ARCHAEOLOGICAL OBSERVATION

WATER MAINS REPLACEMENT SCHEME
VICTORIA STREET TO TRINITY (ST MARK'S ROAD)
BRISTOL
(BW PACKAGE 2)

NGR ST 59174 72795 – ST 60556 74252
JOB N^{O}: BA1209BWVST

border archaeology
unearth the past, resolve the future

ISO 9001 REGISTERED FIRM

Border Archaeology Limited
Registered in England and Wales
Company Registration Number 07857388
Registered Office: 45 Etnam Street Leominster Herefordshire HR6 8AE
Head Office: Chapel Walk Burgess Street Leominster Herefordshire HR6 8DE Tel: 01568 610101
Email: infol@borderarchaeology.com Web: www.borderarchaeology.com

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Frontispiece: Plan view showing masonry wall (909) in Pit 9 (Narrow Plain)

REPORT SPECIFICATION
Archaeological Observation: Jessica Cook BSc & Will Logan BA Dip
Draft Report: Jessica Cook BSc and Stephen Priestley MA
Artwork: Will Logan BA Dip.
Editing: George Children MA MIfA
Approved: Neil Shurety Dip. M. GM. Inst.M

1. Non-Technical Summary

This report details the results of a programme of Archaeological Observation (commonly known as a watching brief) undertaken by Border Archaeology on behalf of Bristol Water plc during the Victoria to Trinity mains replacement scheme in central Bristol, between the 22nd October 2012 and the 25th April 2013.

Based on the results of a detailed archaeological assessment of the study area previously undertaken by Border Archaeology (BA, 2012) it was identified that the pipeline route extended through an area of ***Moderate to High*** *archaeological sensitivity within the medieval suburb of Redcliffe and Temple and along the southern and eastern fringes of the medieval suburb of Old Market in close proximity to the line of the 'Great Ditch', dug in the late 12th/ 13th century to defend the Old Market suburb. All the pits exhibited evidence of heavy disturbance by late 19th/20th century road construction works and service trenching; however, significant archaeological remains were identified in six of the pits excavated.*

- *The footings of masonry walls were identified in Pits 4 (close to the junction of Temple Street and Counterslip), 7 (on the south side of Passage Street) and 9 (at the junction of Narrow Plain with Temple Way).*

- *Wall (404), an irregularly coursed, un-mortared Pennant sandstone structure, appeared to represent the footings of a wall of late medieval or early post-medieval date, situated to the rear of a former tenement on the W side of Temple Street which was demolished in the late 19th century.*

- *Within Pit 7, two sandstone masonry walls (706) and (707) were identified, which appeared respectively to represent an internal and an external wall associated with an elongated block of properties formerly located on the S side of Passage Street, extending east-west from the junction with Cheese Lane/Tower Street to the river, which appears to have been largely demolished in the early 19th century*

- *Within Pit 9, three substantial Pennant sandstone walls, (907), (909) and (915), were revealed, probably associated with No. 8 Narrow Plain, a house of possible late 17th or early 18th century date formerly located on the S side of Narrow Plain, which was removed for the widening of Temple Way in the late 1960s*

- *In Pit 21, excavated at the crossroads of Old Market Street, Midland Road, West Street and Lawford's Gate, the remains of a deep, rough-hewn masonry culvert were encountered, while in Pit 25, dug at the junction of Lamb Street and Wade Street, the remains of an in-filled cellar of 18th or 19th century date were identified.*

- *Possible evidence of industrial activity was revealed in Pit 23 (Pennywell Road), represented by several well-stratified deposits containing vitrified fuel waste, charcoal and clinker, representing evidence for glass production or working and possibly copper smelting. It was thought that these deposits might represent evidence of in-situ glassworking activity, possibly of early post-medieval date; however, it appears more likely that it represents imported levelling material associated with the construction of a terrace of houses along the W side of Pennywell Road in the early 19th century.*

2. Introduction

Border Archaeology was instructed by Bristol Water plc to carry out a programme of Archaeological Observation during the water mains replacement scheme from Victoria Street to Stapleton Road, Bristol, which occurred intermittently between 22nd October 2012 and 25th April 2013. The aim of the Archaeological Observation was to locate and record any archaeological finds, features or deposits within the ground works area and to confirm that no impact on the archaeological resource occurred during the course of the ground works without the implementation of a programme of archaeological recording.

The route of the scheme extended for an approximate distance of 2.25 km from the junction of Victoria Street and Counterslip (NGR ST 59174 72795) to the junction of Stapleton Road and St Mark's Road (NGR ST 60556 74252) and passed through two Conservation Areas designated by Bristol City Council, namely Redcliffe and Old Market. The majority of the scheme was identified as having a **High** archaeological potential for medieval and post-medieval archaeology, particularly focusing on the area from Passage Street to the south of the medieval church of SS Philip and Jacob, continuing along Unity Street and Midland Road to Lawford Street.

These identified areas covered the route from its start at the junction of Victoria Street and Counterslip (NGR ST 59174 72795) to the junction of Stapleton Road and Trinity Road (NGT ST 60036 73521) and a single location approximately 850m NE of this at the junction of Stapleton Road and St. Marks Road (NGR ST 60556 74252) where the discovery of a Roman coin hoard was recorded in the 19th century.

There were 29 access pits excavated along this route, to varying depths and widths, as required to expose the main. Due to the fact that this main was in large part located along the line of present-day roads, there were traffic-management constraints in place which resulted in all works being undertaken by a 5-tonne and a 3-tonne excavator. The excavations occurred concurrently with the laying of the pipe, meaning that the archaeological observations were carried out intermittently during the period of works.

2.1 Soils & Geology

The area is classed as unsurveyed in the Soil Survey of England and Wales (SSEW, 1983); however, the underlying solid geology is recorded as consisting of Redcliffe Sandstone of the Triassic period.

Fig. 1: Plan showing location of ground works on the Victoria Street to Trinity mains replacement scheme

3. Historical & archaeological background

Based on the results of a detailed archaeological assessment of the study area previously undertaken by Border Archaeology (BA, 2012), the pipeline route extends through an area of **Moderate** to **High** archaeological sensitivity, potentially containing evidence of significant archaeological remains chiefly dating to the medieval and early post-medieval periods, although these remains are likely to have been heavily disturbed by late post-medieval and modern building activity and road-construction works.

The potential for encountering archaeological features and deposits of prehistoric and Roman date was assessed as **Low**, reflecting the lack of archaeological records for prehistoric and Roman activity in the vicinity of the route, although the site of a possible prehistoric henge monument was identified east of Stapleton Road (near Clifton Place) while a single find-spot of a Roman coin hoard, ranging in date from the mid-3rd-late 4th centuries AD, was discovered at the northern end of the route, close to the junction of Stapleton Road and St Mark's Road.

The pipeline route extends through the medieval extra-mural suburbs of Redcliffe and Old Market, which appear to have been densely settled from the late 12th century onwards and recorded evidence of medieval activity in the vicinity of the pipeline corridor (25m on either side of the pipeline route) is considerably more substantial.

The route appears to run immediately S of the southern edge of an extensive garden or orchard, enclosed by a hedge and ditch, referred to in 1373 as the 'King's Orchard' and associated with Bristol Castle. Evidence for a possible boundary wall defining the outer edge of this was revealed during a watching brief undertaken in 1987 in Passage Street (HER Event No. 433). The pipeline route continues eastwards along Narrow Plain, immediately S of the extensive churchyard of the medieval church of SS Philip and Jacob, which covers an area of approximately 4700 sq. m (HER No. 937M). The southern edge of the churchyard appears to have been encroached upon by the widening of Narrow Plain at some point between 1880 and 1900 and (to a lesser extent) by subsequent road-widening works in the 1970s meaning that human remains may be present in this area although probably heavily disturbed by the levelling of the churchyard and subsequent road construction works.

The medieval suburb of Old Market, which extended eastwards from the E gate of Bristol Castle along Old Market Street as far as the site of Lawford's Gate, is believed to have been established during the 12th century. The suburb was enclosed by a substantial ditch referred to as the 'Great Ditch' (HER No. 936M) that was largely backfilled by the late 16th-early 17th century. Archaeological evidence for the existence of the 'Great Ditch' is somewhat limited, although isolated stretches may have been identified during a watching brief carried out in 1986 on Old Market Street and possibly in 1982, on Unity Street, near the corner with Midland Road. A substantial section of the pipeline route, extending from Passage Street, to the S of the medieval church of SS Philip and Jacob, and continuing along Unity Street and Midland Road to Lawford Street, runs along or in close proximity to the line of the 'Great Ditch', although no evidence for it was encountered during these observations.

Immediately W of Midland Road, where it meets Old Market Street are the almshouses of Trinity Hospital, which were originally founded between 1395 and 1408 and were rebuilt

between the mid-1850s and the early 1880s. The pipeline route runs along Midland Road immediately adjacent to the almshouses.

To the W of the crossroads formed by the intersection of Old Market Street, West Street, Lawford Street and Midland Road is the site of Lawford's Gate (HER No. 929M), a medieval gateway guarding the eastern approach to the Old Market suburb. The gate was demolished in 1768 and no extant remains survive above ground. From these crossroads, the pipeline route continues further to the NE along Lamb Street and Stapleton Road, heading towards the medieval hamlet of Easton. There are limited documentary references to settlement outside the boundaries of the Old Market suburb dating back to the late 13th century; however, archaeological evidence suggests an increasing growth of settlement during the late medieval period, extending along West Street and (to a lesser extent) Lamb Street. A watching brief undertaken in 2003 on the NW side of Lamb Street revealed evidence of masonry walls possibly of late medieval date. The section of the pipeline route extending NE from Lamb Street along Stapleton Road appears to have relatively less potential for evidence of medieval activity, reflecting the fact that this area was sparsely populated throughout the medieval period.

Significant evidence of post-medieval archaeology has been recorded in the vicinity of the proposed pipeline route, attesting to the rapid expansion and intensification of settlement activity in this part of Bristol from the late 16th –early 17th century through to the 19th century.

The suburb of Redcliffe underwent significant development during this period, focusing on industrial activity, with the construction of several brick kilns, a sugar refinery and, during the 1870s, an extensive brewery complex (the Courage Brewery). There is significant evidence for 18th century brickmaking activity in this area and during the excavation of a pipe trench at the junction of Temple Back and Counterslip in 1972, in the vicinity of the pipeline route, late 18th century kiln furniture and salt-glazed 'wasters' were discovered. There is also significant evidence of 17th-18th century brick and pottery manufacturing sites identified in the vicinity of the church of SS Philip and Jacob, extending eastwards towards Unity Street.

Further evidence of industrial sites of early-post-medieval date has been identified along Unity Street, close to the line of the medieval 'Great Ditch'. In 1982, a watching brief on a site bounded by Jacob Street, Unity Street and Midland Road identified the remains of a building fronting onto Unity Street, reputedly used as a tannery, on the line of the medieval defences. Located within this site was an early post-medieval house referred to as 'Baber's Tower' (HER No. 687M), which is visible on Millerd's map of 1673 and was used in the early 18th century as a zinc-smelting site, although previous archaeological works have failed to identify the site of the furnaces related to this building. The pipeline route extends along Unity Street and Midland Road, immediately to the S and E of the Baber's Tower site.

The route continues to run along Midland Road immediately adjacent to the Trinity Hospital almshouses. During service trenching in the centre of Old Market Street in 2003 human remains of probable 17th century date were discovered at a depth of 1.5m below the road level, as well as several sections of extant masonry and a stone culvert (that was also encountered in the works detailed here). It is likely that late 18th-early 19th century road widening encroached upon the burial plot associated with the precinct of Trinity Hospital and the remains are associated with the almshouses.

A limited number of archaeological sites and built heritage assets are recorded along Lamb Street and Stapleton Road. 18th-early 19th century maps of the area show the steady growth of a ribbon settlement along Lamb Street and Stapleton Road, although much of the area still remained as open fields until the late 1830s-early 1840s. Evidence of light industrial activity was identified during excavations at Lamb Street in 1957, represented by the remains of a clay tobacco pipe kiln and a well which had been backfilled (HER Event No. 3296).

Continuing further to the NE, two prisons are recorded immediately to the S of Stapleton Road, Lawford's Gate 'Bridewell' at the junction of Stapleton Road and Brick Street (first depicted on Rocque's 1742 map), which was replaced by a larger 'House of Correction' situated a short distance to the E, built in the late 1780s. No remains of the 'Bridewell' or the later 'House of Correction' have survived.

Further to the NE along Stapleton Road, the pipeline route runs in close proximity to the sites of two mid-18th century turnpike gates, the Lebeq gate at the N end of Lansdown Road, at its junction with Stapleton Road, and the Blackbird Gate at the junction of Stapleton Road and St Mark's Road, near the NE terminus of the pipeline route. A small number of archaeological investigations have been undertaken in the vicinity of Stapleton Road; however, the results have been largely negative. These investigations mainly revealed made ground deposits (Robinson, 2007) although a watching brief on Lawford's Gate revealed several 19th century masonry remnants and made ground deposits overlying sterile deposits of sandy clay (Ducker, 2010)

4. Methodology

The archaeological programme of work detailed herein was carried out in accordance with recognised sources of professional guidance including *Standard and Guidance for an archaeological watching brief* (IfA 2008), *Standard and Guidance for archaeological excavation* (IfA 2008) and *Management of Research Projects in the Historic Environment* (*MoRPHE*) (EH 2006). Reference is also made to the relevant English Heritage Historic Environment Local Management (HELM) resources. Border Archaeology adheres to the IfA *Code of conduct* (2012) and *Code of approved practice for the regulation of contractual arrangements in field archaeology* (2008) and work was carried out in compliance with Bristol Water's *Code of Conduct*. All ground works were carried out by machine and toothless bucket under archaeological supervision.

Full written and photographic records were made in accordance with Border Archaeology's Field Recording Manual (2012). The written record comprised detailed stratigraphic recording using a context numbering system. The photographic record was made using a high-resolution (12 MPX) digital camera, comprising photographs of all excavated contexts and archaeological features and structures. Included in each photograph are appropriate scales and all photographic records have been indexed and cross-referenced to written site records. Details concerning subject and direction of view are maintained in a photographic register, indexed by frame number. Plans & sections were produced on gridded, archivally stable polyester film at scales of 1:50 or 1:20, as appropriate. All drawings were numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

5. Results

The route of the pipeline commenced at the junction of Victoria Street with Counterslip (NGR ST 59174 72795) and continued NE along Counterslip (where Pits 1, 3, 4, and 5 were located), Passage Street (Pits 2, 6, 7, 8, 11 and 13) and Narrow Plain (Pits 9, 10 and 12) to the junction with Temple Way.

From the W side of the Temple Way underpass (where Pit 14 was located) the pipeline continued E along Broad Plain (Pits 15, 16 and 22) and then followed Unity Street (Pits 17 and 18) in a NE direction to the junction with Midland Road (Pit 19).

From this junction the route turned NW along Midland Road to the crossroads of Old Market Street, West Street, Midland Road and Lawford Street (the location of Pit 21) and continued along Lawford Street (where pit 26 was located) before following Lamb Street (Pits 20, 24 and 25) in a NE direction.

The route continued on this alignment along Lawford's Gate to the junction with Stapleton Road and Trinity Road (where Pit 27 was located) then continued to follow Stapleton Road in a NE direction to its terminus at the junction with St Mark's Road at NGR ST 60556 74252 (where Pits 28 and 29 were located).

In addition to this, further works were carried out to the NW of the Stapleton Road, Trinity Road and Lawford's Gate junction on Pennywell Road (Pit 23).

5.1 Pit 1

Pit 1 (NGR ST 59216 72858) was located on Counterslip opposite Temple Street and formed the SW terminus of the route. It measured 5.8m (NE-SW) × 2.7.m (SE-NW) reaching a depth of 1.1m.

No significant archaeology was noted within this pit. The stratigraphic profile consisted purely of the tarmac road surface (100) overlying concrete (101) encountered at a depth of 0.1m which then overlay (102), a backfill associated with the main encountered at a depth of 0.7m

5.2 Pit 2

Pit 2 (NGR ST 59383 72961) was located on Passage Street opposite the junction with Queen Street. It measured 3.5m (N-S) × 2m (E-W) reaching a depth of 1.3m *(Plate 1)*. This trench was backfilled when work was completed and then later re-excavated and incorporated into Pit 7. The pit contained no significant archaeology and the stratigraphic profile consisted of the tarmac road surface (201) directly overlying (202) a backfill associated with services encountered at a depth of 0.4m and (203), a dark reddish grey gritty clay post-medieval made ground deposit with frequent CBM fragments and occasional 19th century pottery, also encountered at a depth of 0.4m

Plate 1: View SW showing Pit 2

5.3 Pit 3

Pit 3 (NGR ST 59219 72854) was situated on the junction of Counterslip and Temple Street opposite Pit 1 *(Plate 2)*. It measured 3m (NE-SW) × 1.3m (SE-NW) reaching a depth of 1.25m. The pit contained no significant archaeology and the stratigraphic profile was of the tarmac road surface (301) overlying the sequence of undated sterile sandy clay made ground deposits (302) (303) and (304), encountered at depths of 0.4m, 0.6m and 1m, respectively. It is likely that these deposits are also of a post-medieval date.

Plate 2: View SW showing NE section of Pit 3

5.4 Pit 4

Pit 4 (NGR ST 59215 72849) was located on the junction of Counterslip and Temple Street opposite Pit 3. It measured 9m (NE-SW) × 1.2m (SE-NW) reaching a depth of 1.75m. A section of extant masonry of possible late medieval or early post-medieval date was encountered at the NE end of the pit *(Plate 3)*.

Plate 3: View looking S showing N-facing elevation of masonry wall (404) revealed in Pit 4

The stratigraphic profile consisted of the tarmac road surface (401) overlying (405), a loose light brown stony levelling deposit encountered at a depth of 0.07m, which, in turn, sealed (402) a made-ground deposit with rubble inclusions encountered at a depth of 0.65m. This sealed (403), an earlier, sterile mid-brown clayey silt made ground deposit encountered at a depth of 0.9m. A remnant of a roughly N-S aligned wall (404) was encountered at a depth of 0.85m in the E-facing section of the pit, with evidence of a return oriented roughly E-W visible in the N-facing section (*Plate 3; Fig. 2*). Wall (404) was abutted by deposit (403) and sealed by (402); it was composed of undressed, irregularly coursed Pennant sandstone with no visible bonding material.

No dating evidence was recovered either from the wall or associated deposits but the irregular coursing of the masonry (and the absence of any obvious bonding material) suggested a medieval or early post-medieval date. Documentary and cartographic evidence appears to indicate that (404) probably corresponds to the rear wall of a tenement of medieval or early post-medieval date fronting onto the W side of Temple Street, which was extensively rebuilt in the late 19th century (and recorded as No. 149-150 Temple Street). These premises were damaged by bombing during the Second World War and the remainder demolished when Counterslip and Temple Street were laid out on their existing alignments in the early 1970s.

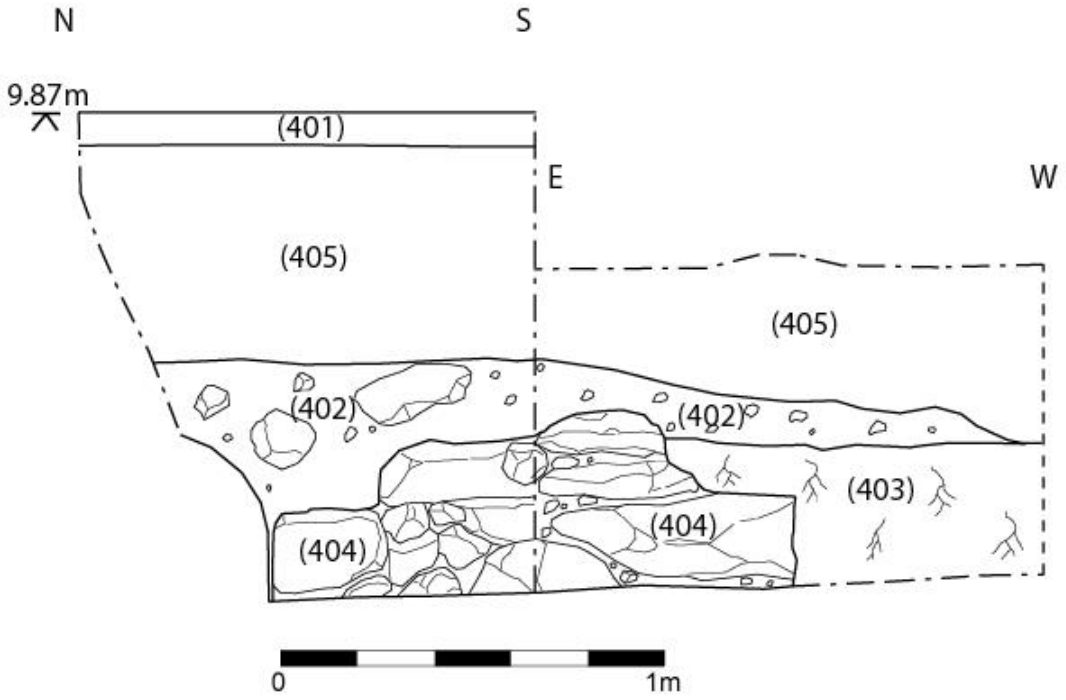

Fig. 2: Pit 4 - E and N-facing sections showing wall (404)

5.5 Pit 5

Pit 5 (NGR ST 59285 72909) was located on the junction of Counterslip and Temple Back. It measured 6.1m (NE-SW) × 4m (SE-NW) reaching a depth of 1.3m. The trench also had a small 2m by 1m addition excavated 5.6m to the S and connected to the main trench by a narrow *sondage*. A remnant of the previous cobbled road surface of probable late 19th/early 20th century date was revealed in this additional excavation.

