of all periods usually contains a very distinct set of insects, or the 'house fauna' (sensu Kenward and Hall 1995); none of these taxa were seen in this assessment. This implies that the deposits pre-date any settlement in the area, or that this area was specifically used for grazing throughout the period of deposition.

Context 3025 (sample 11)

The insect fauna recovered in this sample was much less diverse than that recovered in sample 17. The species recovered are, however, very similar to those seen in that sample.

8.4 Conclusions

The palaeoenvironmental assessment has uncovered a valuable archive with considerable palaeoenvironmental potential. The overall lack of waterlogged deposits from the city centre further enhances the geoarchaeological importance of such deposits. The pollen and beetle assessments undertaken have indicated that the organic deposits encountered during ground investigations are a substantial palaeoenvironmental resource due to the overall high level of preservation, combined with the overall abundance and diversity of taxa encountered.

The six pollen assessments provide an insight into the landscape at the time of organic accumulation. The overall dominance of tree species throughout the contexts assessed does suggest the presence of relatively dense woodland proximal to the excavation site. Context 2001 contains pollen suggestive of mixed woodland consisting largely of alder, birch and oak, with lime, elm and hazel also contributing. Alder and birch are likely to have formed carr woodland on the wetter soils proximal to the sampling site, whilst hazel would have formed fringing woodland with the oak and elm growing on dryer soils. The overall absence of herbs including Poaceae and Cyperaceae suggests that the woodland canopy would have been relatively closed during the development of the organic unit. The almost total lack of herbs and shrubs, combined with the evidence for dense woodland indicated through the pollen assemblages would suggest that context 2001 may have developed much earlier than suggested by the surrounding archaeological evidence. However, the precise age of the deposit is unclear at this stage.

Based on the palaeoecological evidence obtained during this initial assessment, it is suggested that context 2001 must have developed before the first phases of human activity suggested by the archaeological evidence dated to the 12th-13th century. Prior to the 12th century, much of the landscape would have remained as woodland, as Birmingham was situated on the edge of the Forest of Arden at this time. Recent environmental work undertaken in the city centre has suggested that mature woodland was present during the first known phases of human occupation during the medieval Period (12th-14th centuries; Greig in press). A single sherd of 12th-13th century pottery was discovered during the excavation of context 2001, although it does not, of course, provide secure dating for the layer.

The pollen assemblages in contexts 3025, 3012 and 3024 are all also dominated, although to a lesser extent, by woodland taxa. Alder continues to typify the pollen assemblage, suggesting the presence of an alder carr woodland proximal to the sampling site. Birch, oak and pine also contribute to the woodland structure during the earlier phases of organic deposition, with lime and elm becoming established within the mature woodland over time. When compared to context 2001 however, the higher values of herb and shrub pollen in the organic deposits north of the later town boundary ditch suggest a much more open woodland canopy may have been present, with a damp grass-sedge understory. Occasional cereal-type (undiff.) grains were encountered in contexts 3012 and 3024. This group can however include cereal pollen of wild grasses (such as *Glyceria*; sweet vernal grass), as well as cereal pollen derived from arable plots from within the pollen catchment area. Full analyses of these samples would be required to investigate this issue further. Due to the increased levels of herb and shrub pollen, combined with the possible presence of cereal pollen, it is suggested that these deposits may be younger than those encountered within context 2001. But again, due to the lack of a reliable chronology, the dating of contexts 3025, 3012 and 3024 remains unclear.

A fuller analysis of the insect faunas from this ditch should allow us to reconstruct the nature of the environment and land use surrounding this feature to some extent. Given that the insect

remains appear to be derived from a local source and are, therefore, not informing us as to the nature of the wider landscape, they will function mainly as a source of support for the conclusions reached from any further pollen or plant macrofossil analysis on these contexts.

With the exception of the single Late Glacial insect fauna from the Smithfield Market site (Osborne 1980) there have been no other insect faunas recovered from material which is believed to be Early- or Mid-Holocene in date from Birmingham. Indeed all other insect faunas studied from Birmingham date to the 12th century AD or later. These are mainly from the series of ditches associated with the Manorial and Parsonage moats at both the Smithfield Market site (Osborne 1980) and at Edgbaston and Park Street, or from the series of tanning pits recovered at Edgbaston Street (Smith in press).

In terms of our understanding of the pre-urban landscape of central Birmingham these deposits are of potentially regional importance. The palaeoecological evidence indicates that the organic deposits encountered during initial ground investigations at Digbeth Cold Store are likely to date to the 12th century at the latest. However, the deposits may indeed be much older, with a prehistoric age also possible. The relatively thick and homogenous nature of context 2001 suggests this deposit is *in-situ* and has not experienced post-depositional disturbance. This is supported by the apparent conformable pollen sequence preserved within the sequence. In contrast, contexts 3025, 3012 and 3024 appear to form discrete layers interbedded with other deposits containing higher mineralogical components. Such sedimentary features may be natural or man-made. For example, the organic-rich horizons may have developed during periods of relative environmental stability, with layers of silt and sand-rich deposits developing in response to periods of climatic deterioration and subsequent sediment reworking. Alternatively, the sedimentary sequence may have developed through the initial cutting of the town boundary ditch, or even through later phases of cleaning the ditch. Organic deposits may have been encountered during the initial cutting of the boundary ditch (hence producing a woodland pollen record suggestive of a potential Holocene age), to be then discarded along the ditch margin. Alternatively, the ditch may have become gradually infilled in the very early stages of use (explaining the high woodland pollen assemblages) only to be re-cut and cleaned, with the organic deposits from within the ditch being dumped close by.

8.5 Recommendations

The high level of proxy preservation within the deposits encountered at the site, combined with the overall absence of palaeoenvironmental records dating to the pre-12th century period onwards, confirms the need for further analyses of the deposits to be undertaken. Initial palaeoenvironmental assessments of this nature are restricted to only providing a basic understanding of preservation, abundance and diversity of the proxy in question. Further analysis may provide more information regarding the landscape conditions present at the time of organic accumulation.

Further pollen and beetle analyses would improve our understanding of the environmental setting present in the Birmingham city centre locale prior to the initial medieval occupation and its subsequent urban development. In addition, plant macrofossil analyses should also be considered on these deposits. It is therefore strongly recommended that samples are taken for palaeoenvironmental consideration during the initial evaluation phase of the archaeological programme and are assessed as part of further work at the site. This should be supported by a suite of radiocarbon dating on suitable organic remains to tie the sites palaeoenvironmental history into a secure chronological framework. Any future archaeological excavations of the site should therefore also include some appropriate palaeoenvironmental assessments of suitable

organic deposits in order to contribute to this growing picture of Birmingham throughout its historic (and potentially prehistoric) development.

TABLE 2: Insect remains

Sample No.	**17 / 2001**	**11 / 3025**
Processed Weight (kg.)	**7.5**	**6.5**
Processed Volume (L.)	**11**	**10**
COLEOPTERA		
Carabidae		
Nebria spp.	+	-
Bembidion spp.	+	-
Trechus spp.	+	-
Pterostichus spp.	+	+
Dytiscidae		
Agabus spp.	+	-
Hydraenidae		
Octhebuis spp.	+++++	-
Hydraena spp.	+++++	-
Hydrophilidae		
Coelostoma orbiculare (F.)	+	-
Megasternum boletophagum (Marsh.)	+++	+
Laccobius spp.	++	-
Hydrobius fuscipes Leach	+	-
Staphylinidae		
Omalium spp.	++	-
Olophrum spp.	++	++
Lesteva spp.	+++++	++++
Oxytelus spp.	++	-
Platystethus spp.	++	-
Xantholinus spp.	++	-
Lathrobium spp.	++	+
Philonthus spp.	++	-
Tachyphorus spp.	+	+
Nitidulidae		
Meligethes spp.		
Elateridae		
Agriotes spp.	+	-
Helodidae		
Helodidae *(?Cyphon spp.)*	+	-
Anobiidae		
Anobium punctatum (Geer)	+	+

Scarabaeidae		
Geotrupes spp.	+	-
Aphodius spp.	++	+
Phyllopertha horticola (L.)	+	-
Chyrsomelidae		
Donacia / Plateumaris spp.	+	-
Cuculionidae		
Apion spp.	+++	-
Sitona spp.	+	+

+ = 1-2 individuals ++ = 2-5 individuals +++ = 5-10 individuals ++++ = 10+ individuals +++++ = 20+ individuals

9 DISCUSSION

Within the constraints of modern land-use, trial-trenching has sampled the site as widely as possible. In particular, the area in the angle between Allison Street and Wellhead Lane was in use as a builders compound, and was not available for trial-trenching. Trench 4 could only be partly investigated, because of health and safety concerns. Trial-trenching sampled the Digbeth frontage area (Trench 1), the line of the town ditch (Trenches 2, 4-5), and also an area to the north of the town boundary ditch (Trench 3). Trenches 1-4 permitted sampling of the full sequence of archaeological deposits to the natural subsoil, which was not reached in Trench 4.

9.1 Pre-town boundary ditch activity (Figs. 4-5)

Of particular importance was the evidence for activity pre-dating the town boundary ditch. The earliest deposit in Trench 2, layer 2001 was a waterlogged deposit which contained a single sherd of 12th-13th century pottery. Pollen from this deposit was dominated by alder, birch and oak. A relatively dense woodland canopy may be suggested. The insect remains from the deposit suggest slow-moving or stagnant water within the deposit, which was surrounded by rough ground and grazed areas. The pre-ditch deposits in Trench 3 (to the north of the ditch) comprised waterlogged organic material, interspersed with lenses of sand, which may have been contained within an anthropogenic or a natural feature (3010). One of these deposits (3024) contained 12th-13th century pottery. Layer 3025 contained tree pollen, dominated by alder, but more evidence of shrub and herb species than recorded in the sample from layer 2001. This suggests that the tree canopy was more open than that recorded in layer 2001. The insect remains from layer 3025 were similar to those recovered from layer 2001.

The stratigraphic evidence, and the pollen/insect remains both suggest that these deposits were laid down before the area was settled, perhaps during the use of the surrounding area for pasture. Deposits pre-dating the formal settlement of Birmingham are of particular importance in reconstructing the early chronology of the area, which is little understood at present. Waterlogged deposits containing informative pollen and insect remains can elucidate the nature of the surrounding landscape, including its early non-intensive use.

It should be noted that these ‘early’ deposits are not well dated; the medieval pottery was small in quantity and could be intrusive. The deposits may have been laid-down from the prehistoric to the very early medieval period – although a date at the later, rather the earlier

end of this broad range is the more likely. A quantity of tree pollen was found in an organic layer at Edgbaston Street during the Bull Ring excavations in 2001, which may have pre-dated the formal layout of the town (Hodder *et al.,* in press, 305).

9.2 Town boundary ditch and other medieval activity (Figs. 3-5)

The evaluation provided the opportunity to sample the town boundary ditch (2007, 3021), which was previously excavated to the northwest of the present site in 2001. Within Trenches 2 and 3 the excavated primary backfills of the ditch were waterlogged. As excavated, the ditch measured a maximum of 9.7m in width, but its full depth could not be ascertained, for reasons of health and safety. It is likely that the ditch was a minimum of 2m in depth. The later ditch backfills contained 15th-16th century pottery, which may be intrusive, in particular it could have derived from later deposits which have slumped into the earlier soft ditch backfills. The section of the backfilled town boundary ditch excavated in Trench 4 contained pottery of 12th-13th century date.

The adjoining Park Street excavation (Burrows *et al*. in press) recorded a section of the town boundary ditch to the northwest of the present site. Its backfills contained a quantity of kiln waste, including a firebar. The pottery provided a date in the 13th century for the abandonment and infilling of this feature, thought to be associated with the layout of Park Street which severed this ditch (Burrows *et al*., in press, 55). Excavation of the ditch at the Park Street site recovered quantities of cereals, which may represent charred fodder - indicating livestock farming in the vicinity. Evidence from the adjoining Park Street excavation (Hodder *et al*., in press 307), indicates that the town boundary ditch was at least initially filled with water.

The excavation of Trench 1 close to the Digbeth frontage provided further evidence of medieval activity. Two post-holes (1022, 1019) and a pit (1007) were recorded in this trench. The primary fill of feature 1007 contained late 12th-13th century pottery (although a later fill contained intrusive post-medieval pottery), and feature 1019 contained early 13th century pottery. The modern Digbeth frontage has taken part of the northern medieval street frontage. The medieval remains found in Trench 1 are likely therefore to have belonged within the medieval backplot area, perhaps representing temporary structures or fences, along with other features which have been lost to later activity. A layer of silt and soil (5030) overlying the natural subsoil in Trench 5 contained a single sherd of 13th century pottery, which could possibly be intrusive. The evidence from trial-trenching suggests that the majority of the site was given over to industrial activity through the medieval period, although caution is required in interpreting the evidence from trial-trenching.

Two pits, both wood-lined (4012, 4016) were recorded cutting the backfilled town boundary ditch in Trench 4. Their backfills contained pottery dated to the late 12th-13th century – similar to the date of the pottery contained within the upper backfills of the town boundary ditch in this trench. It is not known if the pottery from the two pits was residual. The wood lining, and lime backfills of these features suggest that they were associated with tanning.

Clay and wood-lined pits were recorded in the adjoining Park Street excavation (Burrows *et al*. in press, 58), where they were attributed to tanning. At that site the earliest tanning pits contained pottery of 13th-14th century date. The results of trenching at the present site indicate that this earlier medieval industry continued to the southeast of the earlier Park Street excavations. Tanning may have been tolerated close to the medieval market place because of its economic significance for the town (Hodder *et al*., in press, 313).

9.3 Later medieval-early post-medieval activity

Two possible pits (2014, 2017, Fig. 5) were recorded in Trench 2, the former cutting the town boundary ditch. Both feature backfills contained 17th century pottery. Pit 2014 may have been lined with clay, in which case an association with tanning may be suggested. In Trench 3 layer 3005, a possible cultivation horizon, was cut by pits 3015, 3023, 3038 and 3040, whose backfills included 17th-18th century pottery. In Trench 5, layer 5030 was cut by a large, possibly oval feature (5017/ 5032, Figs. 7-8) which contained traces of an associated timber structure. Its backfill also included bark or wood. The backfills of this feature contained pottery of 16th-17th century date. It is likely that this feature was associated with tanning. Oak bark was recorded in other medieval tanning deposits in Birmingham (Hodder *et al*., in press, 315). It may be suggested that the present site formed part of a broader zone of industrial activity, first recorded in the adjoining Park Street excavation (Burrows *et al*., in press, 62), of late medieval-early post-medieval date. The relatively small quantity of pottery recovered from trenching within the present site also suggests that it was unlikely to have been a zone of domestic occupation. The Park Street excavation (*ibid*.) also provided evidence of later medieval-early post-medieval high temperature industrial processes, which were not recorded within the present site. In particular, the Park Street excavation provided evidence for nearby pottery production in the form of wasters (Hodder *et al*., in press, 314).