The stratigraphic profile was of the tarmac road surface (501) overlying an associated pink stone bedding layer (502) encountered at a depth of 0.3m. This sealed (503), a probable late post medieval dark brown silty made ground deposit with rubble inclusions in the majority of the pit and (504) a sterile orange sandy deposit in the NW corner, both encountered at a depth of 0.65m. In the small addition to the S, the bedding layer (502) sealed a remnant of a cobbled surface (505), encountered at a depth of 0.5m *(Plate 4)*.

Plate 4: View NE showing remains of late 19th/20th century cobbled surface in Pit 5

This surface was composed of pitched regular machine cut cobbles measuring on average 200mm × 145mm × 100mm and set in a light grey sandy bedding material and was likely to be of late 19th to early 20th century date. The surface had been heavily truncated by service trenching, with the remnants measuring 1.1m (E-W) × 0.7m (N-S), and formed part of the previous road surface. Underlying cobbling (505) was a layer of associated concrete bedding (506) encountered at a depth of 0.62m which also overlay the made-ground deposit (503).

5.6 Pit 6

Pit 6 (NGR ST 59373 72961) was located on Passage Street opposite the Bridge Inn. It measured 3.5m (E-W) × 1.5m (N-S) reaching a depth of 1.55m *(Plate 5)*. The stratigraphic profile comprised the tarmac road surface (601) overlying associated grey-stone bedding layer (602) encountered at a depth of 0.15m, which sealed (603) a probable late post-medieval dark brown silty made-ground deposit with frequent brick and stone inclusions encountered at a depth of 0.65m. No significant archaeological deposits or features were identified.

5.7 Pit 7

Pit 7 (NGR ST 59383 72961) was located on Passage Street directly opposite the junction with Queen Street. It measured 3.m (E-W) × 1.3m (N-S) reaching a depth of 1.25m. *(Plate 5)* There were two sections of extant masonry present in the pit, a substantial E-W wall with N-S return at the W end of the pit and a small N-S wall towards the E end.

Plate 5: General view NE showing Pit 7

The stratigraphic profile comprised the tarmac road surface (701) overlying an associated light pinkish-white concrete bedding layer (702) encountered at a depth of 0.15m. Underlying (702) was a loose orangey-brown sand with moderate small-medium stones (705) present at the W end of the pit, encountered at a depth of0.4m, measuring 3m (N-S) × 1.8m (E-W) and possibly forming an area of made ground or a dumped deposit. (702) also sealed (703), a soft dark orangey-brown and black mottled silty clay made ground with frequent small-medium stones and moderate brick fragments, also encountered at a depth of 0.4m.

This made-ground deposit overlay an extant section of masonry, wall (706), present in the northern section of the pit. towards the E end, encountered at a depth of 0.9m *(Plate 6; Fig. 3)*. Wall (706) was formed from irregular un-worked pennant sandstone with a light whitish-grey mortar bond and was randomly coursed. The wall had been truncated by the insertion of the water main and the remnants measured 0.34m (E-W) × 0.2m (N-S), with a visible

height of 0.45m. There was fragmentary evidence of white plaster on the western face but it was uncertain whether this represented internal plasterwork or an external render.

Plate 6: View N showing N-S aligned wall (706)in S-facing section of Pit 7

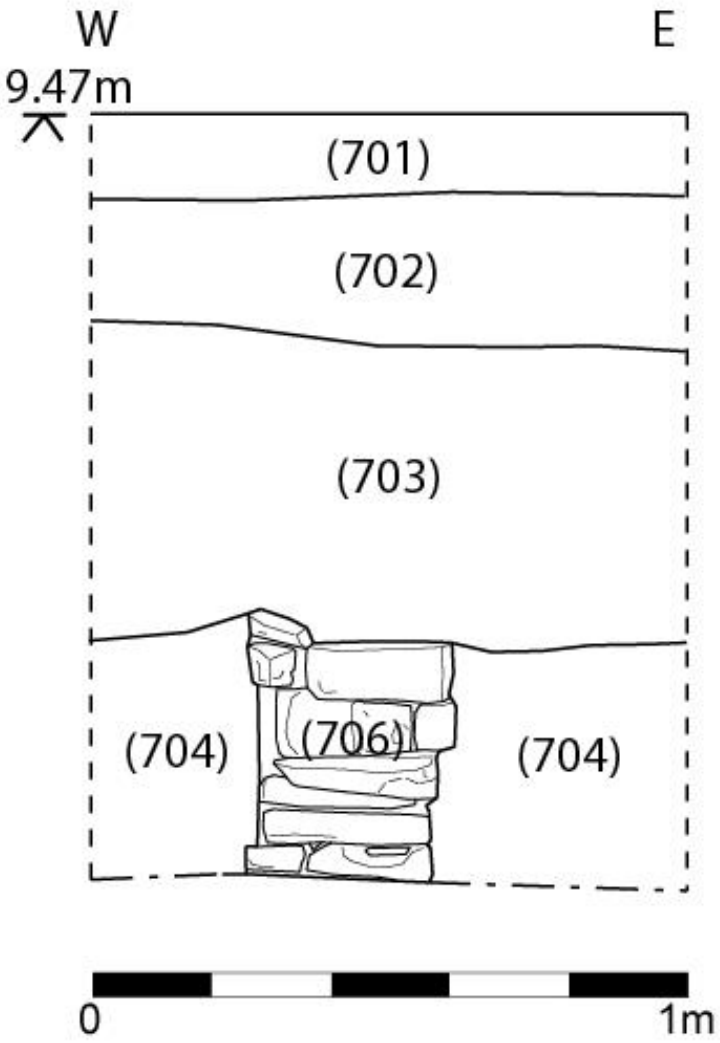

Fig. 3: Pit 7 – N-facing section showing masonry wall (706)

Plate 7: Plan view showing masonry wall (707) in Pit 7

At the W end of the pit, (703) overlay (704) a soft black silty clay made-ground deposit with frequent small-medium stones, moderate brick fragments and mortar flecks and occasional glass fragments, encountered at a depth of 0.95m. This made ground sealed a substantial section of extant masonry (707), an E-W wall with N-S return visible in the W section of the pit *(Plate 7; Fig. 4)*. Masonry wall (707) was formed from irregular un-worked Pennant sandstone with a light whitish-grey mortar bond and was randomly coursed. The wall had also been truncated by the water main and the remnants measured 1.22m (N-S) × 1.18m (E-W) and stood to a visible height of 1.25m. The S and W faces of the wall exhibited evidence of having been dressed.

The insubstantial construction of (706) suggests that it represented an internal partition wall, whereas the much more substantial masonry of (707) strongly indicates that it was an external wall. Both appear to relate to elongated block of properties formerly located on the S side of Passage Street, extending E-W from the junction with Cheese Lane/Tower Street to the river, which is first depicted on Rocque's map of 1742 but appears to have been largely demolished in the 1830s when Passage Street was widened.

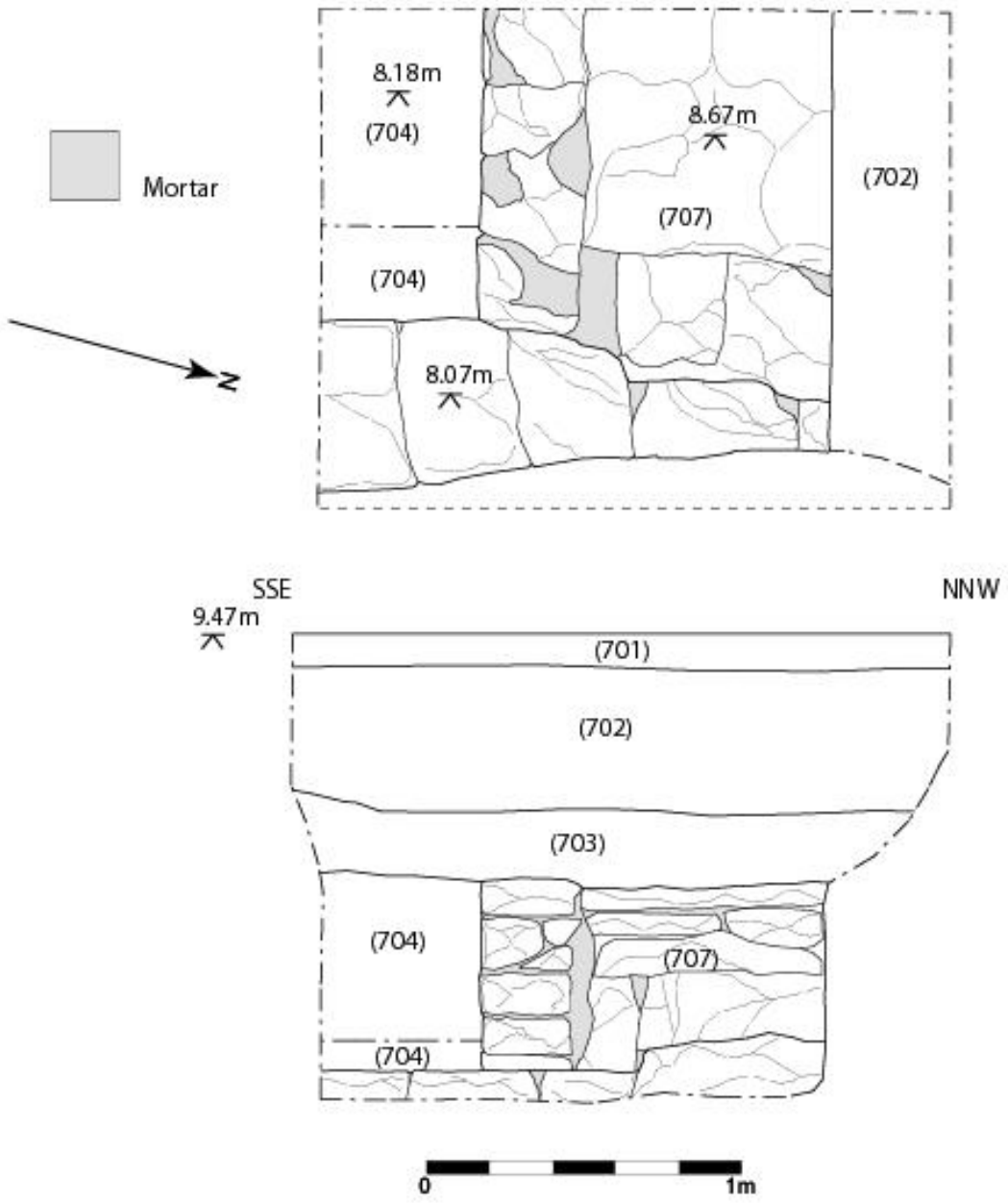

Fig. 4: Pit 7 – Plan and section of masonry wall (707)

5.8 Pit 8

Pit 8 (NGR ST 59373 72961) was located on Passage Street between Pits 6 and 7. It measured 2.1m (E-W) × 1.m (N-S) reaching a depth of 0.8m.

The pit contained no significant archaeology and the stratigraphic profile was of the tarmac road surface (801) overlying associated concrete bedding (802) encountered at a depth of 0.2m, which sealed (803), a probable late post-medieval silty clay made-ground deposit with rubble inclusions of stone and brick encountered at a depth of 0.6m.

5.9 Pit 9

Pit 9 (NGR ST 59525 72964) was located on the junction of Narrow Plain with Temple Way. It originally measured 10.5m (N-S) ×3.5.m (E-W) reaching a depth of 1.55m but was joined in an open-cut excavation to Pit 12, approximately 10m to the W. Two sections of extant masonry were present in the pit, a section of a NE-SW aligned wall in the stretch of open-cut trenching and a truncated wall remnant with associated brick floor located at the original SW limits of the pit.

Plate 8: View E showing masonry wall (907) and overlying brick surface (905)

The stratigraphic profile consisted of the tarmac road surface (901) overlying the associated concrete bedding layer (902) at the E side of the pit and a loose light greyish stony bedding layer (903) that was also sealed by (902) where it was present. Both of these deposits were encountered at a depth of 0.2m. Underlying (903) was (905), a small remnant of a rough brick surface present at the eastern section and encountered at a depth of 0.6m. (905) was composed of dark brownish-red bricks with average dimensions of 230mm × 120mm ×

60mm with a mid-grey mortar bond *(Plate 8)*. The brick surface measured 1m (N-S) × 0.15m (E-W) and it overlay (906), a soft dark brown silty clay with small stones and oyster shell inclusions measuring 0.6m (N-S) × 0.15m (E-W), and wall (907), both encountered at a depth of 0.66m. (907) was composed of irregular un-worked Pennant sandstone with a light whitish-grey mortar bond built to random courses. The remnant measured 1.05m (N-S) × 0.15m (E-W) and both sections of masonry (905) and (907) and the silty, possible dump deposit (906) were abutted by (904), a soft mid reddish-orange sand with small-medium sandstones that is likely to be an imported and re-deposited natural substrate material that has been used as a made-ground deposit during the construction of Temple Way in the 1970s. (904) was encountered at a depth of 0.62m and underlay (903).

Plate 9: View looking SW showing wall (909) in Pit 9

In the stretch of open-cut trenching, excavated to connect Pits 9 and 12, a further made-ground deposit (908) was encountered at a depth of 0.6m, underlying (902), and was part of the same material as (1205) in Pit 12. (908) was a dark grey and black mottled clayey silt with stone, brick and mortar inclusions and measured 7m (SE-NW) × 2m (NE-SW). This deposit overlay a substantial section of masonry walling (909) identified at a depth of 1m *(Plate 9; Fig. 5)*, composed of irregularly coursed, unworked Pennant sandstone bonded with a light whitish-pink mortar bond, measuring 0.9m (SE-NW) × 0.54m (NE-SW).

Plate 10: View looking N showing wall (915) in Pit 9A

A further extension (Pit9A), measuring 5.1m (N-S) × 5.5m (E-W) × 1.8m was subsequently added to the W side of Pit 9, extending into an area of waste ground to the W of Temple Way, which revealed another section of masonry walling (915). The stratigraphic profile in Pit 9A comprised a modern pipe trench [911] filled by (910) cutting a light brown sandy demolition spread (912) overlying a demolition rubble deposit (914) overlying a greyish gritty clay landscaping layer. Underlying this was a broadly contemporary brick rubble layer (916) overlying a masonry wall (915) at a depth of 0.5m, composed of irregularly coursed roughly worked sandstone with no visible mortar bonding; its visible extent measured 1.3m (N-S) × 0.65m (E-W) × 0.61m thick *(Plate 10; Fig. 6)*. Underlying this was (917), a soft clean reddish clay sand deposit.

Examination of cartographic sources suggest that (907), (909) and (915) were associated with No. 8 Narrow Plain, a house of possible late 17th or early 18th century date formerly located on the S side of Narrow Plain. No indication of a building in this location is shown on Millerd's map of 1673; however, Rocque's map of 1742 shows that this area was heavily built-up with housing by that date. The property survived bombing during the Second World War and was extant in 1963 but was subsequently removed for the widening of Temple Way in the late 1960s

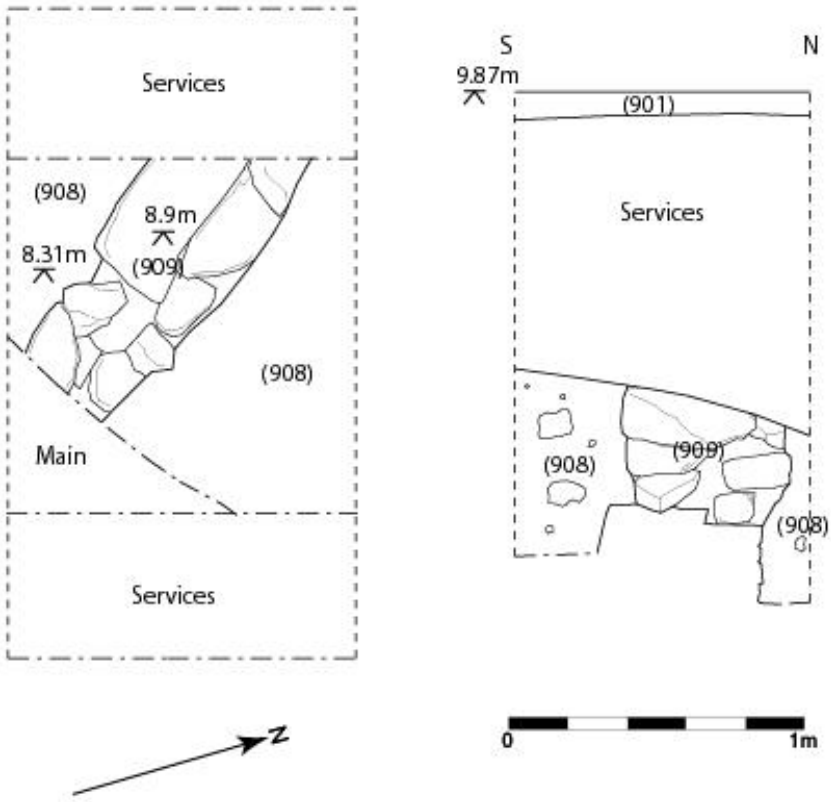

Fig. 5: Pit 9 - Plan and E-facing section of masonry wall (909)

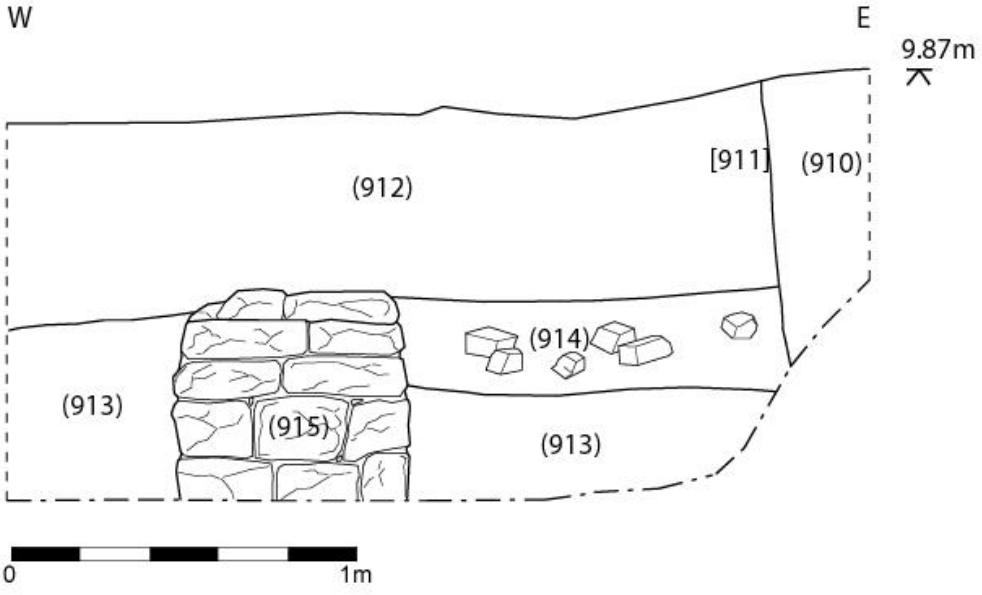

Fig. 6: Pit 9A - Plan and S-facing section of masonry wall (915)

5.10 Pit 10

Pit 10 (NGR ST 59440 72964) was located on Narrow Plain to the E of the junction with Cheese Lane. It measured 4m (E/W) × 3.5.m (N/S) × 1.45m. The pit contained heavily truncated remains of a previous cobbled road surface of probable late 19th/early 20th century date.

Plate 11: View S showing truncated remains of cobbled surface (1002) in Pit 10

The stratigraphic profile consisted of the modern tarmac road surface (1001) overlying a light yellowish-brown stone backfill (1005) associated with repairs and a cobbled surface of probable late 19th-early 20th century date (1002), which had been heavily truncated by modern services. Cobbled surface (1002) was composed of pitched regular, machine-cut cobbles measuring on average 200mm × 145mm × 100mm and set in a light grey sandy bedding material (1003); the visible extent of the cobbling measured 3.5m (N-S) × 1.5m (E-W) *(Plate 11)*.. Underlying (1003) and (1005), and identified at a depth of 0.5m, was (1004), a dark brown and black mottled clayey silt made-ground deposit with rubble and brick inclusions and oyster shell.