9.4 Later post-medieval activity

A series of brick structures were identified within Trench 1 (Fig. 3), close to the Digbeth frontage. These formed part of courts laid out at a right-angle to the frontage, recorded on a map dated 1860 (Ramsey 2007, fig. 12). Brick walls were also recorded in Trench 2, the most notable of which (2033) respected the line of ditch 2007. Brick-built structures, including a cellar (3042) were also recorded in adjoining Trench 3, and a further cellar (4003) and other brick-built walls were recorded in Trench 4. A brick-lined tank or sump (5005) and a possible brick cellar (5013) were recorded in Trench 5.

10 IMPLICATIONS AND PROPOSALS

10.1 Implications

Trial-trenching has demonstrated the survival of important, well-preserved and informative deposits which pre-date the formal layout of the medieval town, including the cutting of the town boundary ditch. These pre-boundary ditch deposits comprise waterlogged soils which have the potential to provide an important range of evidence of the surrounding environment, and of its early low-level exploitation (e.g. for pasture). At present, these pre-boundary ditch deposits are not precisely dated, although the range of environmental indicators recorded, as well as the archaeological sequence in Trenches 2-3, indicate that these deposits very probably pre-date the first layout of the medieval town. This evidence is particularly important for our understanding of the early development of Birmingham.

The early layout of the medieval town is represented by the layout of the town boundary ditch. The earlier excavated backfills of this ditch are waterlogged. Evidence from the adjoining Park Street excavation suggests that a range of environmental indicators, and finds, are likely to be present – providing important information about the use of the surrounding area. The evidence from Trench 1 indicates some survival of features within medieval backplots, although the medieval street frontage will have been lost to the modern widening of Digbeth. Further to the north, the evidence from trial-trenching indicates that tanning was the predominant medieval

activity, which also extended into the post-medieval period. The apparent extended use of the site for tanning could provide important information concerning changes in tanning processes over several centuries.

10.2 Proposals

The range of archaeological deposits and features identified undoubtedly merit preservation by record in advance of development where reasonably accessible. This would involve detailed archaeological excavation, followed by post-excavation assessment, full analysis and reporting in accordance with The Management of Archaeological Projects 2 (English Heritage), leading to publication in a recognised archaeological journal.

Exceptionally, excavation may not be required in areas where development will not involve disturbance to archaeological deposits (e.g. public squares), although the effects of de-watering of waterlogged deposits by adjoining groundworks (e.g. basements) should also be considered.

The detailed strategy for archaeological excavation will be set down in a Design Brief to be prepared by the Planning Archaeologist, Birmingham City Council, who will also monitor its compliance on behalf of the Local Planning Authority up to full publication of the results.

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APPENDIX 1: WRITTEN SCHEME OF INVESTIGATION

Archaeological Desk-based Assessment and Evaluation

DIGBETH COLD STORE, BIRMINGHAM

1.0: INTRODUCTION

This document is based on:

- an archaeological brief, prepared by Dr Michael Hodder, Planning Archaeologist, Birmingham City Council, dated 17 July 2007.
- A historic environment study undertaken by Birmingham Archaeology in 2005.
- Desk-based assessment undertaken in 1995.
- Information provided by the adjoining Park Street excavation (2001)

While the broad aims and methodology described in the Council Brief, and in this Written Scheme of Investigation will be followed, certain specific details may require to be altered as further information becomes available. Such variations would be agreed in advance with the Planning Archaeologist of Birmingham City Council.

An archaeological desk-based assessment and evaluation is required in advance of the development in accordance with Policy 8.36 of Birmingham City Council Unitary Development Plan, government advice in Planning Policy Guidance Note 16 (PPG16), and the Council's Archaeology Strategy, adopted as supplementary planning guidance.

The Cold Store and locally listed buildings on the Digbeth frontage are likely to be retained. Buildings at the junction of Digbeth/Allison Street will be demolished, along with those buildings between Allison Street and Orwell Passage.

The proposal is for a mixed use development.

The desk-based assessment and trial-trenching is required before determination of the planning application. The work will permit the formulation of appropriate archaeological mitigation strategies which would be detailed in a separate written scheme of investigation. This document is confined in scope to the desk-based assessment and trial-trenching stages of work only.

Two separate illustrated reports would be prepared. The first would comprise the desk-based assessment; the second will report the results of trial-trenching.

2.0: SITE LOCATION

The southwestern boundary of the site (centred on NGR SP 07498655) is formed by the Digbeth frontage. Allison Street forms the eastern, Well Lane the northern, and 138 Digbeth the western boundaries of the site.

That part of the site fronting Well Lane comprises a surface car park, with a yard to the rear of nos 137-8 Digbeth and a yard to the east of the Cold Store forming the only open areas within the site. The remainder is built-up. The buildings on the Digbeth frontage are locally listed, with the exception of the building on the Digbeth/Allison Street junction.

3.0: ARCHAEOLOGICAL BACKGROUND

Full details of the archaeological background are provided by an assessment of the Digbeth/High Street Deritend/High Street Bordesley frontage, dated 1995. Further details are provided by the results of further work, most notably by the adjoining Park Street excavation, undertaken in 2001. The historic environment study (2005) has provided full details of the standing structures within the site.

The 1995 assessment identified evidence for watercourses and wells within the Cold Store site. These deposits suggest that organic finds such as wood and leather may survive, along with waterlogged plant, insect and pollen remains. In some areas the medieval/early post-medieval deposits may have been scoured-out, but it is likely that 'islands' of earlier deposits may have survived later disturbance.

Evidence from the adjoining Park Street excavations demonstrated survival of well-preserved archaeological deposits indicating occupation from the 12th century onwards. The structures comprised tanks, probably used for hemp or flax processing, property boundary ditches, and evidence for pottery manufacture and metalworking. In particular, the alignment of the 12th century ditch found in the Park Street excavation indicates that this feature will continue into the Cold Store site.

4.0: ASSESSMENT AND EVALUATION

4.1: Aims

The general aim of assessment and trenching is to define the extent, survival and significance of archaeological remains within the development to allow informed strategies for archaeological mitigation to be devised (if appropriate).

The specific aims of the assessment and evaluation are the following:
1) To assess the survival of domestic/industrial activity from the medieval period onwards, as represented by structures and industrial deposits.
2) To assess the survival of deposits of potential environmental interest.
3) To assess the potential of the site to contribute towards an appreciation of Digbeth and its surrounds.

4.2: Method

Assessment

The extent, survival and significance of archaeological remains on site will be assessed by site inspection, a search of published and unpublished records (principally those of the Park Street excavation), illustrations and historic maps, archaeological and geotechnical records, and a comparison with evidence from other sites in the Digbeth Deritend and Bull Ring areas. The primary sources for the assessment will be the 1995 desk-based assessment, the 2005 historic environment study and the unpublished report of the 2001 Park Street excavation.

Evaluation

The evaluation will take the form of trial-trenching, to sample the site as widely as possible taking into accounts the constraints imposed by modern land use.

A total of five trenches will be excavated (each measuring 15m by 2m).

The trenches will be located as follows:

- Two trenches in car park off Well Lane
- Trench to rear of 136-7 Digbeth (to intercept the line of the Park Street ditch)
- Trench in yard to east of Cold Store
- Additional trench to test features identified during assessment stage

Trench locations would be defined following completion of the desk-based assessment, to ensure they are chosen on a fully informed basis.

Trenches may require re-location to take account of site access constraints, live services and other health and safety considerations.