5.11 Pit 11

Pit 11 (NGR ST 59435 72964) was located on Passage Street to the W of the junction with Cheese Lane. It measured 3.5m (E-W) × 1.6m (N-S) × 1.2m. The stratigraphic profile comprised the tarmac road surface (1101) overlying (1102) an associated loose light pinkish-grey stony bedding layer present at the E end of the pit measuring 1.6m (E-W) × 0.5m (N-S) and (1103), an associated light whitish-grey concrete bedding layer. Both of these deposits were encountered at a depth of 0.2m and sealed (1104), a soft black silty clay made-ground deposit with moderate small stones and bricks and occasional medium stones encountered at a depth of 0.47m. No significant archaeology was identified.

5.12 Pit 12

Pit 12 (NGR ST 59524 72966) was located on Narrow Plain opposite Church Lane. It measured 3.5m (E-W) × 1.7m (N-S) × 1.6m. The pit was later joined to Pit 9 located to the E by a 10m stretch of open-cut trenching. The pit contained heavily truncated remains of a cobbled road surface of probable late 19th/early 20th century date.

The stratigraphic profile consisted of the tarmac road surface directly overlying (1202), a loose, mid orangey-brown stony bedding layer that was encountered at a depth of 0.15m and was present in the majority of the pit, measuring 3.2m (E-W) × 1.7m (N-S). Also sealed by (1201) and abutted by (1202) was (1203), the heavily truncated remains of a late 19th-early 20th century cobbled road surface also encountered at 0.15m. Cobbled surface (1203) was formed of regular machine-cut rectangular cobbles with slightly rounded corners and average dimensions of 200mm × 145mm × 100mm with a light grey sandy mortar bond *(Plate 12)*; it was only visible at the W end of the pit, measuring 1.7m (E-W) × 0.3m (E-W).

Underlying (1203) was (1204), an associated light greyish-white concrete bedding deposit encountered at a depth of 0.27m and of the same dimensions as (1203). Sealed by both (1202) and (1204) was (1205), a soft black and brown mottled silty clay made ground with frequent small-medium stones and occasional bricks encountered at a depth of 0.4m.

Plate 12: View S showing heavily truncated cobbled surface (1203) at W end of Pit 12

5.13 Pit 13

Pit 13 (NGR ST 59408 72963) was located on Passage Street, opposite the NHS Clinic. It measured 3.5m (E-W) × 1.8m (N-S) × 1.45m.

The pit contained no significant archaeology and the stratigraphic profile consisted of the tarmac road surface (1301) overlying an area of loose light pinkish-brown stony backfill (1302) associated with previous works encountered at a depth of 0.2m and measuring 3.2 (E-W) × 0.5m (N-S). Also underlying (1301) at the same depth was (1303), a light greyish-white concrete bedding layer measuring 2m (E-W) × 1.3m (N-S). (1303) sealed (1305), a loose light yellowish-brown stony levelling layer present at the western side of the pit, encountered at a depth of 0.5m and measuring 2m (E-W) × 1.3m (N-S). Underlying both (1302) and (1305) was (1304), a soft dark grey and black mottled clayey silt made-ground with moderate small-medium stones encountered at a depth of 1.2m.

5.14 Pit 14

Pit 14 (NGR ST 59551 72947) was located on the E of Temple Way to the S of the junction with Broad Plain. It measured 11m (N-S) × 4m (E-W) × 1.7m.

The pit contained no significant archaeology and the stratigraphic profile consisted of the tarmac road surface (1401) overlying an associated loose light yellowish-grey stony bedding layer (1402) encountered at a depth of 0.2m and (1405) a small area of light pinkish-white concrete only present at the eastern edge of the pit. (1405) was encountered at a depth of 0.25m and both this and (1402) sealed a thin levelling layer (1403) composed of a loose mid reddish-orange sterile sand encountered at a depth of 0.5m which, in turn, sealed (1404), a soft dark grey and black mottled silty sand with frequent small-medium stones and occasional brick and CBM fragments, encountered at a depth of 0.6m.

5.15 Pit 15

Pit 15 (NGR ST 59554 72961) was located on the junction of Temple Way and Broad Plain. It measured 7m (NE-SW) × 2.7m (SE-NW) × 1.9m.

The stratigraphic profile comprised the tarmac road surface (1501) present at the W end of the pit measuring 5m (N-S) × 0.4m (E-W) abutting the concrete paving slabs (1502) measuring 7m (N-S) × 1.2m (E-W). Underlying (1501) was an associated concrete bedding layer (1503) of the same dimensions, encountered at a depth of 0.16m. (1502) and (1503) both sealed (1504), the first of a series of levelling and made-ground deposits that was encountered at a depth of 0.1m.

Deposit (1504) was composed of loose dark reddish-orange sand with medium sandstone inclusions interpreted as an imported and re-deposited natural substrate material. Underlying this was (1505) formed of loose tarmac fragments, medium stones and bricks in a sandy matrix, (1506) a mid yellowish-grey stony levelling layer and (1507) a moderately compact mid reddish-orange sand with small-medium sandstone inclusions that is likely to have been formed of natural Redcliffe sandstone geology that had been disturbed and re-deposited during the installation of the water main. These deposits were encountered at depths of 0.55m, 0.75m and 0.95m, respectively.

5.16 Pit 16

Pit 16 (NGR ST 59644 72993) was located at the junction of Broad Plain and Unity Street. It measured 3.5m (N-S) × 1.8m (E-W) × 1.25m. The pit exposed the remains of a previous cobbled road surface of probable late 19th/early 20th century date *(Plate 13)*.

Plate 13: View looking W showing E facing section of Pit 16 with cobbled surface (1602)

The stratigraphic profile consisted of the tarmac road surface (1601) overlying both (1605), a loose light pinkish-white stony backfill or levelling deposit associated with previous works present at the southern side of the pit and measuring 1m (E-W) × 0.5m (N-S), and (1602), the truncated remains of a late 19th-early 20th century cobbled road surface, both encountered at depths of 0.1m.

Cobbled surface (1602) was formed of machine-cut regular rectangular cobbles with slightly rounded corners and average dimensions of 200mm × 145mm × 100mm in a light grey sandy mortar and overlay (1603), an associated light greyish-white concrete bedding layer encountered at a depth of 0.26m. (1603) and (1605) both sealed (1604), a mid reddish-brown silty sand made-ground deposit with inclusions of small-medium stones and brick fragments encountered at a depth of 0.55m.

5.17 Pit 17

Pit 17 (NGR ST 59705 73023) was located on Unity Street between Hawkins Street and New Thomas Street. It measured 10m (NE-SW) × 1.3m (SE-NW) × 1.1m. The pit contained a remnant of a previous cobbled road surface of probable late 19th/early 20th century date.

The stratigraphic profile consisted of the tarmac road surface (1701) directly overlying the well-preserved remains of a late 19th-early 20th century cobbled road surface (1702) .This surface was composed of machine-cut regular rectangular cobbles with slightly rounded corners and average dimensions of 200mm × 145mm × 100mm in a light grey sandy mortar and was encountered at a depth of 0.08m (*Plate 14*). Underlying (1702) was an associated light greyish-white concrete bedding layer (1703) encountered at a depth of 0.23m, which sealed (1704), a soft, mid orangey-brown and dark brown sandy silt made-ground deposit with frequent small-medium stones, moderate brick fragments and occasional bricks, encountered at a depth of 0.54m.

Plate 14: View looking WSW showing cobbled surface (1702) at W end of Pit 17

5.18 Pit 18

Pit 18 (NGR ST 59853 73118) was located on the junction of Unity Street and Midland Road. It measured 4.5m (NE-SW) × 3m (SE-NW) × 2.1m. The pit contained the heavily truncated remains of a cobbled road surface of probable late 19th/early 20th century date.

The stratigraphic profile consisted of the tarmac road surface (1801) directly overlying both a light pinkish-grey stony backfill associated with previous works present at the SE corner of the pit, measuring 0.5m (E-W) × 0.3m (N-S), and the former late 19th-early 20th century cobbled road surface (1802), formed of machine-cut regular rectangular cobbles with slightly rounded corners and average dimensions of 200mm × 145mm × 100mm in a light grey sandy mortar. Both of these deposits were encountered at a depth of 0.1m *(Plate 15)*.

This surface overlay the associated light greyish-white concrete bedding layer (1803) encountered at a depth of 0.26m. Underlying (1803) was (1804) a moderately compact mid reddish-orange sterile sand with small-medium sandstone inclusions encountered at a depth of 0.46m. It is likely that this deposit was formed of natural Redcliffe sandstone that had been disturbed and re-deposited during the insertion of the water main.

Plate 15: View looking S showing W-facing section of Pit 18 with cobbled surface (1802) of late 19th-early 20th century date

5.19 Pit 19

Pit 19 (NGR ST 59854 73120) was located on Midland Road opposite Pit 18. It measured 2.7m (SE-NW) × 2.5m (NE-SW) × 2.25m.

The stratigraphic profile consisted of the tarmac road surface (1901) overlying an associated light greyish-white indurated concrete (1902) encountered at a depth of 0.08m. (1902) sealed (1903) an area of soft dark brownis-grey and black mottled clayey sand with frequent small-medium stones and occasional coal fragments that was only present at the E side of the pit, encountered at a depth of 0.38m and measured 2.5m (E-W) × 0.7m (N-S). Underlying both (1902) and (1903) was (1904), a soft moderately compact sterile mid reddish-orange sand with small-medium sandstone fragments encountered at a depth of 0.63m. This deposit appeared to be the same as (1804) formed from the disturbed natural substrate. No significant archaeological deposits or features were identified.

5.20 Pit 20

Pit 20 (NGR ST 59783 73313) was located on Lamb Street next to St Jude's Church. It measured 10m (NE-SW) × 1.85m (SE-NW) × 1.7m. The pit contained a remnant of the previous cobbled road surface of probable late 19th/early 20th century date *(Plate 16)*.

Plate 16: View W showing E-facing section of Pit 20 with truncated remains of modern cobbled surface (2002)

The stratigraphic profile consisted of the tarmac road surface (2001) directly overlying the former cobbled road surface (2002), which was formed of machine-cut regular rectangular cobbles with slightly rounded corners and average dimensions of 200mm × 145mm × 100mm in a light grey sandy mortar. This surface was encountered at a depth of 0.1m and overlay the associated light greyish-white concrete bedding layer (2003) encountered at a depth of 0.26m. These deposits were present pit-wide, apart from in a small truncation in the centre of the pit containing (2004), a levelling deposit of loose light pinkish-white small stones in a sandy matrix that was also underlying (2001) and encountered at a depth of 0.1m. (2003) and (2004) both sealed (2005), a soft dark reddish brown and black mottled silty clay made-ground deposit with frequent small-medium stones and occasional brick fragments encountered at a depth of 0.45m.

5.21 Pit 21

Pit 21 (ST 59802 73216) was located on the crossroads of Old Market Street, Midland Road, West Street and Lawford Street. It measured 2.1m (ENE-WSW) × 1.8m (WNW-ESE) × 1.7m. A truncated post-medieval stone culvert or drain was present at the base of the pit *(Plate 17)*.

Plate 17: View looking SE showing roughly coursed masonry culvert (2105) at the base of Pit 21

The stratigraphic profile comprised the pavement surface (2101) formed from mid yellowish-brown bricks with average dimensions of 230mm × 100mm × 60mm. Underlying (2101) were the associated light brownish-yellow stony bedding layer (2101) and light greyish-white concrete bedding layer (2103) encountered at depths of 0.09m and 0.4m, respectively. Sealed by (2103) was (2107), the backfill of cut [2110] for the water main encountered at a depth of 0.6m. This backfill was formed from the disturbed and re-

deposited made-ground material (2104) and measured 2.1m (SSE-NNW) × 1.8m (NNE-SSW). [2110] truncated (2104), a soft dark reddish-brown and black mottled sandy clay with frequent small-medium stones and occasional brick fragments, bone fragments and charcoal flecks that measured 1.8m (NNE-SSW) × 1.1m (SSE-NNW) that was also encountered at a depth of 0.6m. (2104) sealed (2105), the heavily truncated extant remnants of a stone drain present at the base of the pit in the WNW-facing section that was encountered at a depth of 0.9m

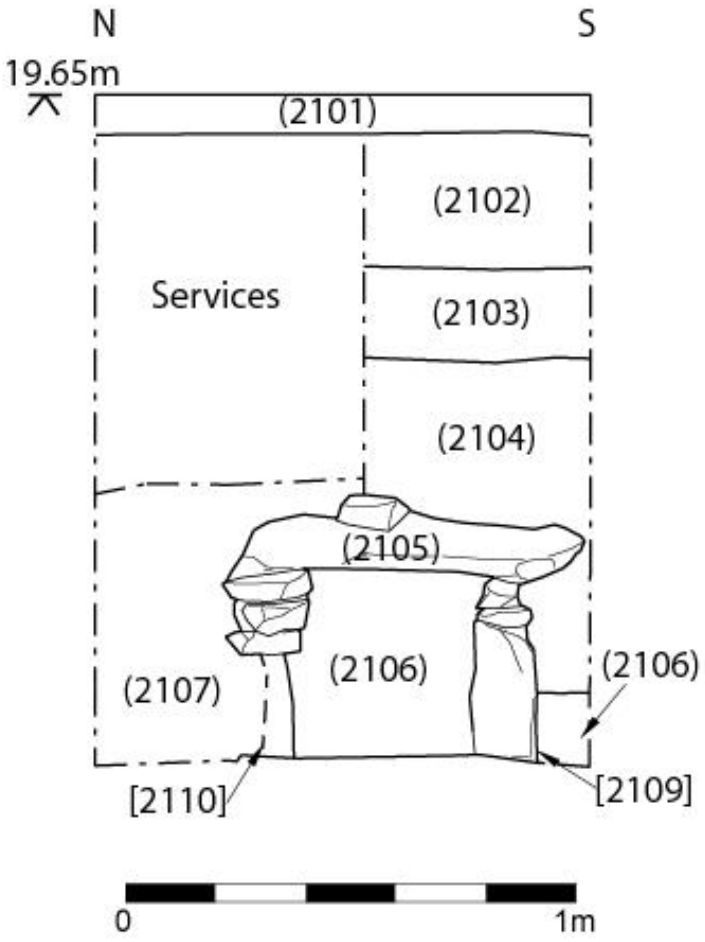

Fig. 7: Pit 21 - E facing section showing masonry culvert (2105)

(2105) was composed of irregular un-worked grey sandstone forming a base, sides and capstones with a light whitish-grey mortar bond with charcoal inclusions. The remnants of (2105) measured 0.6m (SE-NW) × 0.4m (NE-SW) and contained (2106), a loose dark greyish-brown silt with occasional small stones. (2105) was in construction cut [2109] that was only partially visibly at the SSW corner of the pit and measured 0.2m (SSE-NNW). [2109] truncated (2108), a soft mid orangey-red sandy clay with occasional small stones, probably a natural substrate deposit, and measured 0.2m (SSE-NNW) × 0.12m (NNE-SSW). (2108) was encountered at a depth of 1.35m.

5.22 Pit 22

Pit 22 (ST 59584 72970) was located on Broad Plain to the E of the junction with Temple Way. It measured 5m (E-W) × 2.6m (N-S) reaching a depth of 1.6m. The pit contained a remnant of the previous cobbled road surface of probable late 19th/early 20th century date *(Plate 18)*.

The stratigraphic profile consisted of the light grey indurated concrete pavement surface (2201) directly overlying a remnant of the former late 19th-early 20th century cobbled road surface (2202) that was composed of regular machine-cut rectangular cobbles with slightly rounded corners and average dimensions of 200mm × 145mm × 100mm in a light grey sandy mortar encountered at a depth of 0.15m. This surface and its associated bedding deposits consisting of (2203), a loose light yellowish brown small stones deposit in a sandy matrix, and (2204), a compact light pinkish-white indurated concrete deposit encountered at depths of 0.15m and 0.45m, respectively, were heavily truncated and were only present in the eastern end of the pit. (2202) measured 1m (NE-SW) × 0.5m (SE-NW) and both bedding layers measured 2.6m (NE-SW) × 0.5m (SE-NW).

Underlying (2204) was (2205), a soft, dark greyish-brown and black mottled silty clay made ground with frequent small-medium stones and occasional brick fragments encountered at a depth of 0.48m, which, in turn, sealed (2206), a soft mid reddish-brown silty clay made ground with similar inclusions to (2205) encountered at a depth of 1.2m.

Plate 18: View looking E showing cobbled surface (2202) in W-facing section of Pit 22

5.23 Pit 23

Pit 23 (ST 59993 73658) was located on the W side of Pennywell Road approximately 60m SW of the junction with Newton Street. It measured 2.2m (E-W) × 2m (N-S) reaching a depth of 1.6m.

The stratigraphic sequence was noticeably different from that found along most of the route and was composed of several thin layers of industrial waste *(Plate 19; Fig. 8)*.

The profile consisted of the tarmac road surface (2301) overlying an associated light grey stony bedding deposit (2302) encountered at a depth of 0.1m. Underlying this was a mid-light yellowish-brown sandy clay with occasional flecks of charcoal and slag inclusions (2303) encountered at a depth of 0.32m. This sealed (2304), a soft dark grey to black clayey silt with coal and slag inclusions that overlay (2305), a light yellowish-brown sandy clay with charcoal and slag inclusions, encountered at depths of 0.38m and 0.43m, respectively. Underlying (2305) was (2306), a layer of reddish-orange tile fragments and crushed tile encountered at a depth of 0.58m. This sealed (2307), a firm dark brown and grey mottled silty clay with small stones and charcoal inclusions, which, in turn, overlay (2308), a rubble layer of Pennant sandstone, encountered at depths of 0.7m and 0.89m. (2308) appeared to represent debris from a demolished structure but it is unclear whether this related to an *in-situ* building or imported levelling debris.

Plate 19: View looking E showing W-facing section of Pit 23

The lower layers of the pit were formed of (2309) underlying (2308), a soft black silty sand with moderate slag and small stone inclusions. This layer was encountered at a depth of 1.1m and sealed (2310), another rubble Pennant sandstone layer encountered at a depth of 1.2m. Underlying (2310) was (2311), a soft light grey sandy silt with small stones, which overlay (2312), a firm dark grey/ black mottled sandy silt, with frequent inclusions of vitrified or semi-vitrified fuel waste, charcoal and clinker encountered at depths of 1.32m and 1.38m, respectively. (2312) was overlying (2313), a soft mid-light grey sandy silt with occasional lenses of vitrified fuel waste, slag and small stone inclusions, encountered at a depth of 0.5m. Samples were taken from (2312) and (2313) for further analysis; a small quantity of pottery was also recovered from these deposits, which was largely indicative of a late 17th-18th century date with some possibly intrusive early 19th century coarseware sherds. The deposits (2308) to (2313) sloped towards the W and the depression caused by this was filled by (2314), a soft mid grey sandy silt with small stones encountered at a depth of 0.9m. The two water mains present in this pit, [2315] and [2316], truncated all of the deposits.

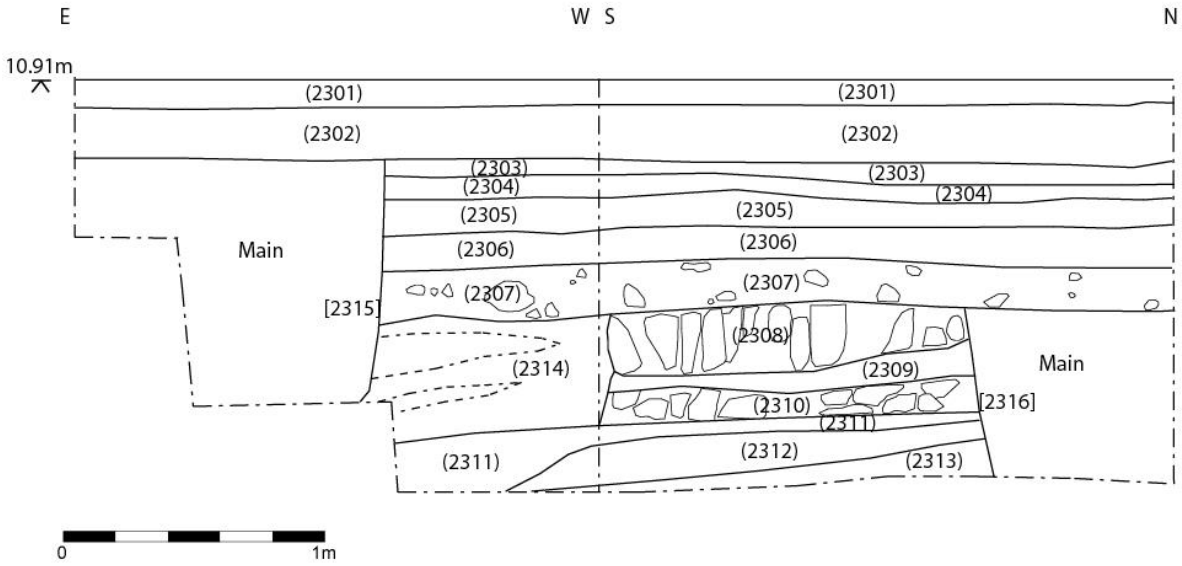

Fig. 8: Pit 23 – N- and E-facing sections

Initial assessment of samples taken from (2312) and (2313) revealed that the deposits contained quantities of clinker/cinder and semi-vitrified fuel waste, with smaller amounts of coal, charcoal, fired clay and tiny un-diagnostic fragments of bone (both calcined and unburnt). The composition of the material is not typical of either colliery waste or metalworking activity and its vitrified nature suggested it is more likely to represent the remains of glassmaking or working (see App. 2).

Further analysis of the samples revealed probable evidence of glass production and copper smelting activity (see App. 3 & 4). Evidence of glassworking was indicated by the presence of crucible fragments embedded in clinker, suggesting that the clinker derived from a coal-fired glass furnace. A small quantity of glassworking waste was identified within the samples, including fragments of rather frothy green glass and the opaque pale blue waste typical of high-lime low-alkali (HLLA) glass manufacture, a process

used for the manufacture of tableware, windows and bottles from the late 16th century, although from the 17th century through to the early 20th it was used almost exclusively for the manufacture of bottles. The glass fragments appeared to be derived from robust, thick-walled vessels likely representing bottles; however, the fragments were of such a small size that it was impossible to indicate the form of the bottles (and thus to provide any specific information as to origin or date of manufacture).

It was initially considered, in view of the considerable depth at which contexts (2312) and (2313) were encountered, and the fact that they were sealed by made-ground deposits containing late 18th-19th century pottery, that they might represent evidence of *in-situ* glass production or copper smelting. However, as no documentary evidence has been found to indicate the presence of a glassworks or copper smelting furnace in the vicinity during the post-medieval period, it would appear more likely that they represented imported landscaping deposits associated with early 19th century housing development recorded in this area, along the W side of Pennywell Road.

5.24 Pit 24

Pit 24 (NGR ST 59848 73401) was located on Lamb Street between Pits 20 and 25. It measured 1.6m (NE-SW) × 1.1m (SE-NW) reaching a depth of 1.45m.

The pit contained no significant archaeology and the stratigraphic profile consisted of the tarmac road surface overlying an associated bedding layer of loose light grey small stones in a sandy matrix (2402) encountered at a depth of 0.2m. This layer sealed (2403), a levelling deposit of loose dark greyish-yellow sand with occasional small stones encountered at a depth of 0.5m.Underlying (2403) were two made-ground deposits: (2404), a soft dark grey and black mottled sandy clay with moderate small stones and occasional brick fragments, sealing (2405), a soft mid brownish-red sandy clay with occasional small-medium stones. These deposits were encountered at depths of 0.65m and 1.2m, respectively.

5.25 Pit 25

Pit 25 (NGR ST 59873 73423) was located on the junction of Lamb Street and Wade Street. It measured 5m (NE/SW) × 2.3m (SE/NW) × 1.4m. The remnants of an in-filled and demolished 19th-20th century brick cellar were present in the NW section of the pit *(Plate 20; Fig. 9)*.

The stratigraphic profile consisted of the tarmac road surface (2501) overlying the associated indurated concrete bedding layer (2502) encountered at a depth of 0.35m. Underlying this was (2506), the backfill of [2510], the cut for the main. This backfill was formed of disturbed and re-deposited (2503) and (2504), measured 5m (NE-SW) × 0.75m (SE-NW) and was encountered at a depth of 0.65m. [2510] truncated a series of made-ground deposits at the SW edge of the pit, consisting of (2503), a soft dark brown and black mottled sandy clay with small-medium-sized stones and occasional brick fragments overlying (2304), a soft mid reddish-brown sandy clay with similar inclusions. These deposits were encountered at depths of 0.85m and 1.2m, respectively. Underlying (2502) at the NE end of the pit was (2505), a loose light pink stony backfill associated with previous works and measuring 2.5m (NE-SW) × 2.3m (SE-NW).

Plate 20: View NW of Pit 25 with demolition debris deposit (2508) visible in SE-facing section

Also truncated by [2510] in the NW end of the N side of the pit were the possible remnants of a 19th/20th century cellar structure. Directly underlying the tarmac road surface (2501) was a loose mid-yellowish stony deposit that was encountered at a depth of 0.3m and was levelling above (2508) and (2509). (2508) was formed from a single layer of un-mortared bricks, all equally spaced and all headers; the regularity of this layer of bricks indicated that it was not a part of the underlying deposit of loose bricks with brick and plaster fragments in a silty sand matrix (2509). These were encountered at depths of 0.25m and 0.3m, respectively.

These deposits are presumed to be material associated with the demolition of an 18th century property recorded as No. 1 Lamb Street, (2509) in-filling the cellar area and (2508) originally forming a part of the structure but no longer *in-situ*. Both of these deposits were heavily truncated and measured 2.5m (NE-SW) × 0.25m. This truncation also meant that the relationship between these layers and (2503) and (2504) had been lost.

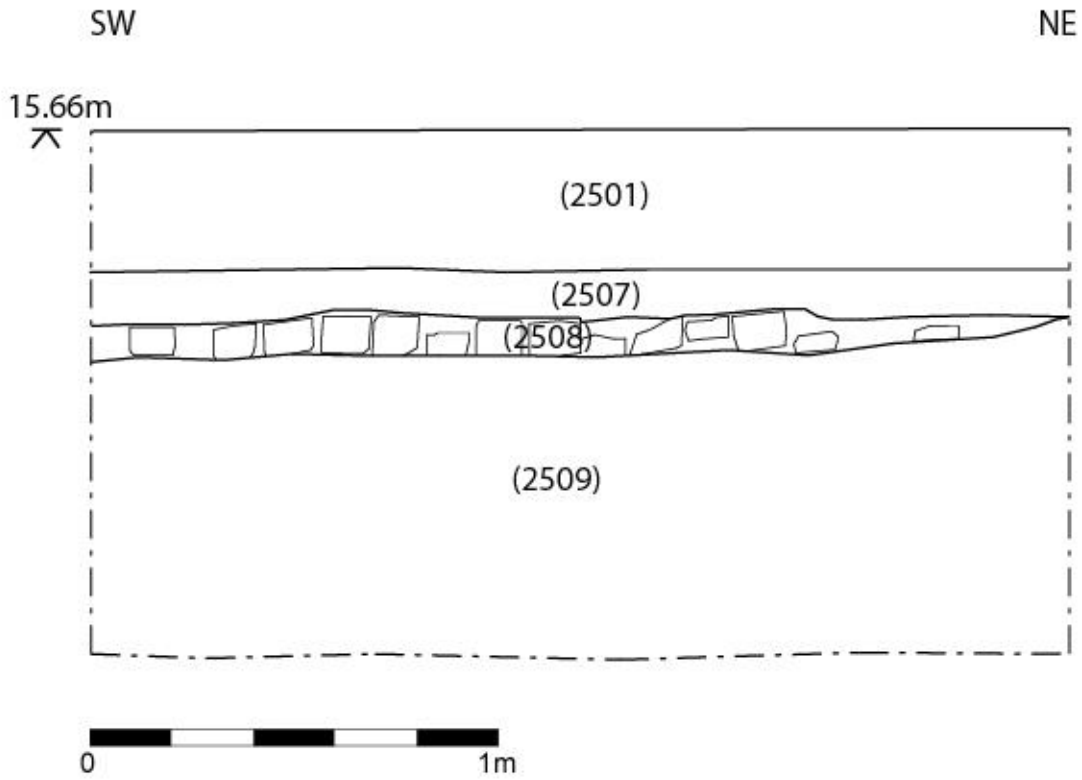

Fig. 9: Pit 25- SE-facing section showing demolition deposit (2508)

No. 1 Lamb Street appears to have formed part of an early 18th century suburban housing development in this area first shown on Rocque's map of 1742. The building is depicted on later historic mapping of the area until the 1940s and apparently remained intact until just after the Second World War, when it was demolished as part of slum clearance in this area.

5.26 Pit 26

Pit 26 (NGR ST 59770 73271) was located on the junction of Lawford Street and Lamb Street. It measured 6.7m (NE-SW) × 1.2m (SE-NW) × 1.7m. The pit contained a remnant of the previous cobbled road surface of probable late 19th/early 20th century date.

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Plate 21: View looking W showing cobbled surface (2603) in E-facing section of Pit 26

The stratigraphic profile consisted `of the tarmac road surface (2601) overlying an associated indurated concrete bedding layer (2602) encountered at a depth of 0.1m. (2602) sealed a remnant of the former late 19th-early 20th century cobbled road surface (2603) that was composed of machine-cut regular rectangular cobbles with slightly rounded corners and average dimensions of 200mm × 145mm × 100mm in a light grey sandy mortar encountered at a depth of 0.35m *(Plate 21)*. This surface had been heavily truncated by service trenching and was only present at the northern end of the pit measuring 4.7m (SE-NW) × 1.2m (NE-SW). Underlying (2603) was the associated indurated concrete bedding layer (2604) encountered at a depth of 0.5m, which, along with (2602) in the southern end of the pit, in turn sealed (2605), a soft dark reddish-brown silty clay made ground with stone and brick inclusions, encountered at a depth of 0.85m

5.27 Pit 27

Pit 27 (NGR ST 60036 73521) was located on the junction of Lawford's Gate, Trinity Road and Stapleton Road. It measured 8m (NE-SW) × 1.2m (SE-NW) × 1.4m *(Plate 22)*.

The stratigraphic profile differed somewhat from the majority of pits along the route, consisting of a deep sequence of dumped or levelling deposits of probable waste material, although this appeared to be building debris rather than waste from industrial processes (as in Pit 23). These layers were largely concentrated towards the W end of the pit and were truncated by the main. The sequence consisted of the tarmac pavement surface (2701) overlying an associated indurated white concrete bedding layer (2702) encountered at a depth of 0.2m. At the E end of the pit, (2702) directly overlay (2703), a soft mid brown, grey and black mottled sandy clay with small-medium stones and brick fragments, which sealed (2704), a soft mid reddish-brown and black mottled sandy clay with similar inclusions. Both

of these deposits consisted of made ground and were encountered at depths of 0.38m and 0.7m, respectively.

Plate 22: View looking N showing S-facing section of Pit 27

However, at the W end of the pit, underlying (2702), was (2705) a mid brownish-yellow stony possible levelling material encountered at a depth of 0.35m. Sealed by this was (2706), a soft light brownish-yellow sandy silt with occasional small stones overlying (2707), a firm dark brown rubble of small-medium-sized stones, bricks and small brick fragments. These were encountered at depths of 0.45m and 0.5m, respectively, and overlay (2708), a soft mid brownish-red silty sand with occasional small stones encountered at a depth of 0.62m. All of the deposits in this sequence of thin layers measured 5m (E-W) × 1.2m (N-S). They appeared unlikely to represent any significant *in-situ* deposits but rather material used to form the made ground and levelling layers for the road construction.

5.28 Pit 28

Pit 28 (NGR ST 60552 74242) was located approximately 12m SE of the junction of Stapleton Road and St Marks Road. It measured 3.5m (NE-SW) × 3m (SE-NW) reaching a depth of 1m.

The pit contained no significant archaeology and the stratigraphic profile consisted of the tarmac road surface (2801) overlying an associated indurated concrete bedding layer (2802) encountered at a depth of 0.2m. Underlying this at the NW corner of the pit was (2803), a loose light greyish-pink stony backfill associated with previous works on a service and (2804), a soft dark reddish-brown and black mottled sandy clay made-ground deposit with

inclusions of small-medium stones and brick fragments. These deposits were both encountered at a depth of 0.4m.

5.29 Pit 29

Pit 29 (NGR ST 60553 74244) was located slightly SE of the junction of Stapleton Road and St Marks Road and formed the NE terminus of the route. It measured 8m (NE-SW) × 1.6m (SE-NW) × 0.9m.

The pit contained no significant archaeology and the stratigraphic profile was the same as that in Pit 28, comprising tarmac road surfacing (2901) overlying an associated indurated concrete bedding layer (2902) encountered at a depth of 0.22m. Underlying this was (2903), a soft dark reddish-brown and black mottled sandy clay made ground with inclusions of small-medium-sized stones, mortar flecks and brick fragments, encountered at a depth of 0.42m.

6. Conclusions

Overview

Twenty-nine access pits were excavated along the length of the pipeline route from the junction of Victoria Street and Counterslip (NGR ST 59174 72795) to the junction of Stapleton Road and St Mark's Road (NGR ST 60556 74252). Twelve of these pits contained no significant archaeology, displaying evidence of late 19th-20th century made ground associated with modern road construction.

However, within five of the 29 pits excavated (Pits 4, 7, 9, 21 and 25) remains of masonry structures were observed, all of which (with the possible exception of (404), which could be of late medieval or early post-medieval date) were assigned to the post-medieval period, although it was difficult to establish a more precise date due to the limited extent of the visible remains and the marked lack of artefactual evidence associated with these structures.

Possible evidence of post-medieval industrial activity was identified in Pit 23 (at the junction of Pennywell Road and Newton Street) represented by several thin layers of CBM and vitrified material which may represent evidence of glass production or working in the vicinity of the site. The depths at which these deposits occurred, and their fairly secure stratification, sealed by deep layers of made ground, suggested that they could possibly represent evidence of *in-situ* industrial activity, rather than being imported levelling/made-ground deposits.

Deposits of natural substrate were encountered in four of the pits; however, all of this material appeared to be re-deposited. The sterile red sands with sandstone inclusions were present in two areas along the route. These occurred in Pits 9 and 15 (deposits (904) and (1507)) where they had been imported and used as a levelling/landscaping deposit associated with the construction of Temple Way in the late 1960s and in Pits 18 and 19 at the junction of Unity Street and Midland Road (deposits (1804) and (1904)), where it is likely to have been disturbed and re-deposited during the insertion of the main.

The apparent shallow depth of the natural substrate in the vicinity of Unity Street and Midland Road may reflect the fact that this area lay on a long-established route outside the boundaries of the medieval settlement of Old Market; consequently, the depths of natural substrate may be encountered at a much higher depth in this location than to the N where deep cellarage may well have involved the removal or heavy truncation of natural deposits. It is also worth noting that no evidence of the line of the medieval 'Great Ditch' was encountered in any of the pits on Passage Street, Unity Street, Midland Road and Lawford Street that were located on its course.

Masonry structures

Sections of extant masonry walling were observed in Pit 4 (at the junction of Counterslip and Temple Street), Pit 7 (Passage Street) and Pit 9 (Narrow Plain, immediately E of the junction with Temple Way), as well as a deep stone culvert or drain in Pit 21 (at the crossroads of Old Market Street, West Street, Midland Road and Lawford's Gate) and the heavily truncated remains of a demolished and in-filled cellar in Pit 25 (at the junction of Lamb Street and Wade Street).

The survival of these structural remains provides further evidence that in spite of heavy truncation by 19th-20th construction works and trenching for modern utilities, there remains **Moderate** to **High** potential for features of late medieval or post-medieval date to have survived in the suburbs of Redcliffe and Old Market. Although only a relatively small number of *in situ* features of archaeological interest were identified during this programme of archaeological observation, this is in large part due to the nature of the works undertaken, with access pits of relatively limited dimensions located along existing carriageways.

Pit 4

Wall (404), which was identified at the junction of the modern day Counterslip and Temple Street, appeared to be of a somewhat earlier date than the other masonry features, chiefly suggested by its roughly coursed, unmortared construction; although it should be noted that no dating evidence was recovered from the wall or from overlying or underlying deposits.

Cartographic evidence suggests that wall (404) was located to the rear of a property on the W side of Temple Street, which was laid out as part of the suburban settlement probably established in Redcliffe by the late 12th-early 13th century (Brett, 2005). William Smith's map of Bristol dated 1568 shows both sides of Temple Street as heavily built up with tenement plots by that date although there is insufficient detail to confidently associate (404) with a specific building. Jacob Millerd's map of 1673 *(Fig. 10)* provides somewhat greater detail, delineating a row of narrow gabled properties fronting onto the W side of Temple Street although his depiction may be somewhat generalised in places. Building activity appears to have been mostly focused towards the street frontage, with extensive walled gardens and orchard plots to the rear. It is possible that (404) may be associated with one of the gabled houses shown on Millerd's map as lying roughly opposite Dr White's Almshouses (founded in 1613) or with a boundary/garden wall to the rear of one of these houses.

Fig. 10: Extract from Jacob Millerd's map of Bristol (1673) showing approximate location of wall (404) on W side of Temple Street (denoted in red)
(Reproduced by courtesy of Gloucestershire Archives)

Rocque's map of 1742 shows the W side of Temple Street as heavily built up but provides no indication of individual tenement plot boundaries. However, Plumley and Ashmead's 1828 plan of Bristol *(Fig. 11)* depicts the boundaries of the properties on the W side of Temple Street in considerable detail. Based on the evidence of this map, it would appear that (404) can probably be identified with the corner wall to the rear of one of two long, narrow buildings extending back from the street frontage, separated by an alleyway leading to a rectangular courtyard which appears to have been known as Serle's Court.

Fig. 11: Extract from Plumley and Ashmead's map of 1828 showing the approximate location of wall (404) to rear of buildings on W side of Temple Street
(Reproduced by courtesy of Bristol Record Office)

A watercolour view of the W side of Temple Street by T. Rowbotham in 1828, looking SW from White's Almshouses, shows the properties largely consisted of gabled and jettied timber-framed structures, mostly of three storeys with an attic which can probably be assigned a 16th or 17th century date. Although the property with which (404) was associated probably lay just outside (and to the right of) this view, it was almost certainly of similar design to these buildings.

Ashmead's plans of 1855 and 1874 show that the two narrow buildings depicted on the 1828 plan had remained essentially intact although the alleyway separating the two is marked as a property boundary while the courtyard to the rear appears to have been enlarged slightly. Trade directories and census returns indicate that these two properties can be identified with Nos. 149-150 Temple Street. The northernmost property (No. 150) was occupied from c.1840-70 as commercial premises and warehouses by Joseph Grindon, listed as an oil, colour and drysaltery merchant, while the southern building (No. 149) was

occupied by two basket weavers, William Nurse (c.1840-1860) and Augustus Reece (c.1860-1870).

At some time between 1874 and 1885, Nos. 149-150 Temple Street appear to have been rebuilt and amalgamated into a large commercial premises and warehousing; the OS 1st edition 1:500 map of 1885 shows that the two narrow buildings had disappeared, as had the rectangular courtyard to the rear *(Fig. 12)*. Kelly's Directory of 1902 records that No. 149 was occupied by a firm of oilmen named Fisher & Co., while No. 150 still belonged to the Grindon family. The rebuilt frontage of the late 19th century premises at Nos. 149-150 Temple Street is just visible on a photograph of the W side of Temple Street dated 1907.

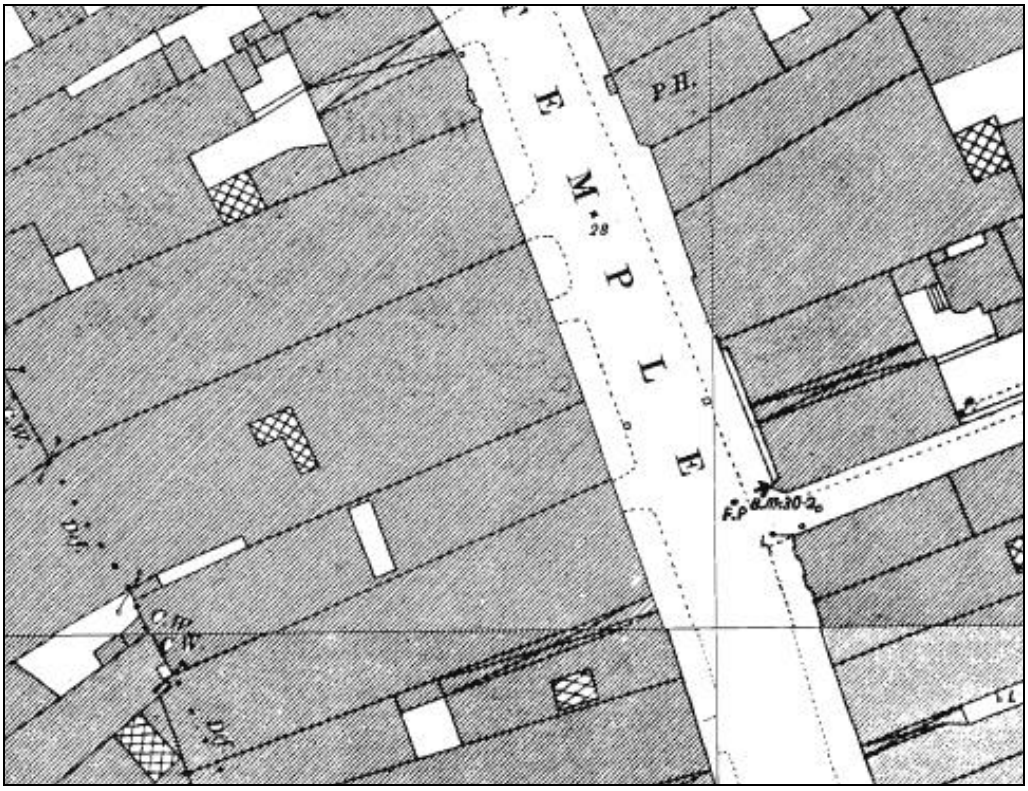

Fig. 12: Extract from the OS 1st edition 1:500 map of 1885 showing the W side of Temple Street (Reproduced by courtesy of Bristol Record Office)

It appears likely that (404) relates to the one of the two 16th/17th century houses at Nos. 149-150 Temple Street that was demolished to make way for the late 19th century commercial premises/warehousing. Late 1940s aerial photographs and OS mapping indicate that Nos. 149-150 Temple Street were damaged by bombing during the Second World War but that the buildings survived, at least partially, until the early 1970s when they were demolished to make way for the new street alignment of Counterslip.