Trenches will be 2m wide at the uppermost archaeological horizon; where deep deposits are encountered this may necessitate excavating trenches to a maximum width of 4m, to allow for safe stepping of the trench sides.

In each trench the modern overburden would be removed by a JCB excavator equipped with a toothless ditching bucket, working under continuous archaeological supervision, to expose the uppermost horizon of significant archaeological deposits, or the surface of the subsoil, as appropriate. All subsequent excavation would be by hand. The machined horizon would be cleaned as appropriate to define the archaeological features and deposits present at their uppermost horizons. Each of the features identified would be tested by hand-excavation.

Environmental samples would be taken for assessment from a selection of datable contexts.

All finds would be washed, marked, bagged, and conserved, as appropriate. Recording would be by means of pre-printed pro-formas for contexts and features, supplemented by scale plans and sections and monochrome print and colour slide photography.

Monitoring visits would be arranged as appropriate during the fieldwork.

5.0: STAFFING

The assessment would be researched and compiled by Eleanor Ramsey. The evaluation would be managed for Birmingham Archaeology by Alex Jones, with the assistance of a Project Officer and 4 archaeological site assistants.

Specialist staff would be:
Erica Macey-Bracken, small finds
Val Fryer, charred plant remains
Stephanie Ratkai, post-Roman pottery

6.0: REPORTING

An illustrated report will be completed, describing the:
1) Aims and background to the trenching.
2) Results of the trenching, supported by appropriate plans and sections.
3) Summary of the finds and environmental evidence.
4) Assessment of the significance of the site, using the non-statutory criteria.

The report will also include a copy of the council brief.

A short summary report would also be prepared for inclusion in *West Midlands Archaeology*. On completion of the project the obligatory fields of an OASIS form will be completed and submitted.

7.0: ARCHIVE

The excavation archive will be deposited with an appropriate archaeological store, within a reasonable time of the completion of the fieldwork, and following consultation with the Planning Archaeologist.

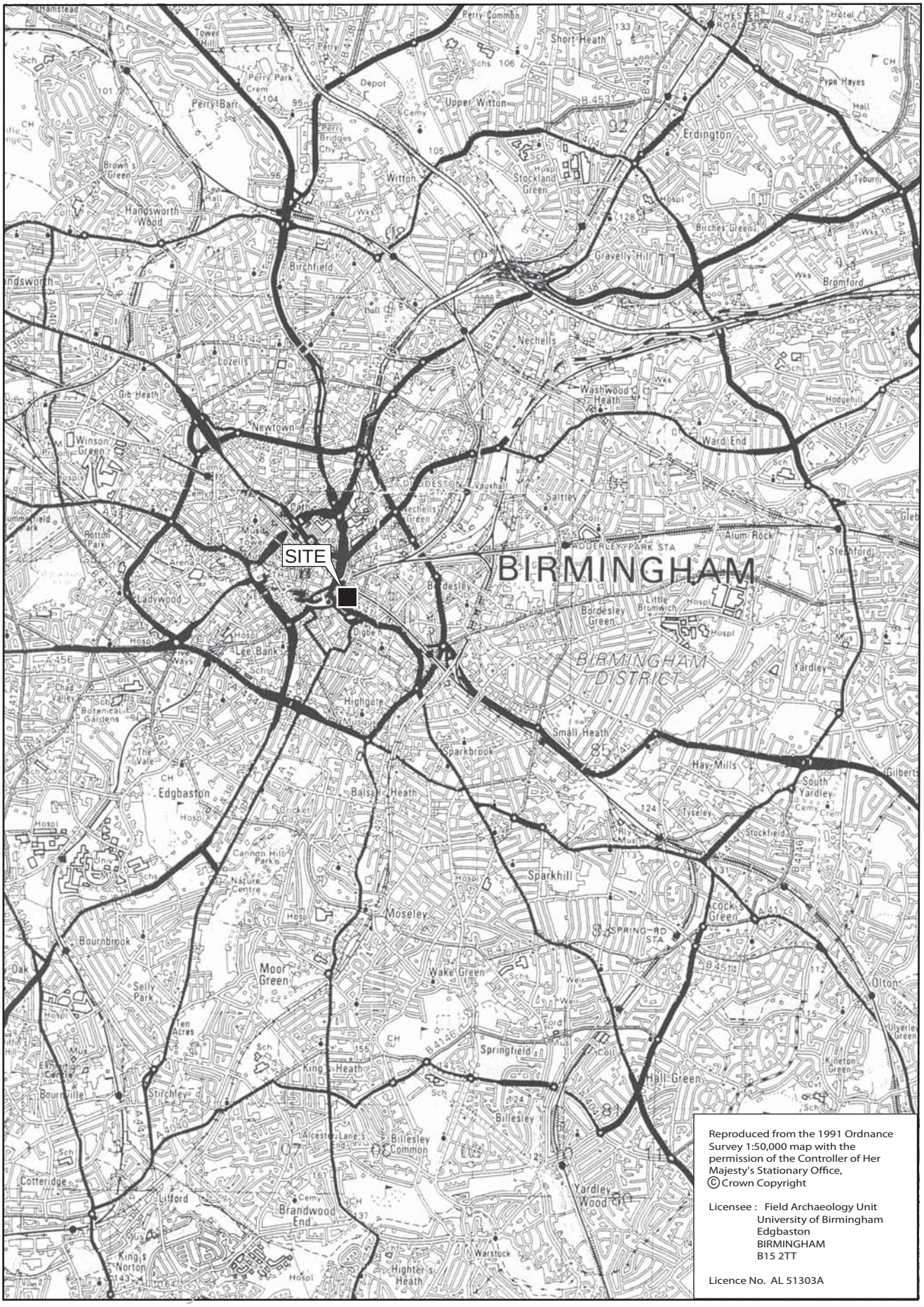
8.0: GENERAL

All project staff will adhere to the Code of Conduct of the Institute of Field Archaeologists.

The project will follow the requirements set down in the Standard and Guidance for Archaeological Evaluation prepared by the Institute of Field Archaeologists.

A Risk Assessment will be prepared prior to commencement of fieldwork.

Birmingham Archaeology 22 August 2007/ DRAFT NO. 1.


SITE
BIRMINGHAM
BIRMINGHAM DISTRICT
Perry Common
Short Heath
Upper Witton
Erdington
Stockland Green
Witton
Handsworth Wood
Birchfield
Gravelly Hill
Bromford
Nechells
Washwood Heath
Ward End
Newtown
Saltley
Alum Rock
Ladywood
Bordesley
Bordesley Green
Little Bromwich
Lee Bank
Highgate
Small Heath
Sparkbrook
Hay Mills
Edgbaston
Balsall Heath
South Yardley
Sparkhill
Moseley
Bournbrook
Moor Green
Wake Green
Springfield
Hall Green
Billesley
Yardley Wood
Brandwood End
Kings Norton
Highter's Heath
Warstock
Olton
Cotteridge
Bournville
Stirchley
Kings Heath
Cannon Hill Park
Botanical Gardens
Cocks Green
SPRING RD STA
ADDERLEY PARK STA
CHESTER ROAD STA
Reproduced from the 1991 Ordnance Survey 1:50,000 map with the permission of the Controller of Her Majesty's Stationary Office,
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Licensee : Field Archaeology Unit
University of Birmingham
Edgbaston
BIRMINGHAM
B15 2TT
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Fig.1