Pit 7

The two walls in Pit 7, (706) and (707), appear respectively to represent an internal and an external wall associated with an elongated block of properties formerly located on the S side of Passage Street, extending E-W from the junction with Cheese Lane/Tower Street to the river, which appears to have been largely demolished in the early 19th century. It is unclear when these properties were originally built, although a 17th-18th century date appears likely.

No building activity is shown in this area on Smith's map of 1568, which shows the area E of the Avon as undeveloped open ground, apart from some building activity immediately E of the churchyard of SS Philip and Jacob Church. It is likely that the line of what is now Passage Street lay within or on the southern edge of the 'Great Ditch' built in the early 13th century to defend the extramural suburb of 'Old Market' and probably in-filled by the late 16th-early 17th century.

By the late 17th century, limited development had occurred on the E bank of the Avon, with the laying-out of what is now Passage Street (although the street name does not appear to have come into use until the 1730s) extending E from the river to the junction with Cheese Lane. Jacob Millerd's map of 1673 depicts two limekilns on the S side of Passage Street, adjoining the river, to the E of which lay a two-storey house fronting onto the street, situated within a rectangular plot with a formal garden to the S, immediately E of which lay a row of three gabled cottages with gardens to the rear.

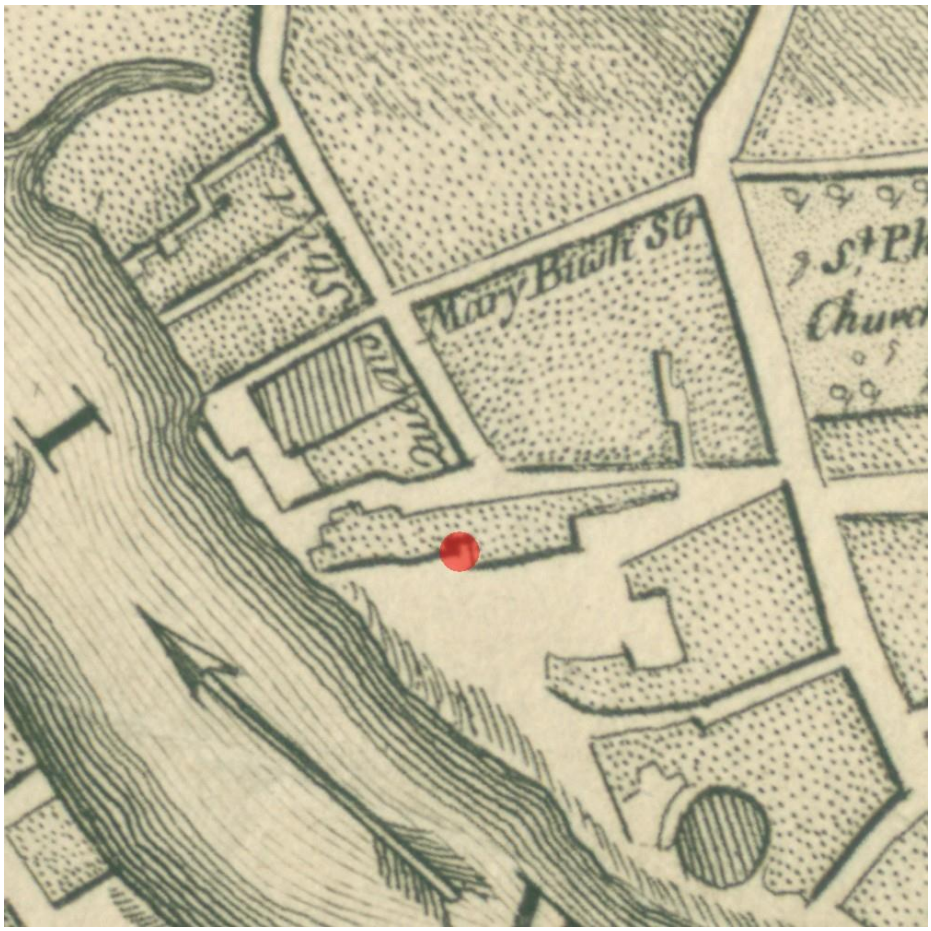

Fig. 13: Extract from Rocque's plan of 1742 showing the approximate location of Pit 7 on the S side of Passage Street
(Reproduced by courtesy of Bristol Record Office)

By the mid-18th century, significant development had taken place to the E of the Avon, with the laying-out of Queen Street (built in 1702 to commemorate the visit of Queen Anne to Bristol) extending from Castle Street to Passage Street. Rocque's map of 1742 shows that extensive building activity had taken place along both sides of Passage Street by that date *(Fig. 13)*; on the N side of the street substantial warehousing had been built, extending

westwards towards several quays or wharfs on the riverside with access provided by several alleys running W of Queen Street.

On the S side of Passage Street, the block of properties shown on the 1673 plan appears to have been substantially extended both to the E and the W, resulting in the demolition of the limekilns depicted on Millerd's map. The garden plots depicted to the S of the properties on the 1673 map also appear to have been cleared and a large irregular yard created, bounded to the S and E by an L-shaped block of properties, probably laid out in the late 17th or early 18th century (postdating Millerd's map but clearly predating Rocque's survey). The block of properties on the S side of Passage Street appears to have survived intact until the 1790s as their form is traceable in outline on a Corporation plan of landholdings in Passage Street and Queen Street dated 1792 (Plan Book/A/129).

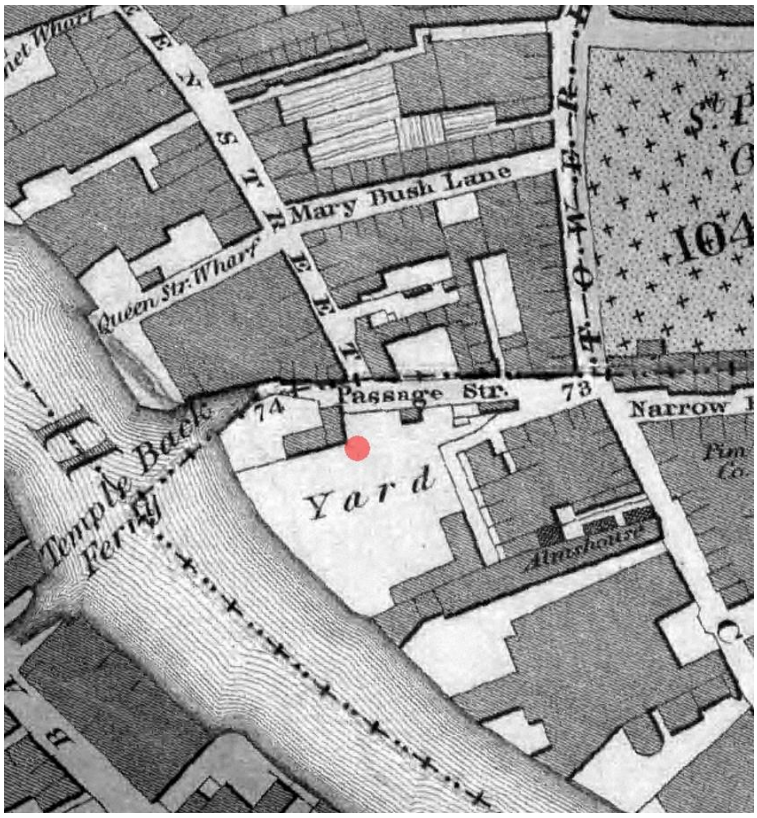

Fig. 14: Extract from Plumley and Ashmead's plan of 1828 showing the approximate location of Pit 7 on the S side of Passage Street
(Reproduced by courtesy of Bristol Record Office)

By 1828, as shown on Plumley and Ashmead's plan of that date *(Fig. 14)*, a substantial portion of the buildings on the S side of Passage Street depicted on Rocque's map appears to have been demolished. An L-shaped building with an enclosed yard is depicted to the W of the junction with Queen Street, while to the E of the same junction a small squarish building is shown. Further to the E of this building, the 1828 plan depicts a narrow E-W aligned building which appears to have occupied the eastern tip of the elongated block of properties shown on Rocque's plan. These surviving buildings were, in turn, removed following the widening of Passage Street for the construction of St Philip's Bridge in 1836; no trace of them appears on the tithe map for SS Philip and Jacob parish.

It appears likely that the two walls revealed in Pit 7 were located approximately midway along the elongated block of properties depicted on Rocque's map, opposite the S end of Queen Street. The less substantial construction of wall (706) suggests that it could represent an internal partition wall, whereas the dressed masonry and massive thickness of wall (707) indicate that it is likely to represent an external wall.

The fact that the S and W faces of (707) were dressed suggests these were probably the external faces; it may be tentatively identified with the staggered rear wall of a building located in the middle of the block of properties on the S side of Passage Street, as shown on Rocque's map of 1742. The dating of the walls is uncertain (no datable material was recovered from the overlying deposits) although a late 17th/18th century date may be suggested; the use of grey/white mortar bonding would also appear to be consistent with a post-medieval date.

Pit 9

Masonry walls (907), (909) and (915) appear to have been associated with a property located on the S side of Narrow Plain, facing the parish church of SS Philip and Jacob. Wall (907) was noticeably less substantial than (909), which may imply that it was an internal division, although it was difficult to confirm this, particularly in view of the heavily truncated condition of the wall. The massive construction of (909) and (915) suggests that they were, in all probability, external walls rather than internal partitions. Dating of the walls is uncertain; however, the pinkish-white mortar used in wall (909) is commensurate with a 17th century or earlier date, while the greyish-white mortar visible in (907) suggests a later date, possibly 18th or early 19th century.

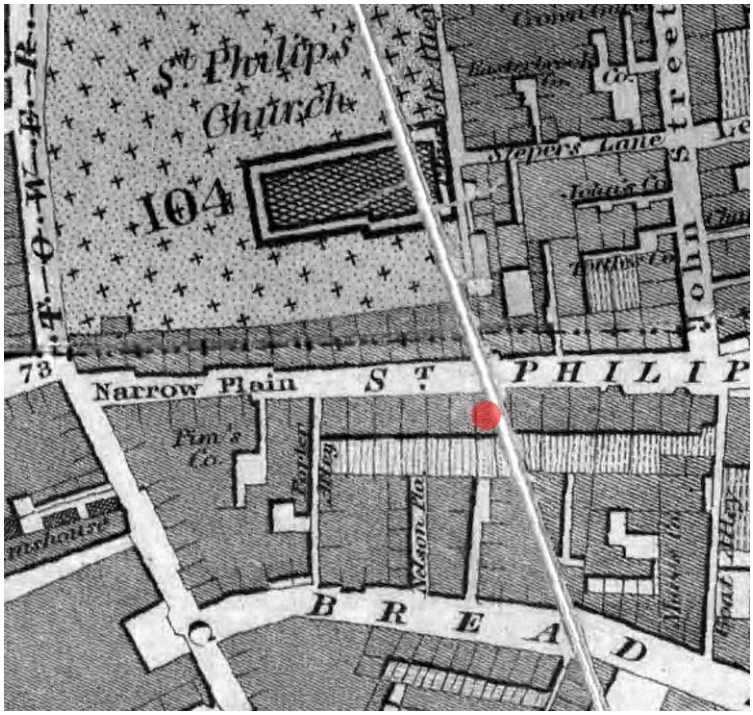

Fig. 15: Extract from Plumley and Ashmead's plan of 1828 showing the approximate location of Pit 9 on the S side of Narrow Plain
(Reproduced by courtesy of Bristol Record Office)

Examination of cartographic sources suggests that (907), (909) and (915) were associated with No. 8 Narrow Plain, a house of possible late 17th or early 18th century date formerly located on the S side of Narrow Plain, which was still extant in 1963 but was subsequently removed for the widening of Temple Way in the late 1960s. The site of No. 8 lies on the corner of Narrow Plain at the junction with Temple Way; a record of the building made prior to its demolition shows that it was of three storeys with an attic, with a cross-ridge connecting it to No. 7 to the E and a lateral chimneystack on the W wall.

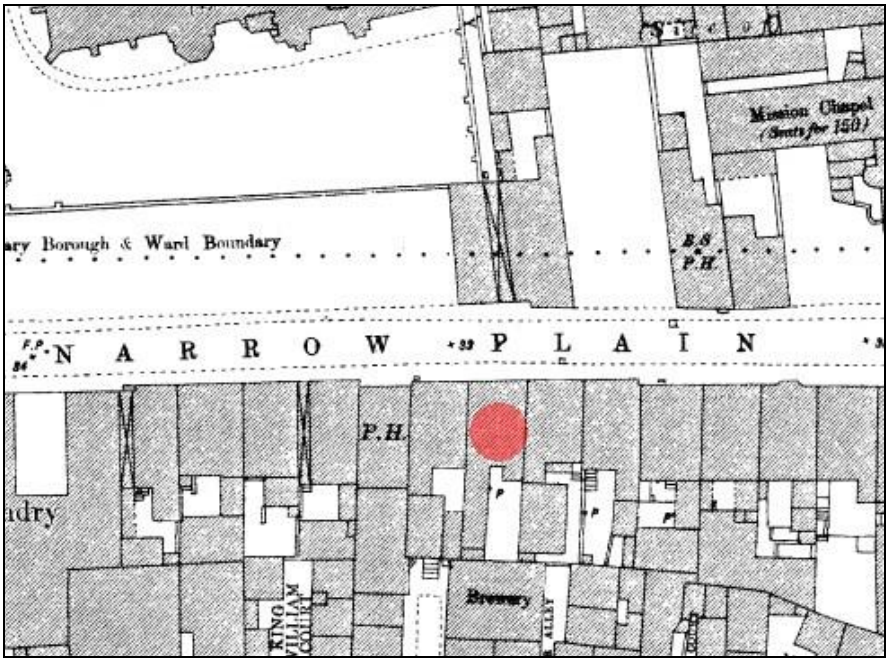

Fig. 16: Extract from OS 1st edition map (1:500 scale) of 1885 showing the approximate location of Pit 9 on the S side of Narrow Plain
(Reproduced by courtesy of Bristol Record Office)

No evidence of the building is visible on Millerd's plan of 1673; however, by 1742 Rocque's map shows that both sides of Narrow Plain were heavily built up with properties. More detail is provided by Plumley and Ashmead's plan of 1828 *(Fig. 15)*, which depicts a densely packed row of tenements along the S side of Narrow Plain, with an iron foundry at the W end of the street where it intersected with Cheese Lane. The ground and first floors of No. 8 appear subsequently to have been altered and extended to the S in brick, probably at some time between 1855 and 1886, based on comparison between Ashmead's map of 1855 and the OS 1st edition map *(Fig. 16)*. It is possible that the remains of brick flooring (905) overlying (907) could represent evidence of this southward extension of the property in the late 19th century.

Examination of the census returns and trade directories for the 19th-early 20th centuries indicates that No. 8 was occupied as commercial premises in the 1850s-60s (a grocer named Harriett Langford is recorded in 1851, succeeded by a butcher Ann Jones, in residence by 1861). At some time between 1871 and 1881 the property appears to have been converted into a public house called the 'Saxhorn Inn' with lodging houses (which may well account for the extension added to the rear of the building) and it remained in use as such until no later than 1911.

Pit 21

The remains of a heavily truncated masonry culvert oriented roughly NW-SE were revealed in Pit 21, located at the crossroads formed by the convergence of Old Market Street, West Street, Lawford Street and Midland Road. It is difficult to assign a certain date for the construction of the culvert, although it appeared to predate the insertion of a Victorian cast-iron water main (dated to *c*.1870). Deposit (2104) sealing the culvert, contained a single sherd of sandy redware of probable 17th century date; however, as (2104) was characterised as re-deposited made ground material, this single sherd cannot be viewed as reliable dating evidence. The use of greyish-white lime mortar for the bonding indicates a likely 18th or 19th century date for its construction, while the roughly-coursed masonry suggests that it was probably built towards the earlier end of this date range.

The function of the culvert is uncertain; its alignment suggests that it was probably not associated with the nearby Trinity Hospital site. No evidence was noted to indicate the presence of piping within the culvert. It is worth noting that another masonry culvert or drain, similar in construction to (2105), was noted during the 2003 excavations; however, this drain was oriented N-S (Mordue, 2003).

In December 2003, a programme of deep excavation for the insertion of a water main in the centre of Old Market Street, approximately 10-20m W of Pit 21, revealed evidence of a single inhumation burial at about 1.5m below ground level. No evidence of burial activity was noted in Pit 21, which could imply that the inhumation found in 2003 represented a single, isolated event or that the pit lies just to the E of a discrete, well-defined burial plot, possibly associated with the nearby Trinity Hospital.

Although the location of Pit 21 is situated just to the E of the site of the medieval Lawford's Gate, probably built in the early 13th century to defend the eastern approach to the Old Market suburb, and in theory lies within the area of the 'Great Ditch' lying to E of Lawford's Gate, no trace of any structural remains of medieval date or the 'Great Ditch' was identified. This suggests a substantial landscaping event took place, in the 18th or early 19th century, which essentially removed all remaining vestiges of the medieval defensive circuit in this area, possibly after the demolition of Lawford's Gate in 1768, when Old Market Street was widened. Context (2104) may well represent evidence of this 18th-19th century landscaping event.

Pit 25

This pit, located at the junction of Wade Street and Lamb Street, revealed evidence of what appeared to be a collapsed and in-filled cellar, represented by a layer of un-mortared brick (2508) and demolition backfill deposit (2509). The pit location appears to correspond to the former site of No. 1 Lamb Street, at the corner of Lamb Street and Wade Street. The house formed part of a development of modest terraced properties laid out in the Eastmead area during the early 18th century as artisan housing, commercial premises and public houses. Rocque's map of 1742 shows Lamb Street and Wade Street as heavily built-up by that date, although Plumley and Ashmead's map of 1828 is the first to show individual property divisions.

Information on the occupants of No. 1 Lamb Street during the late 18th-early 19th century is limited. By 1851, the property was occupied as commercial premises by a hay and straw

dealer called John Underwood, who remained there during the 1850s-60s; the property is listed as a 'Hay Shop' in the 1861 census return. By the early 1880s, the property appears to have ceased to be used as commercial premises and was occupied as workers' housing through to the early 20th century; a labourer and his family are recorded in residence in 1881 and another general labourer, Benjamin Wake, is recorded as occupying the house with his family in 1891. The property appears to have been demolished shortly after the Second World War as part of a general clearance of slum housing in this area; an OS 1:2500 map dated 1949 shows this area as earmarked for housing development.

Evidence for industrial activity (Pit 23)

Possible evidence of industrial activity was identified in Pit 23, located at the junction of Pennywell Street and Newton Street, represented by two thin bands of building debris with frequent inclusions of charcoal, clinker and vitrified or semi-vitrified fuel waste, (2312) and (2313), samples of which were analysed and identified as probable debris from glassworking and a small quantity of slag, which may have been derived from copper smelting.

It was unclear whether these were *in-situ* deposits or had been imported from somewhere in the vicinity of the site to be used as a hardcore/levelling deposit, possibly associated with the laying-out of the existing residential streets to the E of Pennywell Road in the 1860s-early 1870s. Overlying (2312) and (2313) was a deep sequence of made-ground deposits containing pottery of late 18th-19th century date.

A search of the available archaeological, documentary and cartographic records has identified little evidence of glass manufacture or glassworking in the immediate vicinity of the site, although this should not preclude the possibility of a short-lived phase of activity unrecorded in the documentary sources.

Previous archaeological interventions along Pennywell Road have yielded no evidence of *in-situ* glass production or working, although some evidence of industrial activity has been identified. The nearest intervention to the site, a watching brief undertaken on trenches at a former convent site at Bates Close, about 100m N of the junction of Pennywell Road and Newton Street, revealed evidence of low-level activity during the 18th-early 19th century (commensurate with the area being vacant land, probably used for market gardening) followed by the construction of several buildings on the site during the second half of the 19th century (HER 24720; Etheridge, 2009b). However, archaeological evidence for industrial activity, specifically associated with clay-pipe manufacture, has previously been identified at Newton Street, represented by an assemblage of tobacco pipe kiln waste dated to *c*.1820-70, although it was suggested that this material may have been imported from James George's pipe factory at nearby Little Ann Street as a levelling deposit associated with the construction of houses on the site (Baker, Jackson & Beckey, 1989, 55-8).

Documentary evidence relating to the site is somewhat limited; however, it would appear that Pit 23 was located on the W side of Pennywell Road (a long-established route dating back to the medieval period) within the NE corner of an extensive pasture field referred to in late 17th century deeds as 'Great Wells' or 'Lamb Ground'. Immediately to the S lay the site of the SS Philip and Jacob Parish Workhouse. The workhouse was founded in 1698 and is depicted on Rocque's map of 1742 as a substantial C-shaped building (marked as a 'Poor House'). It was subsequently closed in 1847 and was largely demolished in the late 19th century (the site being partially occupied by the Vestry Hall), although remains of the building survived until its eventual demolition in 1925 (Winstone, 1971).

Rocque's map shows the NE corner of the field, immediately to the N of the 'Poor House' as undeveloped open ground *(Fig. 17)*. A narrow building, possibly a row of terraced housing, is shown further to the NE on the W side of Pennywell Road, which appears to have been demolished by no later than 1828; however, there is no indication of the distinctive conical structures so characteristic of 18th century glassworks sites in the vicinity of the study area. It should be noted that Rocque identifies a significant number of glass-manufacturing sites in central Bristol, mostly concentrated in Redcliffe and St Philip's Marsh.

Consultation of late 18th/early 19th century trade directories similarly yielded little or no evidence for glass-manufacturing sites along Pennywell Road, although reference is made to a clock/watch maker named Aaron Austin, who was resident in Pennywell Road from 1803 to 1805 and also manufactured glaziers' vices and medical instruments.

Fig. 17: Extract from Rocque's plan of 1742 showing the approximate location of Pit 23 on the W side of Pennywell Road, then an enclosed field to the NE of the Parish Workhouse
(Reproduced by courtesy of Bristol Record Office)

By 1828, as shown on Plumley and Ashmead's map *(Fig. 18)*, a row of 11 terraced houses had been built along the frontage of Pennywell Road to the NE of the workhouse, which appears to have been connected with the laying-out of Earl Street, a *cul-de-sac* extending to the W of Pennywell Road. Pit 23 appears to be located towards the southern end of these properties. This same row of terraced houses is marked on Ashmead's plan of 1855 as Nos. 1-11 Pennywell Road but the street numbering as given on the 1855 map does not appear to tally precisely with the evidence of trade directories dated 1856 and 1863 or census returns.

By the late 19th century, there appears to have been a further renumbering of this row of terraced properties, which are listed as Nos. 28-52 Pennywell Road. Trade directories and census returns for the second half of the 19th century indicate that these houses were occupied as a mixture of residential and commercial premises.

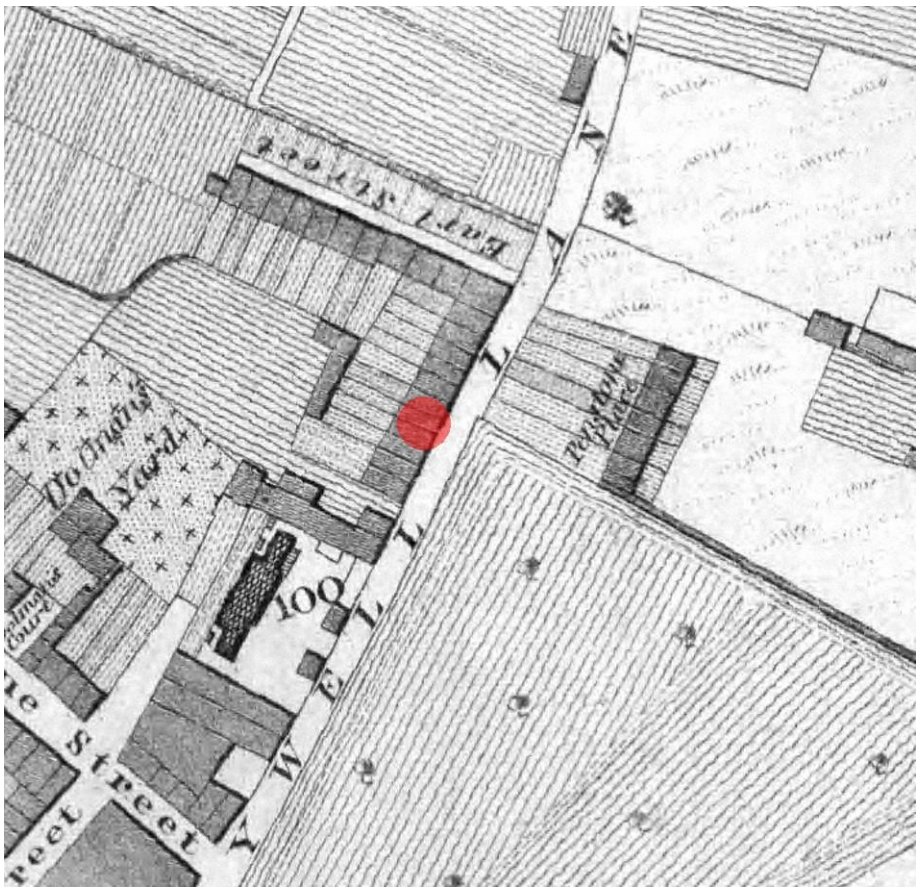

Fig. 18: Extract from Plumley and Ashmead's plan of 1828 showing the approximate location of Pit 23 on the W side of Pennywell Road, occupied by terraced housing
(Reproduced by courtesy of Bristol Record Office)

Between 1855 and 1874, extensive suburban development had taken place along both sides of Pennywell Road; however, the row of terraced properties along the W side of Pennywell Road extending NE from the former workhouse to Earl Street (marked as 'Earl's Mead Terrace' by 1874) appears to have remained intact, although an increasing number of outhouses are marked to the rear of these houses. By the early 1880s, there appears to have been further building activity to the rear of the properties as depicted on the OS 1:500 map of 1885 *(Fig. 19)*, with a large rectangular structure, probably a workshop or warehouse located within a courtyard bordered to the E by the terrace fronting Pennywell Road and to the N by Earlsmead Terrace.

By the late 1930s, the land to the rear of these terraced houses had been heavily encroached upon by a substantial engineering works; however, the houses survived damage during the Second World War and are still visible on a 1946 aerial photograph and an OS 1:2500 map of 1949. It appears that the houses were finally demolished by the late 1960s when the adjacent engineering works was expanded to include land along the W side of Pennywell Road and the road itself was widened.

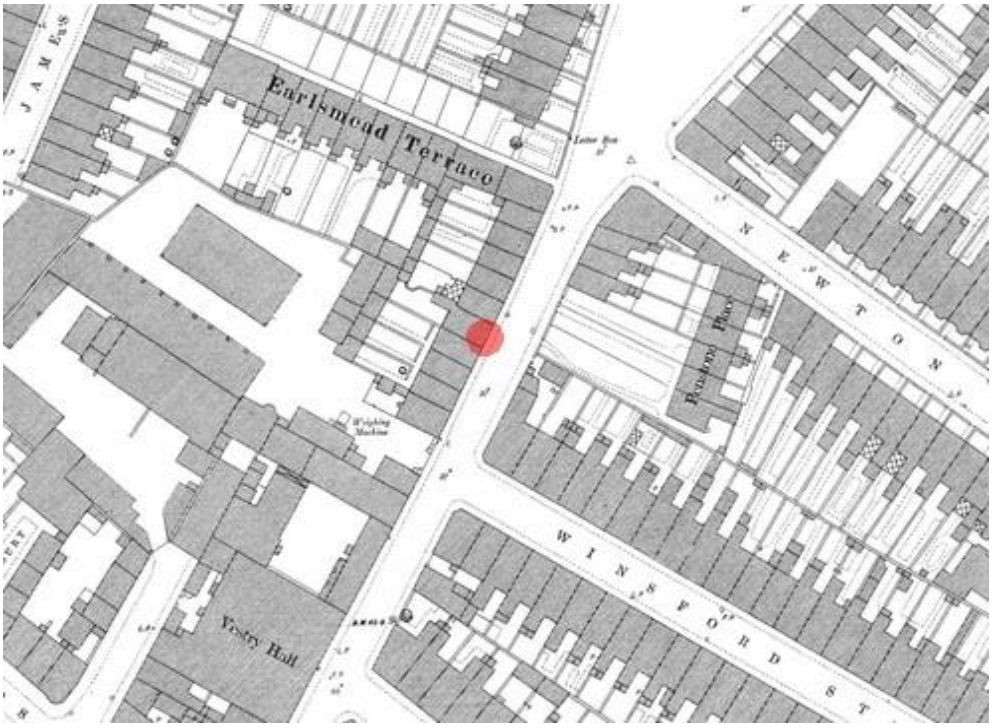

Fig. 19: Extract from the OS 1st edition 1:500 map of 1885 showing the terraced housing on the W side of Pennywell Street with extensive development to the rear of the site
(Reproduced by courtesy of Bristol Record Office)

Based on the available records there appears to be little positive evidence for a glassworks in the immediate vicinity of the site. However, in view of the considerable depth at which (2312) and (2313) were encountered, and the fact that they were sealed by made-ground deposits containing late 18th- 19th century pottery, the possibility was considered that they could represent evidence of *in-situ* glass production or working rather than being imported landscaping deposits.

It was suggested that the glassworking activity in this area could have constituted a short-lived development which may have occurred at some time during the late 17th century or the first half of the 18th (when glass production in Bristol reached its height) but had probably ceased at some point before Rocque's survey of 1742. A.C. Powell, in his survey of glassworks in 18th century Bristol, alludes to the existence of several glasshouses in the manor of Barton Regis during the late 17th-early 18th century, the locations of which he was unable to identify conclusively (Powell, 1925, 257). In connection with this, it is worth noting that the pottery recovered from (2312) and (2313) appeared to be late 17th or 18th century in date, with the exception of a small number of early 19th century sherds which may have been intrusive.

Analysis of the samples revealed probable evidence of glass production, indicated by the evidence of crucible fragments embedded in clinker suggesting that the clinker derives from a coal-fired glass furnace (see App. 4). A small quantity of glassworking waste was identified within the samples, which appeared to derive from robust, thick-walled vessels that are likely to be bottles; however, the fragments were of such a small size that it was impossible to indicate the form of the bottles (and therefore could not provide any specific information as to the origin or date of manufacture).

A small quantity of slag probably derived from copper smelting activity of post-medieval date was also identified in the sample taken from context (2313) (see App. 3). Copper smelting is a well-documented industry in post-medieval Bristol, with at least four furnaces located in central Bristol by the early 18th century; however, there is no cartographic or documentary evidence to indicate the presence of a copper-smelting furnace in this area.

In conclusion, it appears likely that the glassy waste and metallurgical debris does not represent evidence of *in-situ* glass production or copper smelting and was probably imported as a levelling deposit from elsewhere (the glassworking debris could possibly have been derived from nearby sites in the vicinity of St Philip's Marsh or Redcliffe, both of which appear to have been important foci of glassworking activity in post-medieval Bristol).

There is insufficient information (in terms of diagnostic bottle types) to establish precisely when and from where the glassworking debris was imported, although a probable early 19th century date can be suggested, contemporary with the laying out of the row of terraced housing along the W side of Pennywell Road. Evidence from the 1989 excavations further to the SE along Newton Street demonstrates that industrial waste (in that case, tobacco kiln waste) was being used as a levelling deposit prior to construction of terraced housing in this area during the mid to late 19th century (Baker, Beckey & Jackson, 1989, 55-8).

Cobbled road surfaces

In a further 10 pits, remains of former cobbled road surfaces of late post-medieval or modern date were encountered. These surfaces were generally composed of regular machine-cut rectangular cobbles with slightly rounded corners and average dimensions of 200mm × 145mm × 100mm with a light grey sandy mortar bond. The fact that these cobbles were machine-cut and directly overlay a concrete bedding layer indicates that the surfaces can probably be assigned a late 19th-early 20th century date. No evidence of earlier cobbling or metalling was identified.

The cobble remnants were identified in several pit locations, namely, at the junction of Counterslip and Temple Back (Pit 5), along Narrow Plain (Pits 10 and 12), Broad Plain (Pit 22), Unity Street (Pits 16, 17 and 18) and Lamb Street (Pits 20 and 26). In the majority of the pits, the surface was directly sealed by the modern tarmac road surface; however, there are large stretches along this section of the route, such as Passage Street and Midland Road, where the surface was not present and even in the pits where it was encountered, it had been heavily truncated by modern service trenching.

7. Copyright

7.1 Border Archaeology shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs & Patents Act 1988 with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of the report by the client in all matters directly relating to the project as described in the Project Specification.

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8.3 Cartography

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8.4 Pictorial Sources

Collections of old engravings and photographs of Bristol Bridge and aerial photographs of the study area were consulted at Bristol Record Office and the Bristol City Council website 'Know Your Place' (http://maps.bristol.gov.uk/knowyourplace/).

9. Context Register

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
PIT 1 ST 59216 72858 Counterslip opposite Temple Street junction	(101)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.1m. Overlies (102)	Tarmac road surface
	(102)	Indurated white concrete; no inclusions; extends pit-wide at an average thickness of 0.6m. Underlies (100) Overlies (102)	Concrete bedding layer
	(103)	Loose light grey small stones; no inclusions; visibly extends 1m (SE/NW) × 0.5m (NE/SW) at an average thickness of 0.5m. Underlies (101)	Backfill associated with service
PIT 2 ST59383 72961 Passage Street opposite Queen Street junction	(201)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.45m. Overlies (202) Same as (701)	Tarmac road surface
	(202)	Loose grey small stones; no inclusions; visibly extends 3.5m (N/S) × 1m (E/W) at an average thickness of 0.9m. Underlies (201)	Backfill associated with service
	(203)	Soft dark reddish-grey gritty clay; freq. CBM fragments, occ. 19th century pottery; extends pit-wide at an average thickness of 0.9m; Underlies (202)	Made ground deposit
PIT 3 ST 59219 72854 Counterslip and Temple Street junction, NE side	(301)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.09m. Overlies (302)	Tarmac pavement surface
	(302)	Loose light brown gritty clay; no inclusions; extends pit-wide at an average thickness of 0.2m. Underlies (301) Overlies (303)	Bedding deposit
	(303)	Soft mid brown slightly sandy clay; no inclusions; extends pit-wide at an average thickness of 0.35m. Underlies (302) Overlies (304)	Made ground deposit
	(304)	Firm mid greyish-brown gritty sand; no inclusions; extends pit-wide at an average thickness of 0.25m. Underlies (303)	Made ground deposit
PIT 4 ST 59215 72849 Counterslip and	(401)	Indurated greyish-white concrete paving slabs; extends pit-wide at an average thickness of 0.07m. Overlies (405)	Paving slabs
	(402)	Soft light brown silt; freq. moderate-small stones <20cm, freq. brick	Made-ground deposit

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
Temple Street junction, SW side		fragments <10cm; extends pit-wide at an average thickness of 0.43m. Underlies (405) Overlies (403)	
	(403)	Soft, mid brown clayey silt; no inclusions; extends pit-wide at an average thickness of 1.25m. Underlies (402) Overlies (404)	Made ground deposit
	(404)	Masonry; irregular un-worked Pennant sandstone; no visible bonding; random un-coursed; visibly extends 0.7m (N/S) × 0.65m (E/W) by a thickness of 0.48m. Underlies (403)	Wall
	(405)	Loose light brown stones <4 cm; no inclusions; extends pit-wide at an average thickness of 0.55m. Underlies (401) Overlies (402)	Levelling layer
PIT 5 ST 59285 72909 Counterslip and Temple Back junction	(501)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.3m. Overlies (502)	Tarmac road surface
	(502)	Loose, light pink small stone chippings in loose sand matrix <4 cm; no inclusions; extends pit-wide at an average thickness of 0.35m. Underlies (501) Overlies (504)	Bedding layer
	(503)	Soft dark blackish-brown clayey silt; freq. brick fragments< 10cm, freq. small stones < 5cm; extends pit-wide at an average thickness of 0.65m. Underlies (504) (506)	Made ground deposit
	(504)	Loose mid reddish-orange medium-small stones < 10cm; no inclusions; visibly extends 2m (SE/NW) × 0.5m (NE/SW) by an average thickness of 0.32m. Underlies (502) Overlies (503)	Levelling deposit
	(505)	Compact regular rectangular cobbles; slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; visibly extends 1.1m (E/W) × 0.7m (N/S) at an average thickness of 0.1m. Underlies (502) Overlies (506) Same as (1002) (1203) (1602) (1702) (1802) (2002) (2202) (2603)	Cobbled road surface
	(506)	Indurated light pinkish-white concrete; no inclusions; visibly extends 1.1m (E/W) × 0.7m (N/S) at an average thickness of 0.25m. Underlies 505 Overlies (503)Same as (1003) (1204) (1603) (1703) (1803) (2003) (2204)	Concrete bedding layer

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
		(2604)	
PIT 6 ST 59373 72961 Passage Street opposite The Bridge Inn	(601)	Indurated, black tarmac; no inclusions; extends pit-wide at an average thickness of 0.15m. Overlies (602)	Tarmac road surface
	(602)	Loose light grey small stones; <4cm in a brown sandy matrix; no inclusions; extends pit-wide at an average thickness of 0.5m. Underlies (602) Overlies (603)	Levelling layer
	(603)	Soft dark brown sandy silt; freq. small-medium stones <25cm, mod. bricks <23cm, freq. brick fragments <5cm; extends pit-wide at an average thickness of 0.7m. Underlies (602)	Made ground deposit
PIT 7 ST 59383 72961 Passage Street opposite Queen Street junction	(701)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.15m. Overlies (702)	Tarmac road surface
	(702)	Indurated, light pinkish-white concrete; no inclusions; extends pit-wide at an average thickness of 0.25m. Underlies (701) Overlies (705)	Concrete bedding layer
	(703)	Soft dark orangey-brown / black mottled silty clay; freq. small-medium stones <30cm, mod. brick fragments <10cm; extends pit-wide at an average thickness of 0.55m. Underlies (705) Overlies (704) 707	Made-ground deposit
	(704)	Soft black silty clay; freq. small-medium stones <30cm, mod. Brick fragments <10cm, mod. mortar flecks, occ. glass; extends pit-wide at an average thickness of 0.4m. Underlies (703) Overlies (706)	Made-ground deposit
	(705)	Loose orangey-brown sand; mod. small-medium stones<10cm; visibly extends 3m (N/S) × 1.8m (E/W) at an average thickness of 0.15m. Underlies (702) Overlies (703)	Made-ground deposit
	706	Masonry; irregular un-worked Pennant sandstone; light whitish grey mortar bonding; random coursed; visibly extends 0.34m (E/W) × 0.2m (N/S) by a thickness of 0.45m. Underlies (704)	Wall
	707	Masonry; irregular un-worked Pennant sandstone; light whitish-grey mortar bonding; random coursed; visibly extends 1.22m (N/S) × 1.18m (E/W) by a thickness of 1.25m. Underlies (703)	Wall
PIT 8	(801)	Indurated black tarmac; no inclusions;	Tarmac road surface

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
ST 59373 72961 Passage Street between pit 6 and pit 7		extends pit-wide at an average thickness of 0.2m. Overlies (802)	
	(802)	Indurated light greyish white concrete; no inclusions; extends pit-wide at an average thickness of 0.35m. Underlies (801) Overlies (803)	Concrete bedding layer
	(803)	Soft dark grey and black mottled clayey silt; freq. small-medium stones <35cm, mod. brick fragments <10cm, occ. bricks<23cm, occ. Tile fragments <0.08cm; extends pit-wide at an average thickness of 0.25m. Underlies (802)	Made-ground deposit
PIT 9 ST 59525 72964 Narrow Plain and Temple Way junction	(901)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.2m. Overlies (902) (903)	Tarmac road surface
	(902)	Indurated light white concrete; no inclusions; visibly extends 10m (N/S) × 1m (E/W) at an average thickness of 0.4m. Underlies (901) Overlies (903)	Concrete bedding layer
	(903)	Loose, light greyish-yellow small stones < 5cm; no inclusions; extends pit-wide at an average thickness of 9.26m. Underlies (901) Overlies (904) 905 (908)	Bedding layer
	(904)	Soft mid reddish-orange sand & small-medium sandstone < 50cm; no inclusions; visibly extends 10m (N/S) × 3.5m (E/W) × an average thickness of 1.1m. Underlies (903) Overlies (908)Butts 905 (906) 907	Re-deposited natural forming made ground deposit
	(905)	Masonry; brick; brick size 230mm × 120mm × 60mm; mid grey mortar bond; visibly extends 1m (N.S) × 0.15m (E/W) at an average thickness of 0.06m. Underlies (903) Butted by (904) Overlies (906) 907	Brick surface
	(906)	Soft dark brown silty clay; mod. small stones< 3cm, occ. mortar flecks, occ. oyster shells; visibly extends 0.6m (N/S)× 0.15m (E/W) at an average thickness of 0.38m. Underlies 905 Butted by (904) Butts 907	Possible dump deposit
	(907)	Masonry; irregular un-worked Pennant sandstone; light whitish grey mortar bonding; random coursed; visibly extends 1.05m (N/S) × 0.15m (E/W) by a thickness of 0.48m. Underlies 905 Butted by (904) (906)	Wall