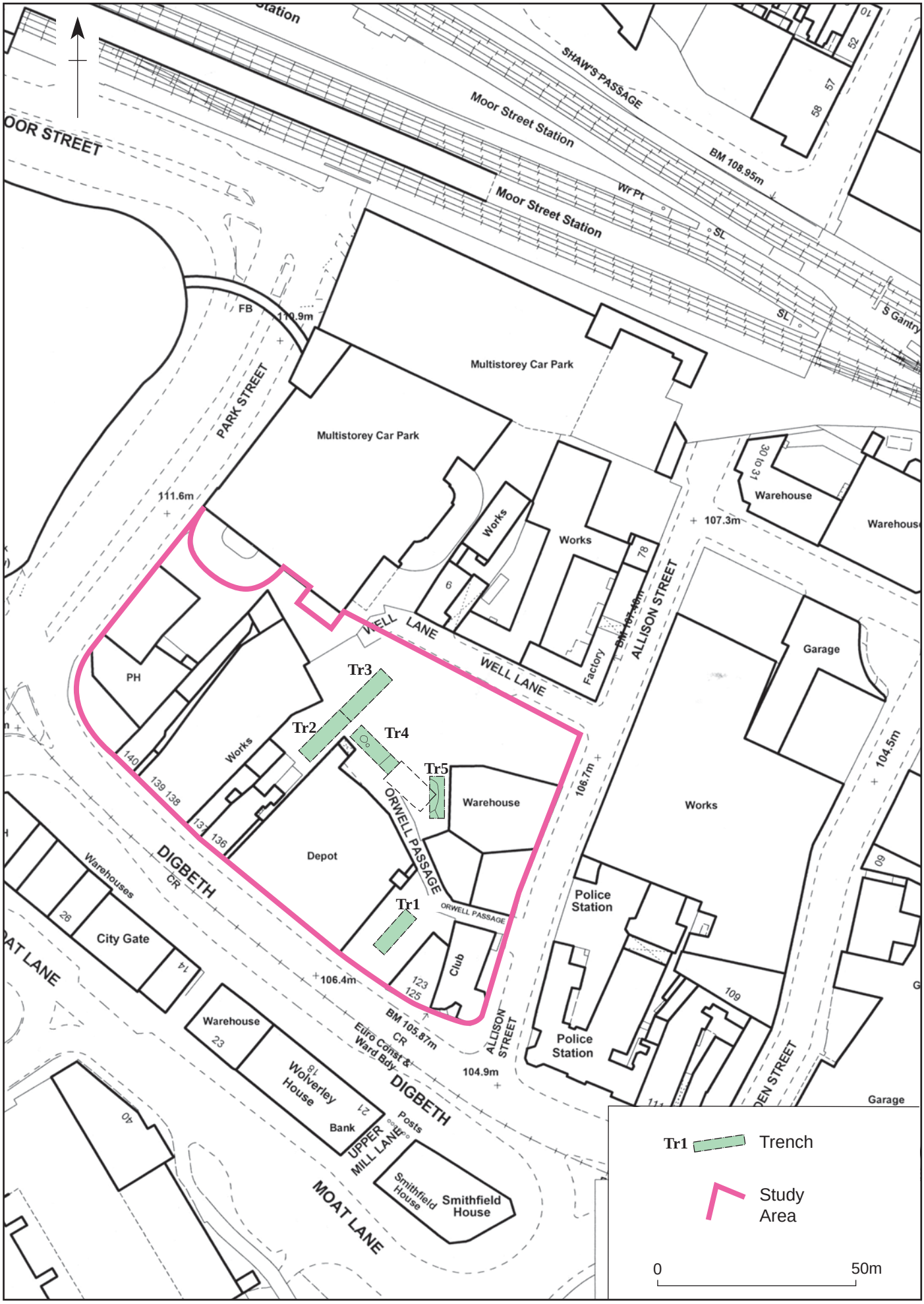

Moor Street Station
SHAW'S PASSAGE
BM 108.95m
Wr Pt
SL
S Gantry
FB
110.9m
Multistorey Car Park
Multistorey Car Park
PARK STREET
111.6m
Works
Works
Factory
ALLISON STREET
107.3m
Warehouse
Warehouse
WELL LANE
WELL LANE
Garage
PH
Tr3
Tr2
Tr4
Tr5
Works
Warehouse
ORWELL PASSAGE
106.7m
Works
104.5m
Depot
DIGBETH
Warehouses
City Gate
Tr1
ORWELL PASSAGE
Club
Police Station
Police Station
106.4m
BM 105.87m
Warehouse
Wolverley House
Bank
Etro Const & Ward Bdy
ALLISON STREET
104.9m
DIGBETH
Posts
UPPER MILL LANE
Smithfield House
Smithfield House
MOAT LANE
Garage
Tr1 Trench
Study Area
0
50m

Fig.2

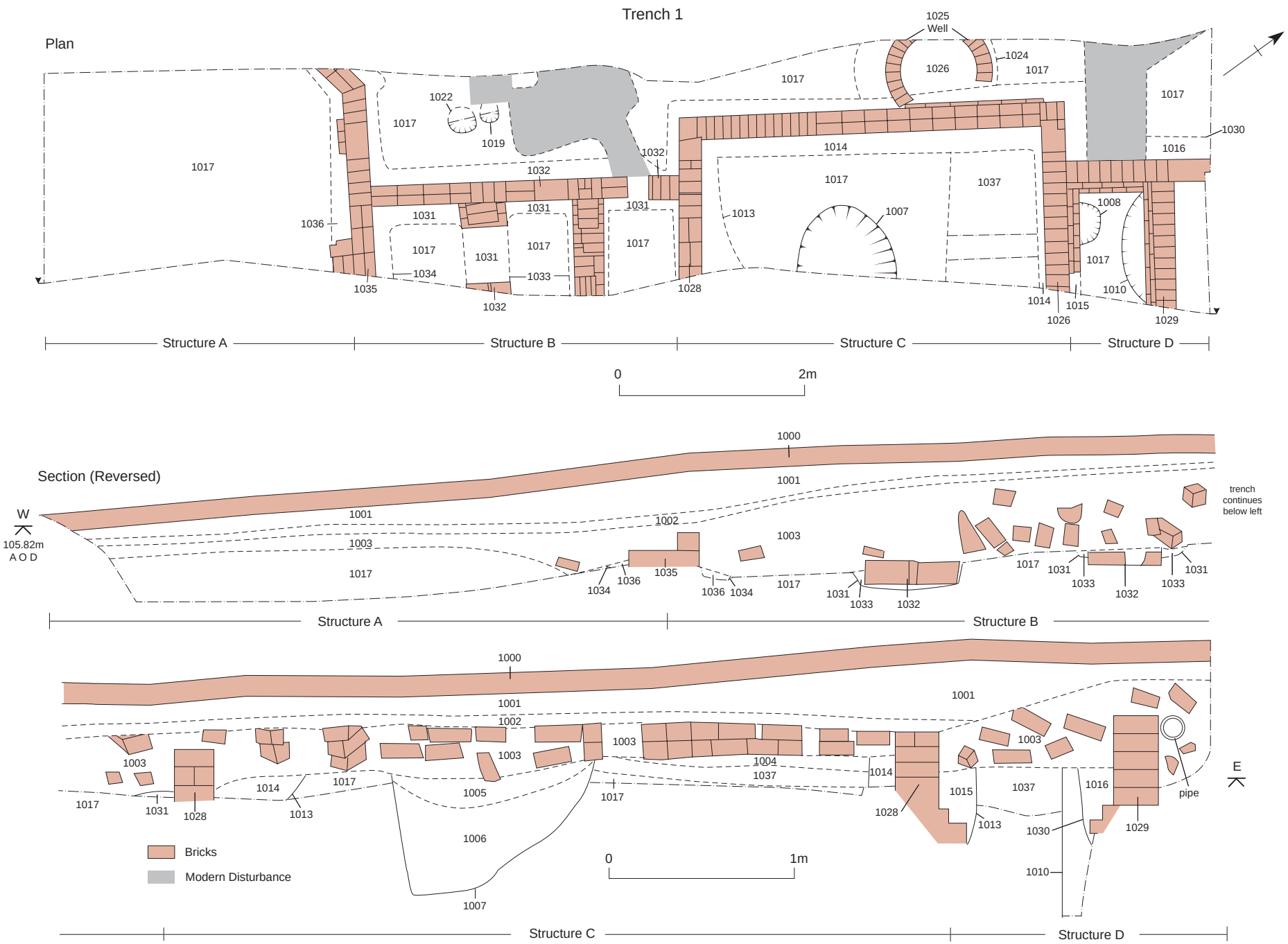
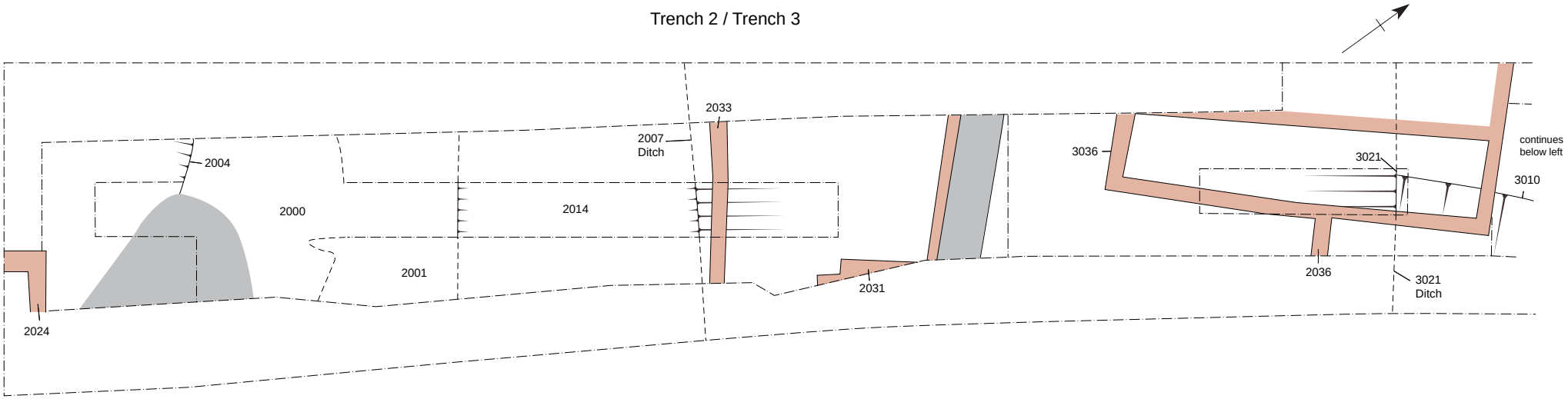
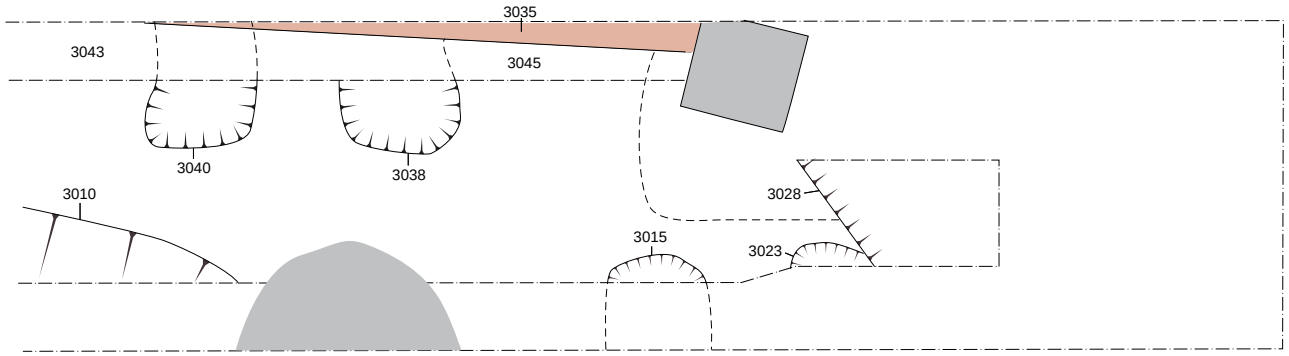

Trench 1
Plan
1025
Well
1024
1026
1017
1022
1019
1032
1014
1037
1013
1007
1008
1016
1030
1036
1031
1034
1033
1035
1028
1015
1010
1029
Structure A
Structure B
Structure C
Structure D
0
2m
Section (Reversed)
W
105.82m
A O D
1000
1001
1002
1003
1004
1005
1006
trench
continues
below left
pipe
E
Bricks
Modern Disturbance
1m