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
	(908)	Loose dark grey and black mottled clayey silt; mod. small-medium stones< 30cm, occ. mortar flecks, occ. bricks< 23cm; visibly extends 7m (SE/NW)× 2m (NE/SW) at an average thickness of 1.2m. Underlies (903) (904) Overlies 909 Same as (1205)	Made-ground deposit
	909	Masonry; irregular un-worked Pennant sandstone; light whitish-pink mortar bonding; random coursed; visibly extends 0.9m (SE/NW) × 0.54m (NE/SW) at a thickness of 0.6m. Underlies (908)	Wall
PIT 9 (A) ST 5951 72962 Narrow Plain and Temple Way junction (extension of PIT 9 into waste ground to SW of junction)	(910)	Soft orangey sand (incorporates plastic and cast metal water pipes toward base) extends 5.1m × 04m to >1.8m. Fills [911]	Fill of modern pipe trench
	[911]	Cut; oriented NNW-SSE; extends 5.1m × 0.4m by >1.8m. Break of slope (top) sharp. Sides vertical. Break of slope (base) and base not revealed. Filled by (910). Cuts (912)	Cut for modern pipe trench
	(912)	Loose light brown sand, frequent brick rubble; extends pit-wide to an average thickness of 0.5m. Cut by [911] Overlies (914)	Modern demolition spread
	(913)	Cohesive dark grey gritty clay, frequent ashy inclusions, extends pit-wide to an average thickness of 0.76m. Underlies (914) Overlies (916)	Modern post-demolition landscaping deposit
	(914)	Firm light reddish sand and brick rubble, extends 1.22m × >1.2m to 0.3m. Underlies (912) Overlies (913)	Brick rubble spread underlying (912) over wall (915)
	(915)	Masonry; irregular roughly-worked sandstone; mortar bonding eroded away; random coursed; visibly extends 1.3m (N/S) × 0.65m (E/W) by a thickness of 0.61m. Underlies (916) Overlies (917)	Large stone wall foundation oriented N-S in N extent of trench
	(916)	Firm reddish sand & brick rubble; extends pit-wide to an average thickness of 0.26m. Underlies (913) Overlies (915)	Demolition spread
	(917)	Soft reddish clayey sand; extends pit-wide to >0.35m. Underlies (915)	Clean soil deposit, natural or re-deposited natural
PIT 10	(1001)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.15m. Overlies (1002)	Tarmac road surface

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
ST 59440 72964		(1005)	
	(1002)	Compact regular rectangular cobbles slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; visibly extends 3.5m (N/S) × 1.5m (E/W) at an average thickness of 0.12m. Underlies (1001) Overlies (1003) Same as (505) (1203) (1602) (1702) (1802) (2002) (2202) (2603)	Cobbled road surface
	(1003)	Indurated light pinkish-white concrete; no inclusions; visibly extends 3.5m (N/S) x1.5m (E/W) at an average thickness of 0.2m. Underlies 1002 Overlies (1004)Same as (506) (1204) (1603) (1703) (1803) (2003) (2204) (2604)	Concrete bedding layer
	(1004)	Soft dark brown & black mottled clayey silt; freq. small-medium stones < 35cm, occ. oyster shells, occ. bricks < 23cm, occ. brick fragments <10cm; extends pit-wide at an average thickness of 1.1m. Underlies (1003) (1005)	Made-ground deposit
	(1005)	Loose, light yellowish brown small stones < 4cm; no inclusions; visibly extends 2.5m (N/S) × 1m (E/W) at an average thickness of 0.4m. Underlies (1001) Overlies (1004)	Backfill associated with service
PIT 11 ST 59435 72964 Narrow Plain and Cheese Lane junction, W wide	(1101)	Indurated, black tarmac; no inclusions; extends pit-wide at an average thickness of 0.2m. Overlies (1102) (1103)	Tarmac road surface
	(1102)	Loose, light pinkish grey small stones < 4cm; no inclusions; visibly extends 1.6m (E/W) × 0.5m (N/S) at an average thickness of 0.28m. Underlies (1101) Overlies (1104)	Bedding layer
	(1103)	Indurated light whitish-grey concrete; no inclusion; extends pit-wide at an average thickness of 0.25m. Underlies (1101) Overlies (1104)	Concrete bedding layer
	(1104)	Soft, black silty clay; mod. small stones <5cm, mod. bricks< 23cm, occ. medium stones < 45cm. Underlies (1102) (1103)	Made ground deposit
PIT 12	(1201)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.15m. Overlies (1202)	Tarmac road surface

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
ST 59524 72966 Narrow Plain opposite Church Lane junction	(1202)	Loose mid orangey-brown small stones < 4cm; no inclusions; visibly extends 3.2m (E/W) × 1.7m (N/S) at an average thickness of 0.25m. Underlies (1201) Overlies (1205)Butts 1203 (1204)	Bedding layer
	(1203)	Compact regular rectangular cobbles slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; visibly extends 1.7m (E/W) × 0.3m (E/W) at an average thickness of 0.12m. Underlies (1201) Overlies (1204)Same as (505) (1002)(1602) (1702) (1802) (2002) (2202) (2603)	Cobbled road surface
	(1204)	Indurated light greyish-white concrete; no inclusions; visibly extends 1.7m (E/W) x0.3m (N/S) at an average thickness of 0.15m. Underlies 1203 Overlies (1205)Same as (506)(1003)(1603) (1703) (1803) (2003) (2204) (2604)	Concrete bedding layer
	(1205)	Soft black & brown mottled silty clay; freq. small-medium stones< 30cm, occ. bricks< 23cm; extends pit-wide at an average thickness of 1.2m. Underlies (1202) (1204) same as (908)	Made-ground deposit
PIT 13 ST 59408 72963 Narrow Plain opposite NHS clinic	(1301)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.12m. Overlies (1302)	Tarmac road surface
	(1302)	Loose light pinkish-brown small stones < 4cm; no inclusions; visibly extends 3.2 (E/W) × 0.5m (N/S) at an average thickness of 1m. Underlies (1301) Overlies (1304) Abuts (1303) (1305)	Backfill associated with service
	(1303)	Indurated, light greyish-white concrete; no inclusions; visibly extends 2m (E/W) x1.3m (N/S) at an average thickness of 0.3m. Underlies (1301) Overlies (1305)	Concrete bedding layer
	(1304)	Soft, dark grey & black mottled clayey silt; mod. small to medium stones < 30cm; extends pit-wide at an average thickness of 0.25m. Underlies (1302) (1305)	Made-ground deposit
	(1305)	Loose light yellowish-brown small stones < 4cm; no inclusions; visibly extends 2m (E/W) x1.3m (N/S) at an average thickness of 0.7m. Underlies	Levelling layer

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
		(1303) Butted by (1302)Overlies (1304)	
PIT 14 ST 59551 72947 Temple Way, S of Broad Plain junction	(1401)	Indurated, black tarmac; no inclusions; extends pit-wide at an average thickness of 0.2m. Overlies (1402)(1405)	Tarmac road surface
	(1402)	Loose light yellowish-grey small stones < 4cm in a sandy matrix; no inclusions; extends pit-wide at an average thickness of 0.3m. Underlies (1401) Overlies (1403)	Bedding layer
	(1403)	Loose, mid reddish orange sand; no inclusions; extends pit-wide at an average thickness of 0.1m. Underlies (1402)(1405) Overlies (1404)	Levelling layer
	(1404)	Soft dark grey & black mottled silty sand; freq. small-medium stones < 25cm, occ. bricks <23cm, occ. brick fragments <10cm; extends pit-wide at an average thickness of 0.68m. Underlies (1403)	Made-ground deposit
	(1405)	Compact light pinkish-white concrete; no inclusions; visibly extends 11m (N/S) × 1.5m (E/W) at an average thickness of 0.42m. Underlies (1401) Overlies (1403)	Concrete bedding layer
PIT 15 ST 59554 72961 Temple Way and Broad Plain junction	(1501)	Indurated black tarmac; no inclusions; visibly extends 5m (N/S) × 0.4m (E/W) at an average thickness of 0.1m. Overlies (1502)(1503)	Tarmac road surface
	(1502)	Indurated paving slabs; no inclusions; visibly extends 7m (N/S) × 1.2m (E/W) at an average thickness of 0.05m. Butted by (1501) Overlies (1504)	Paving slabs
	(1503)	Indurated mid greyish concrete; no inclusions; visibly extends 5m (N/S) × 0.4m (E/W) at an average thickness of 0.35m. Underlies (1501) Overlies (1504)	Concrete bedding layer
	(1504)	Loose dark reddish-orange sand and medium sandstone; no inclusions; extends pit-wide at an average thickness of 0.45m. Underlies (1502) (1503) Overlies (1505)	Levelling layer
	(1505)	Loose tarmac fragments <30cm, medium stones <25cm, bricks <23cm in a sandy matrix; no inclusions; extends pit-wide at an average thickness of 0.2m. Underlies (1504) Overlies (1506)	Made ground/levelling deposit

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
	(1506)	Loose mid yellowish-grey small stones <4cm; no inclusions; extends pit-wide at an average thickness of 0.2m. Underlies (1505) Overlies (1507	Made ground/levelling layer
	(1507)	Soft mid reddish-orange sand and small-medium sandstone < 50cm; no inclusions; extends pit-wide at an average thickness of 0.4m. Underlies (1506)	Re-deposited natural forming made ground deposit
PIT 16 ST 59644 72993 Junction of Broad Plain and Unity Street	(1601)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.1m. Overlies (1602) (1605)	Tarmac road surface
	(1602)	Compact regular rectangular cobbles slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; visibly extends 2.5m (N/S) × 1.8m (E/W) at an average thickness of 0.16m. Underlies (1601) Butted by (1605) Overlies (1603)Same as (505 (1002) (1203) (1702) (1802) (2002) (2202) (2603)	Cobbled road surface
	(1603)	Indurated light greyish-white concrete; no inclusions; visibly extends 2.5m (N/S) × 1.8m (E/W) at an average thickness of 0.16m. Underlies 1602 Butted by (1605) Overlies (1604)Same as (506) (1003) (1204) (1703) (1803) (2003) (2204) (2604)	Concrete bedding layer
	(1604)	Soft, mid reddish brown silty sand; freq. small-medium stones < 35cm, occ. bricks< 23cm, occ. brick fragments < 10cm; extends pit-wide at an average thickness of 0.8m. Underlies (1603) (1605)	Made-ground deposit
	(1605)	Loose, light pinkish white small stones < 4cm in a sandy matrix; no inclusions; visibly extends 1m (E/W) × 0.5m (N/S) at a n average thickness of 0.2m. Underlies (1601) Butts (1602) (1603) Overlies (1604)	Levelling layer
PIT 17 ST 59705 73023 Unity Street, S of New Thomas Street	(1701)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.08m. Overlies (1702)	Tarmac road surface
	(1702)	Compact regular rectangular cobbles slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; extends pit-wide at an average thickness of 0.16m. Underlies	Cobbled road surface

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
		(1701 Overlies (1703) Same as (505) (1002) (1203) (1602) (1802) (2002) (2202) (2603)	
	(1703)	Indurated light greyish-white concrete; no inclusions; extends pit-wide at an average thickness of 0.3m. Underlies (1702) Overlies (1704)Same as (506) (1003) (1204) (1603) (1803) (2003) (2204) (2604)	Concrete bedding layer
	(1704)	Soft mid orangey-brown and dark brown sandy silt; freq. small-medium stones < 30cm, mod. brick fragments <8cm, occ. bricks < 23cm; extends pit-wide at an average thickness of 0.56m. Underlies (1703)	Made-ground deposit
PIT 18 ST 59853 73118 Unity Street and Midland Road junction	(1801)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.1m. Overlies (1802)	Tarmac road surface
	(1802)	Compact, regular rectangular cobbles slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; extends pit-wide at an average thickness of 0.16m. Underlies (1801) Butted by (1805) Overlies (1803)Same as (505) (1002) (1203) (1602) (1702)(2002)(2202) (2603)	Cobbled road surface
	(1803)	Indurated light greyish-white concrete; no inclusions; extends pit-wide at an average thickness of 0.2m. Underlies (1802) Overlies (1804) Abutted by (1805) Same as (506) (1003) (1204) (1603) (1703) (2003) (2204) (2604)	Concrete bedding layer
	(1804)	Soft mid reddish-orange sand and small-medium sandstone < 50cm; no inclusions; extends pit-wide at an average thickness of 1.65m. Underlies (1803) Abutted by (1805) Same as (1904)	Re-deposited natural forming made ground
	(1805)	Loose light pinkish-grey small stones< 4cm in a sandy matrix; no inclusions; visibly extends 0.5m (E/W) × 0.3m (N/S) at an average thickness of 1.5m. Underlies (1801) Abuts (1802) (1803) (1804)	Backfill associated with service
PIT 19 ST 59854 73120	(1901)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.08m. Overlies (1902)	Tarmac road surface
	(1902)	Indurated light greyish-white concrete; no inclusions; extends pit-wide at an	Concrete bedding layer

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
Midland Road opposite Unity Street junction		average thickness of 0.3m. Underlies (1901) Overlies (1903)	
	(1903)	Soft dark brown, grey & black mottled clayey sand; freq. small-medium stones < 20cm, occ. coal fragments; visibly extends 2.5m (E/W) × 0.7m (N/S) at an average thickness of 0.25m. Underlies (1902) Overlies (1904)	Dump deposit
	(1904)	Soft mid reddish-orange sand and small-medium sandstone < 50cm; no inclusions; extends pit-wide at an average thickness of 1.2m. Underlies (1903)	Re-deposited natural forming made ground deposit
PIT 20 ST 59783 73313 Lamb Street opposite St Jude's Church	(2001)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.1m. Overlies (2002) (2004)	Tarmac road surface
	(2002)	Compact regular rectangular cobbles slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; extends pit-wide at an average thickness of 0.16m. Underlies (2001) Butted by (2004) Overlies (2003)Same as (505) (1002) (1203) (1602) (1702) (1802)(2202) (2603)	Cobbled road surface
	(2003)	Indurated light greyish-white concrete; no inclusions; extends pit-wide at an average thickness of 0.3m. Underlies 2002 Overlies (2005) Same as(506) (1003) (1204)(1603) (1703) (1803)(2204) (2604)	Concrete bedding layer
	(2004)	Loose, light pinkish white small stones < 4cm in a sandy matrix; no inclusions; visibly extends 1.6m (NE/SW) × 0.5m (SE/NW) at an average thickness of 0.35m. Underlies (2001) Butts 2002 (2003) Overlies (2005)	Backfill associated with service
	(2005)	Soft dark reddish-brown & black mottled silty clay; freq. small-medium stones <40cm, occ. brick fragments<8cm; extends pit-wide at an average thickness of 1.25m. Underlies (2003) (2004)	Made-ground deposit
PIT 21 ST 59802 73216	(2101)	Compact mid yellowish-brown bricks; no inclusions; extends pit-wide at an average thickness of 0.09m. Overlies (2102)	Brick pavement surface
	(2102)	Loose, light brownish yellow small	Bedding layer

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
Crossroads of Old Market Street, Midland Road, West Street and Lawford Street		stones < 3cm in a sandy matrix; no inclusions; extends pit-wide at an average thickness of 0.3m. Underlies (2101) Overlies (2103)	
	(2103)	Indurated, light greyish white concrete; no inclusions; extends pit-wide at an average thickness of 0.2m. Underlies (2102) Overlies (2104) (2107)	Concrete bedding layer
	(2104)	Soft, dark reddish brown and black mottled sandy clay; freq. small-medium stones <40cm, occ. brick fragments<8cm, occ. bone fragments<5cm, occ. charcoal flecks; visibly extends 1.8m (NNE/SSW) × 1.1m (SSE/NNW) at an average thickness of 0.75m. Underlies (2103) Cut by [2110] Overlies 2105 (2108)	Made ground deposit
	(2105)	Masonry; irregular un-worked grey sandstone; light whitish-grey mortar bond with charcoal inclusions; base, sides and capstones; visibly extends 0.6m (SE/NW) × 0.4m (NE/SW) by a thickness of 0.75m. Underlies (2104)Filled by (2106) Abutted by (2107) In cut [2109]	Stone drain
	(2106)	Loose dark greyish-brown silt; occ. small stones <3cm; visibly extends 0.4m (SE/NW) × 0.4m (NE/SW) at an average thickness of 0.43m. Fill of 2105	Fill of 2105
	(2107)	Soft dark reddish-brown & black mottled sandy clay; freq. small-medium stones <40cm, occ. brick fragments<8cm, occ. bone fragments<5cm, occ. charcoal flecks; visibly extends 1.8m (SSE/NNW) × 1m (NNE/SSW) at an average thickness of 0.9m. Underlies (2103) Fill of [2110]	Re-deposited (2104) forming backfill of [2110]
	(2108)	Soft mid orangey-red sandy clay; occ. small stones<5cm; visibly extends 0.2m (SSE/NNW) × 0.12m (NNE/SSW) at an average thickness of 0.16m. Underlies (2104) Cut by [2109]	Possible made-ground deposit
	[2109]	Cut; linear in form; visibly extends 0.2m (SSE/NNW) × unknown width at a depth of0.16m; Break of slope and base not visible; sides vertical;	Cut for [2105]

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
		orientation SE/NW. Cuts (2108) Filled by (2105)	
	[2110]	Cut; linear in form; visibly extends 2.1m (SSE/NNW) × 1.8m (NNE/SSW) at a depth of 0.7m; Break of slope moderate; base not visible; sides steeply sloped; orientation NE/SW. Cuts (2104) Filled by (2107)	Cut for service
PIT 22 ST 59584 72970 Broad Plain, E of Temple Way junction	(2201)	Indurated light grey concrete; no inclusions; extends pit-wide at an average thickness of 0.15m. Overlies 2202 (2203)	Pavement surface
	(2202)	Compact regular rectangular cobbles slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; visibly extends 1m (NE/SW) × 0.5m (SE/NW) at an average thickness of 0.16m. Underlies (2201) Overlies (2203)Same as (505) (1002) (1203) (1602) (1702) (1802) (2002) (2603)	Cobbled road surface
	(2203)	Loose light yellowish-brown small stones <4cm in a sandy matrix; no inclusions; visibly extends 2.6m (NE/SW) × 0.5m (SE/NW) at an average thickness of 0.27m. Underlies (2202) Overlies (2204)	Bedding layer
	(2204)	Indurated light pinkish-white concrete; no inclusions; visibly extends 2.6m (NE/SW) × 0.5m (SE/NW) at an average thickness of 0.04m. Underlies (2203) Overlies (2205)Same as (506) (1003) (1204) (1603) (1703) (1803) (2003) (2604)	Concrete bedding layer
	(2205)	Soft, dark greyish-brown & black mottled silty clay; freq. small-medium stones <35cm, occ. brick fragments<8cm; extends pit-wide at an average thickness of 0.75m. Underlies (2204) Overlies (2206)	Made-ground deposit
	(2206)	Soft mid reddish-brown silty clay; freq. small-medium stones <30cm, occ. brick fragments<8cm; extends pit-wide at an average thickness of 0.4m. Underlies (2205)	Made-ground deposit
PIT 23 ST 59993 73658	(2301)	Indurated, black tarmac; no inclusions; extends pit-wide at an average thickness of 0.1m. Overlies (2302)	Tarmac road surface
	(2302)	Loose light grey small stones <4cm in a	Bedding layer