Fig.3

Trench 2 / Trench 3





0 2m

Bricks

Modern Disturbance

Fig.4

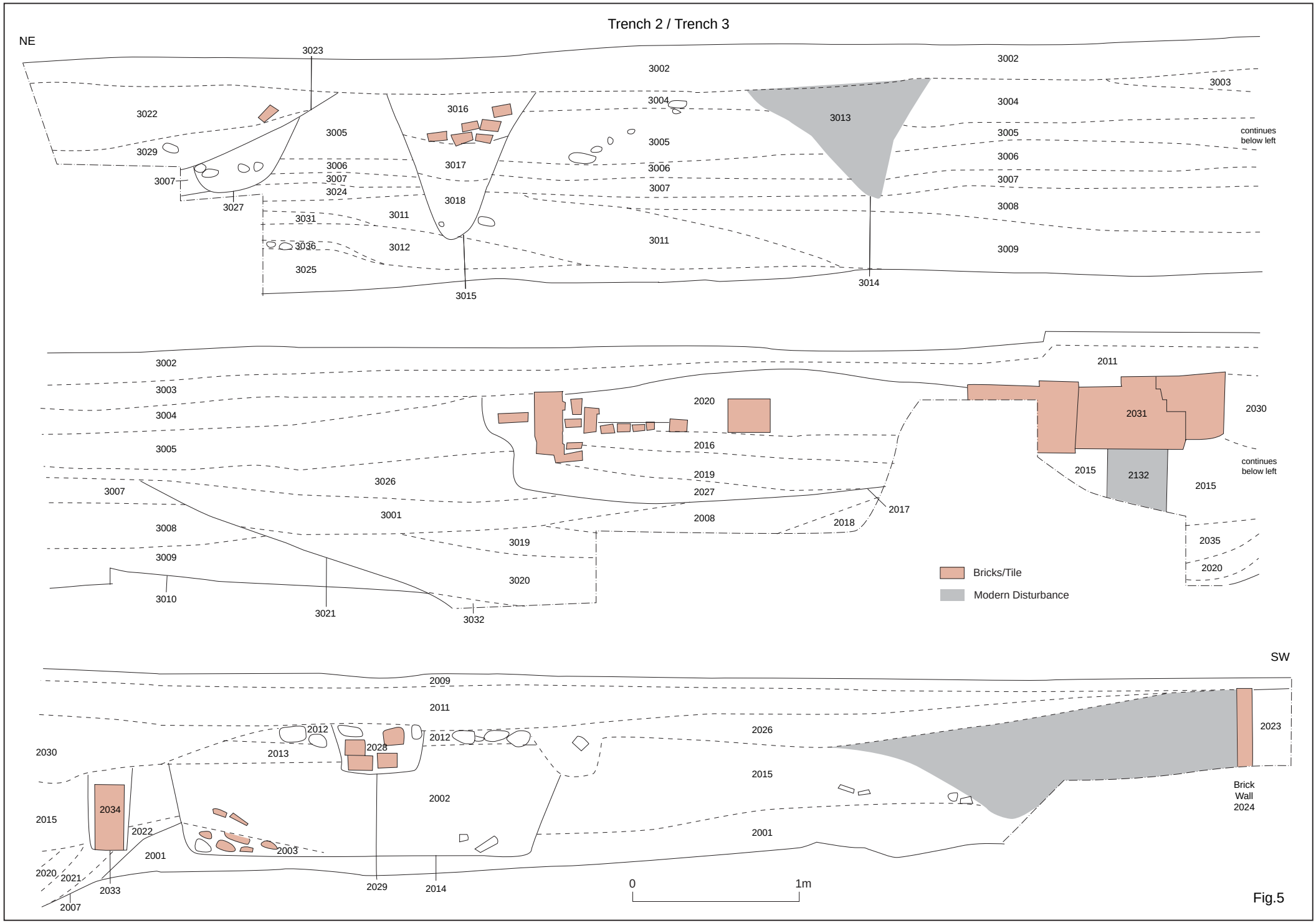

Trench 2 / Trench 3
NE
SW
3023
3002
3003
3004
3005
3006
3007
3008
3009
3022
3029
3016
3017
3018
3013
3027
3031
3011
3036
3012
3025
3015
3014
continues below left
2011
2020
2016
2019
2027
2008
2018
2017
2031
2030
2015
2132
2035
3026
3001
3019
3020
3010
3021
3032
Bricks/Tile
Modern Disturbance
2009
2012
2013
2028
2026
2023
2034
2022
2002
2001
2003
2021
2033
2029
2014
Brick Wall 2024
0
1m

Fig.5

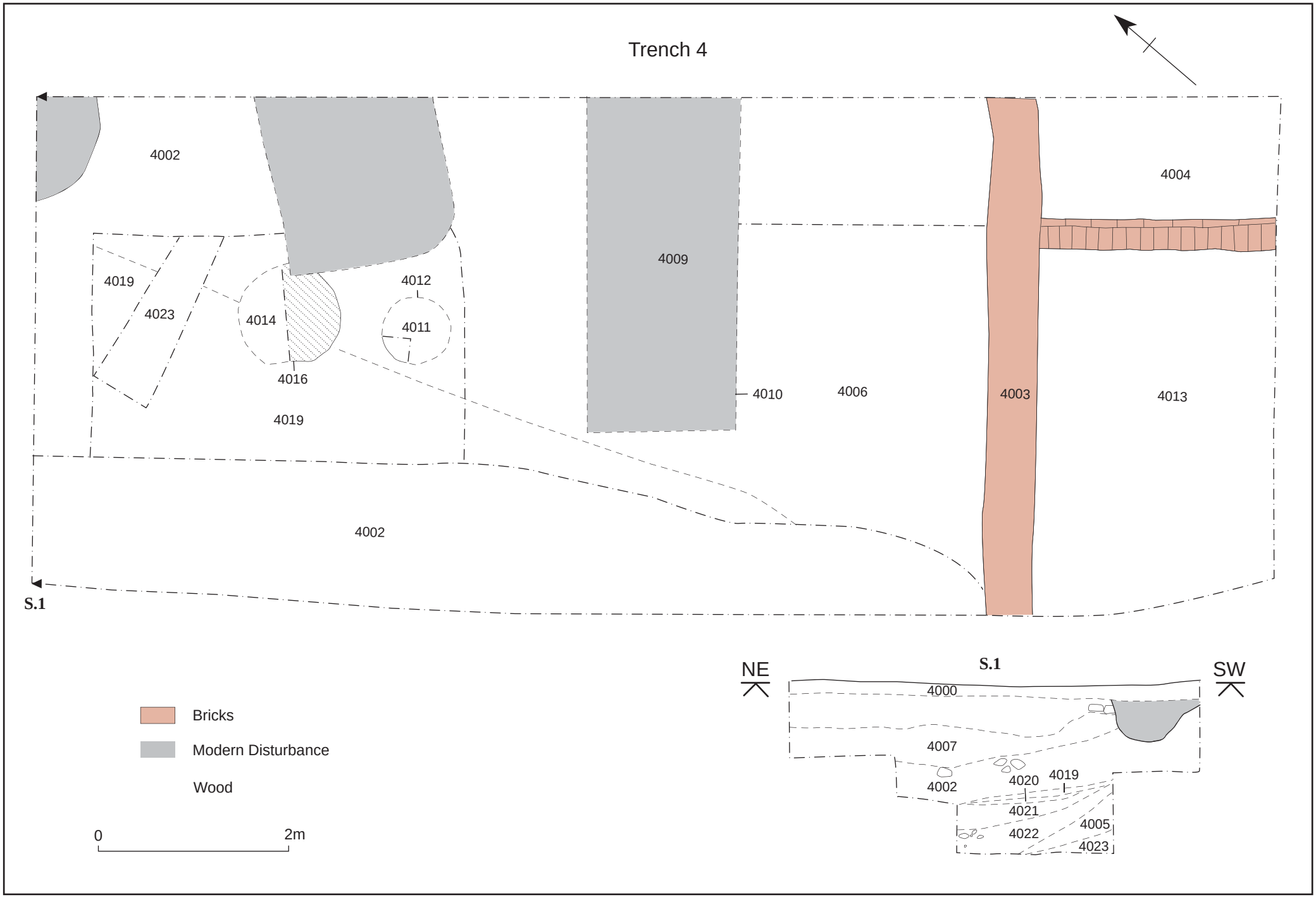

Trench 4
4002
4004
4009
4019
4012
4023
4014
4011
4016
4010
4006
4003
4013
4019
4002
S.1
NE
S.1
SW
4000
4007
4002
4020
4019
4021
4005
4022
4023
Bricks
Modern Disturbance
Wood
0
2m

Fig.6

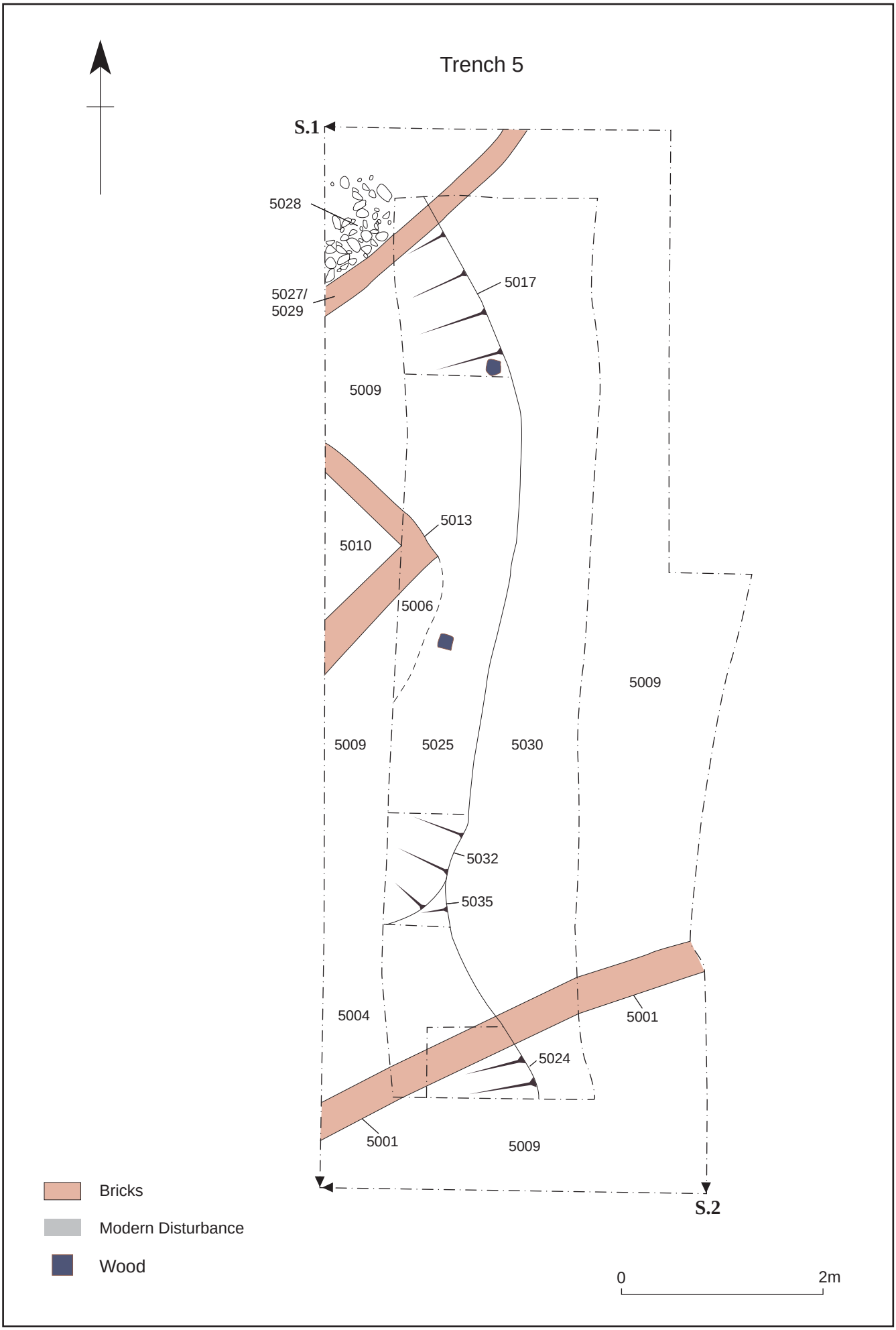

Trench 5
S.1
5028
5027/
5029
5017
5009
5013
5010
5006
5009
5009
5025
5030
5032
5035
5004
5001
5024
5001
5009
S.2
Bricks
Modern Disturbance
Wood
0
2m

Fig.7

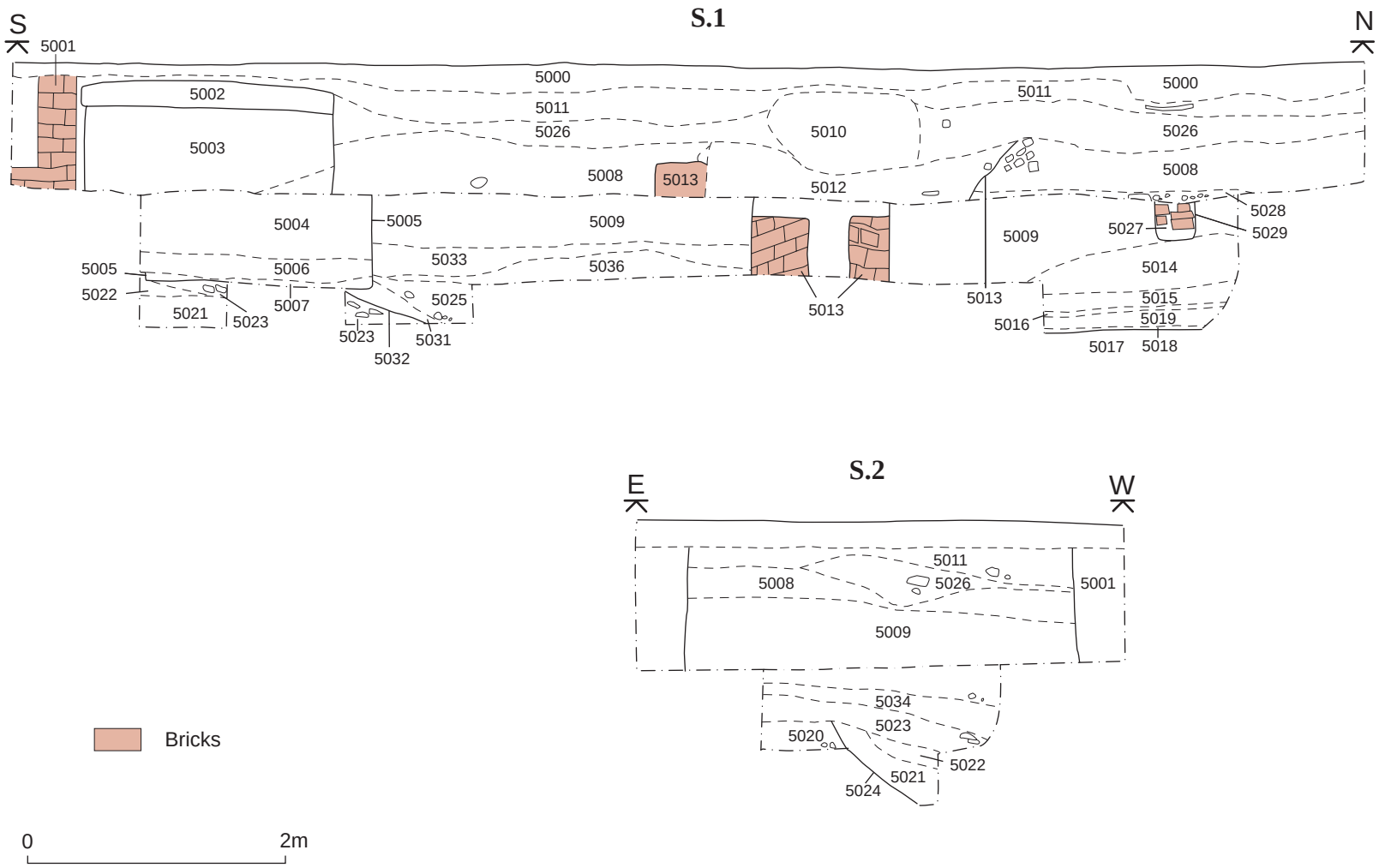

S.1
S
N
5001
5000
5002
5011
5026
5003
5010
5011
5000
5026
5008
5013
5012
5008
5004
5005
5009
5009
5027
5028
5029
5005
5006
5033
5036
5014
5022
5021
5023
5007
5025
5013
5013
5015
5016
5019
5023
5031
5032
5017
5018
S.2
E
W
5011
5008
5026
5001
5009
5034
5023
5020
5022
5021
5024
Bricks
0
2m

Fig.8

Plate 1. Trench 1 looking towards the southwest

Plate 2. Trench 2 northwest facing section

Plate 3. Trench 3 northwest facing section

Plate 4. Trench 4 Prior to excavation, northeast facing section

Plate 5. Trench 5 east facing section

Plate 6: Trench 2, looking northwest. Dark brown-black organic-rich deposits of context 2001 visible on the western trench face

Plate 7: Northern section of Trench 3, looking northeast. Dark brown black deposits comprising contexts, 3025, 3024 and 3012 visible at the base of the trench