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
Pennywell Road, S of Newton Street junction		sandy matrix; no inclusions; extends pit-wide at an average thickness of 0.2m. Underlies (2301) Overlies (2303)	
	(2303)	Moderately compact mid-light yellowish-brown sandy clay; occ. flecks charcoal, occ. slag; extends pit-wide at an average thickness of 0.08m. Underlies (2302) Overlies (2304)	Dump deposit
	(2304)	Soft dark greyish-black clayey silt; occ. coal <2cm, occ. slag<4cm; visibly extends 2.2m (E/W) × 0.8m (N/S) at an average thickness of 0.06m. Underlies (2302) Overlies (2305)	Possible occupation/dump deposit
	(2305)	Moderately compact light yellowish-brown sandy clay; occ. flecks charcoal, mod. slag; visibly extends 2.2m (E/W) × 0.8m (N/S) at an average thickness of 0.06m. Underlies (2304) Overlies (2306)	Dump deposit
	(2306)	Loose reddish-orange tile fragments in a crushed tile matrix; occ. pot fragments <2cm; visibly extends 2.2m (E/W) × 0.8m (N/S) at an average thickness of 0.1m. Underlies (2305) Overlies (2307)	Dump deposit
	(2307)	Firm dark brown and grey mottled silty clay and small-medium stones <30cm; occ. charcoal flecks; visibly extends 2.2m (E/W) × 0.8m (N/S) at an average thickness of 0.1m. Underlies (2306) Overlies (2308) (2314)	Dump deposit
	(2308)	Moderately compact small-medium pennant sandstones<20cm; no inclusions; visibly extends 1.4m (E/W) × 0.8m (N/S) at an average thickness of 0.12m. Underlies (2307) Butted by (2314) Cut by [2316] Overlies (2309)	Possible dump deposit/ levelling deposit
	(2309)	Soft black silty sand; mod. slag <3m, mod. small stones <10cm; visibly extends 1.4m (E/W) × 0.8m (N/S) at an average thickness of 0.12m. Underlies (2308) Butted by (2314) Cut by [2316] Overlies (2310)	Dump deposit
	(2310)	Firm pennant sandstone <15cm in a mid-greyish brown silty clay matrix; no inclusions; visibly extends 1.4m (E/W) × 0.8m (N/S) at an average thickness of 0.13m. Underlies (2309) Butted by (2314) Cut by [2316] Overlies (2311)	Dump deposit

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
	(2311)	Soft light grey sandy silt; occ. small stones <4cm, occ. slag <2cm; visibly extends 1.4m (E/W) × 0.8m (N/S) at an average thickness of 0.22m. Underlies (2310) Butted by (2314) Cut by [2316] Overlies (2312)	Dump deposit
	(2312)	Firm dark grey & black mottled sandy silt and vitrified slag; freq. charcoal flecks, occ. small stones<5cm; visibly extends 1.4m (E/W) × 0.8m (N/S) at an average thickness of 0.16m. Underlies (2311) Cut by [2316] Overlies (2313)	Dump deposit
	(2313)	Soft mid-light grey sandy silt; occ. slag <2cm, occ. small stones <4cm; visibly extends 1.4m (E/W) × 0.8m (N/S) at an average thickness of 0.1m. Underlies (2312) Cut by [2316]	Dump deposit
	(2314)	Soft mid grey sandy silt; freq. small stones <5cm, freq. vitrified slag<2cm; <4cm; visibly extends 0.8m (N/S) × 0.05m (E/W) at an average thickness of 0.46m. Underlies (2313) Cut by [2316]	Dump deposit
	[2315]	Cut; linear in form; visibly extends2m (E/W) × 1.2m (N/S) at a depth of 0.95m; Break of slope top sharp; sides very steeply sloped; base not visible; orientation E/W. Cuts (2303) (2304) (2305) (2306) (2307) (2314)	Cut for service
	[2316]	Cut; linear in form; visibly extends 2.2m (N/S) × 0.8m (E/W) at a depth of 0.62m; Break of slope top sharp; sides moderately sloped; base not visible; orientation N/S; Cuts (2308) (2309) (2310) (2311) (2312) (2313)	Cut for service
PIT 24 ST 59848 73401 Lamb Street, SW of Wade Street	(2401)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.2m. Overlies (2402)	Tarmac road surface
	(2402)	Loose light grey small stones <4cm in a sandy matrix; no inclusions; extends pit-wide at an average thickness of 0.3m. Underlies (2402) Overlies (2403)	Bedding layer
	(2403)	Loose dark greyish-yellow sand; occ. small stones <5cm; extends pit-wide at an average thickness of 0.15m. Underlies (2402) Overlies (2404)	Levelling layer
	(2404)	Soft dark grey & black mottled sandy clay; mod. small stones <15cm, occ. brick fragments<10cm; extends pit-	Made-ground deposit

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
		wide at an average thickness of 0.55m. Underlies (2403) Overlies (2405)	
	(2405)	Soft mid brownish red sandy clay; occ. small-medium stones <35cm; extends pit-wide at an average thickness of 0.25m. Underlies (2404)	Made-ground deposit
PIT 25 ST 59873 73423 Lamb Street and Wade Street junction	(2501)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.3m. Overlies (2502)(2507)	Tarmac road surface
	(2502)	Indurated light whitish concrete; no inclusions; extends pit-wide at an average thickness of 0.5m. Underlies (2501) Overlies (2503) (2505) (2506) Abuts (2507)	Concrete bedding layer
	(2503)	Soft dark brown & black mottled sandy clay; occ. small-medium stones <30cm, occ. brick fragments <10cm; extends pit-wide at an average thickness of 0.3m. Underlies (2502) Overlies (2504) Cut by [2510]	Made-ground deposit
	(2504)	Soft mid reddish-brown sandy clay; occ. small-medium stones <30cm, occ. brick fragments <10cm; extends pit-wide at an average thickness of 0.24m. Underlies (2503) Cut by [2510]	Made-ground deposit
	(2505)	Loose light pink small stones <4cm; no inclusions; visibly extends 2.5m (NE/SW) × 2.3m (SE/NW) at an average thickness of 0.5m. Underlies (2502) Overlies (2504)	Backfill associated with service
	(2506)	Soft mid red, brown & black mottled sandy clay; occ. small-medium stones <30cm, occ. brick fragments <10cm; visibly extends 5m (NE/SW) × 0.75m (SE/NW) at an average thickness of 1.4m. Underlies (2502) Fill of [2510]	Disturbed and re-deposited (2503) and (2504) forming backfill of [2510]
	(2507)	Loose mid yellowish small stones <4cm; no inclusions; visibly extends 5m (NE/SW) × 0.25m (SE/NW) at an average thickness of 0.1m. Underlies (2501) Overlies (2508) Cut by [2510]	Levelling layer
	(2508)	Masonry; mid orangey-red brick; un-mortared; average dimensions of 23cm × 10cm × 6cm; visibly extends 2.5m (NE/SW) × 0.25m (SE/NW) at an average thickness of 0.06m. Underlies (2507) Overlies (2509) Cut by [2510]	Possible demolished cellar structure
	(2509)	Mid orangey-red brick in silty sand	Brick backfill

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
		matrix; un-mortared; freq. brick fragments <10cm, freq. plaster fragments <3cm; visibly extends 2.5m (NE/SW) × 0.25m (SE/NW) at an average thickness of 0.6m. Underlies (2508) Cut by [2510]	
	[2510]	Cut; linear in form; visibly extends5m (NE/W) × 0.75m (S/E) at a depth of 1.4m; Break of slope top sharp; sides very steeply sloped; base not visible; orientation NE/SW. Cuts (2503) (2504) (2508) (2509)	Cut for service
PIT 26 ST 59770 73271 Lawford Street and Lamb Street junction	(2601)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.1m. Overlies (2602)	Tarmac road surface
	(2602)	Indurated light whitish concrete; no inclusions; extends pit-wide at an average thickness of 0.25m. Underlies (2601) Overlies 2603	Concrete bedding layer
	(2603)	Compact regular rectangular cobbles; slightly rounded corners; average 200mm × 145mm × 100mm, light grey sandy mortar; visibly extends 4.7m (SE/NW) × 1.2m (NE/SW) at an average thickness of 0.16m. Underlies (2602) Overlies (2643) Same as (505) (1002) (1203) (1602) (1702) (1802) (2002) (2202)	Cobbled road surface
	(2604)	Indurated light pinkish-white concrete; no inclusions; visibly extends 4.7m (SE/NW) × 1.2m (NE/SW) at an average thickness of 0.35m. Underlies 2603 Overlies (2605) Same as (506) (1003) (1204) (1603) (1703) (1803) (2003) (2204)	Concrete bedding layer
	(2605)	Soft dark reddish-brown silty clay; mod. small to medium stones <20cm, occ. brick fragments <10cm; extends pit-wide at an average thickness of 0.85m. Underlies (2604)	Made-ground deposit
PIT 27 ST 60036 73521 Stapleton Road, Trinity Road and Lawford's Gate junction	(2701)	Indurated, black tarmac; no inclusions; extends pit-wide at an average thickness of 0.2m. Overlies (2702)	Tarmac road surface
	(2702)	Indurated light whitish concrete; no inclusions; extends pit-wide at an average thickness of 0.18m. Underlies (2701) Overlies (2703) (2705)	Concrete bedding layer
	(2703)	Soft mid brown, grey & black sandy clay; mod. small to medium stones	Made-ground deposit

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
		<20cm, mod. brick fragments <10cm; extends pit-wide at an average thickness of 0.3m. Underlies (2702) (2708) Overlies (2704)	
	(2704)	Soft mid reddish-brown and black mottled sandy clay; mod. small stones<10cm, occ. brick fragments <10cm; extends pit-wide at an average thickness of 0.6m. Underlies (2703)	Made ground deposit
	(2705)	Firm mid brownish-yellow small-medium stones <10cm in a silty sand matrix; visibly extends 5m (E/W) × 1.2m (N/S) at an average thickness of 0.09m. Underlies (2702) Overlies (2706)	Possible levelling layer
	(2706)	Soft light brownish-yellow sandy silt; occ. small stones <10cm; visibly extends 5m (E/W) × 1.2m (N/S) at an average thickness of 0.04m. Underlies (2705) Overlies (2707)	Possible dump deposit
	(2707)	Firm dark brown rubble; small-medium stones <25cm, bricks <23c, and brick fragments <10cm; visibly extends 5m (E/W) × 1.2m (N/S) at an average thickness of 0.15m. Underlies (2706) Overlies (2708)	Possible dump deposit
	(2708)	Soft mid brownish-red silty sand; occ. small stones <8cm; visibly extends 5m (E/W) × 1.2m (N/S) at an average thickness of 0.15m. Underlies (2707) Overlies (2703)	Possible dump deposit
PIT 28 ST 60552 74242 SE of Stapleton Road and St Marks Road junction	(2801)	Indurated black tarmac; no inclusions; extends pit-wide at an average thickness of 0.2m. Overlies (2802)	Tarmac road surface
	(2802)	Indurated mid-whitish grey concrete; no inclusions; extends pit-wide at an average thickness of 0.18m. Underlies (2801) Overlies (2803) (2804)	Concrete sub-base
	(2803)	Loose light greyish-pink small stones <4cm; no inclusions; visibly extends 0.5m (NE/SW) × 0.2m (SE/NW) at a thickness of 0.5m. Underlies (2802)	Backfill associated with service
	(2804)	Soft dark reddish-brown & black mottled sandy clay; freq. small-medium stones <20cm, freq. brick fragments <8cm; extends pit-wide at an average thickness of 0.6m. Underlies (2802)	Made-ground deposit
PIT 29	(2901)	Indurated black tarmac; no inclusions;	Tarmac road surface

LOCATION/NGR	CONTEXT	DESCRIPTION	INTERPRETATION
ST 60553 74244 Stapleton Road and St Marks Road junction		extends pit-wide at an average thickness of 0.22m. Overlies (2902)	
	(2902)	Indurated mid whitish-grey concrete; no inclusions; extends pit-wide at an average thickness of 0.2m. Underlies (2901) Overlies (2903)	Concrete bedding layer
	(2903)	Soft dark reddish-brown & black mottled sandy clay; freq. small-medium stones <20cm, freq. brick fragments <8cm, occ. mortar flecks; extends pit-wide at an average thickness of 0.6m. Underlies (2902)	Made-ground deposit

10. Appendix – Assessment Reports

10.1 Appendix 1: Ceramic Assessment

Dr Alejandra Gutierrez (Archaeological Services - University of Durham)

A small amount of pottery was found during this programme of archaeological observation. The quantification of all the material is presented in Table 1 below.

The material has been identified to fabric types using Bristol Pottery Type (BPT) numbers (as described by Ponsford 1988 and 1998), possible source and date. The assemblage has been studied without detailed reference to the stratigraphic sequence.

Only 10 sherds were recovered from this excavation. The material is all of modern date and includes four fragments from a sugar cone mould in a dense redware fabric with a grey core. One of the sherds has a white slip on the interior surface, a treatment noted on other examples from the city (Brooks 1983, 4). Sugar refining took place in Bristol in the late 18th and 19th centuries and pottery used in the process appears occasionally in the city centre. Apart from local production, the manufacture of such pots is also documented nearby in Westbury-on-Trim in the 18th century (Jackson 2005).

Addendum: Analysis of the pottery recovered from samples (2312) and (2313)

Pottery from the soil samples was examined by eye and under magnification (x10). With the exception of a single sherd of a modern whiteware from sample <2>, context (2312) the material consisted of coarsewares, probably of fairly local production. No fine wares were present. A number of kilns, notable those at Donyatt, supplied the city during the post-medieval period.

No products of the Hanley Castle area kilns, wares from which predominated in the city during the 16th century, were present suggesting a date in the 17th century and later. A sherd from (2312) resembles material from kilns at Newent/Witney and would therefore date to the 17th to 18th centuries; on typological grounds the remaining pottery from the context is of similar date.

The presence of modern (19th century or later) material in sample <2> implies either disturbance to the deposits or that the material may have been imported from elsewhere as levelling.

Trench	Context	BPT	Fabric	Group	Date	Form	Sherds	g	mnv	rims	Comments
VST12	1704	BPT 100	Bristol/Staff. slipware	Modern	late C17-C18	dish	1	20			red fabric; burnt/soot underside Trimmed to rectangular shape, broken at one end.
VST12	2104	BPT 96	C17 post-med sandy redware	Post-medieval			1	22			Post-medieval sandy redware; green glazed on interior surface
VST12	2304	BPT 202	Blue-printed pearlware	Modern	*c*1775–1810		2	8			Oriental decoration
VST12	2306	BPT 310	Modern redware	Modern	C18-C19	sugar cone mould	4	199	1		knife trimmed rim; all sherds from one mould? one sherd with white slip on interior surface
VST12	2306	BPT 277	Modern English stoneware	Modern	C18-C19		1	50			grey fabric with abundant black inclusions; dark purple glaze on interior surface, dark brown on exterior (Derby type)
VST12	2306	BPT 277	Modern English stoneware	Modern	C18-C19		1	6			cream fabric with grey margins; black glaze interior, light brown glaze exterior
							10	**305**			

Table 1: Ceramic assessment – Victoria Street to Trinity, Bristol (VST 12)

10.2 Appendix 2: Palaeoenvironmental Assessment

Dr Charlotte O'Brien (Archaeological Services University of Durham)

1. Summary

The project

1.1 This report presents the results of palaeoenvironmental assessment of two bulk samples taken during archaeological works at Victoria Street to Trinity, Bristol.

1.2 The works were commissioned by Border Archaeology, and conducted by Archaeological Services Durham University.

Results

1.3 The assessment of the bulk samples confirms the contexts comprise the deposition of industrial waste material, possibly as a source of hardcore or made ground. The material is not typical of either colliery waste or metalworking activity and is more likely to be the remains of glassmaking or working.

Recommendations

1.4 Surviving glassworking remains are likely to be regionally or nationally important, as archaeological evidence of glassworking is relatively rare (English Heritage 2011). Although this may not be *in-situ* glassworking material, few remnants of the once-important glassmaking industry survive in Bristol (Webster 2007), therefore further assessment by an appropriate specialist may be considered. The flots and residues should be retained as part of the physical archive of the site.

2. Project background

Location and background

2.1 Archaeological works were conducted by Border Archaeology at Victoria Street to Trinity, Bristol. This report presents the results of palaeoenvironmental assessment of two bulk samples from a pit comprising industrial waste material of unknown origin and located at the junction of Pennywell Road and Newton Street.

Objective

2.2 The objective of the scheme of works was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material, and provide the client with appropriate recommendations.

Dates

2.3 Samples were received by Archaeological Services on 11th April 2013. Assessment and report preparation was conducted between 17th April and 6th June 2013.

Personnel

2.4 Assessment and report preparation was conducted by Lorne Elliott. The industrial residues were examined by Jennifer Jones.

Archive

2.5 The site code is **VST12 for V**ictoria **S**treet to **T**rinity**,** Bristol 20**12**. The flots, residues and finds are currently held in the Environmental Laboratory at Archaeological Services Durham University awaiting collection or return.

3. Methods

3.1 The bulk samples were manually floated and sieved through a 500μm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, flint, glass, pottery sherds, and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ7.5 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classification follows Preston *et al.* (2002).

3.2 Where possible, charcoal fragments were identified, in order to provide material suitable for radiocarbon dating. The transverse, radial and tangential sections were examined at up to x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Schweingruber (1990) and Hather (2000), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University.

3.3 The palaeoenvironmental assessment was undertaken in relation to the research objectives outlined in the regional research framework for South West England (Webster 2007).

4. Results

4.1 The residues predominantly comprised amorphous vesicular lumps of clinker/cinder and semi-vitrified fuel waste, with smaller quantities of coal, charcoal, fired clay and tiny indeterminate fragments of bone (calcined and unburnt) also present. Various fragments of coloured glass and a few sherds of pottery were recorded.

4.2 The charcoal from (2312) comprised narrow vessels and low levels of vitrification, possibly as a result of rapid burning (Schweingruber 1990). The few identifiable fragments from this context included ash branchwood and alder stemwood. The small quantity of charcoal from (2313) was generally well preserved and included oak branchwood and root wood, and a tiny fragment of hazel. Low numbers of uncharred remains of the more decay-resistant seeds such as sedges, buttercup, bramble, fat-hen and nettle were recorded in (2313), although there presence is unlikely to be the result of waterlogged conditions. Material suitable for radiocarbon dating is available. The results are presented in Appendix A.

5. Discussion

5.1 The assessment of the bulk samples confirms the contexts comprise the deposition of industrial waste material. The composition of the material is not typical of either colliery waste or metalworking activity and its vitrified nature suggests it is more likely to represent the remains of glassmaking or working. This material may have been produced at a nearby supply and used as a convenient source of hardcore or made ground as suggested by the excavator. Coal appears to be the favoured form of fuel, and the few fragments of charcoal present may have been used as kindling, although oak root wood noted in (2313) may be the result of clearance burning of the site.

6. Recommendations

6.1 Surviving glassworking remains are likely to be regionally or nationally important, as archaeological evidence of glassworking is relatively rare (English Heritage 2011). Although this may not be *in-situ* glassworking material, few remnants of the once-important glassmaking industry survive in Bristol (Webster 2007), therefore further assessment by an appropriate specialist may be considered. The flots and residues should be retained as part of the physical archive of the site.

7. Sources

English Heritage 2011 *Archaeological evidence for Glassworking: Guidelines for Best Practice.* Swindon

Hather, J G, 2000 *The identification of the Northern European Woods: a guide for archaeologists and conservators*. London

Preston, C D, Pearman, D A, & Dines, T D, 2002 *New Atlas of the British and Irish Flora.* Oxford

Schweingruber, F H, 1990 *Microscopic wood anatomy*. Birmensdorf

Stace, C, 1997 *New Flora of the British Isles*. Cambridge

Webster, C J, 2007 *The Archaeology of South West England: South West Archaeological Research Framework, Resource Assessment and Research Agenda*. Somerset County Council

Appendix A: Data from palaeoenvironmental assessment

Sample		**1**	**2**
Context		**2312**	**2313**
Feature		**pit**	**Pit**
Material available for radiocarbon dating		✓	✓
Volume processed (l)		9	5
Volume of flot (ml)		250	100
Residue contents			
Bone (calcined)	indet frag	+	+
Bone (unburnt)	indet frag	-	+
Charcoal		+	+
Clinker / cinder	vesicular	++++	+++
Coal		+	++
Fired Clay / CBM		+	++
Glass (number of fragments)		39	36
Pot (number of fragments)		5	2
Semi-vitrified fuel waste		+++	+++
Flot matrix			
Charcoal		+	++
Clinker / cinder	vesicular	+++	+++
Coal		++	++
Fuel ash		++	-
Insect / beetle		-	(+)
Semi-vitrified fuel waste		+++	++
Uncharred seeds		-	++

[(+): trace; +: rare; ++: occasional; +++: common; ++++: abundant]

10.3 Appendix 3: Assessment of Metalworking Debris

Dr David Starley

1. Summary

1.1 184g of metallurgical debris, from Victoria to Trinity Pipeline (VST12) Bristol, was assessed by visual examination. One fragment is believed to derive from copper alloy smelting and another two from either iron smelting in a post medieval blast-furnace or perhaps glass production or working.

2. Background to the Excavation

2.1 Archaeological monitoring of the Victoria to Trinity pipeline (VST12), Bristol, was undertaken by Border archaeology in 2013, between - NGR: ST 59174 72795 and ST 60556 74252. A very small amount of metalworking debris was recovered from a single pit, 23, at the junction of Pennywell Rd. and Newton St. in the centre of the city**.** The contexts were interpreted as possible *in situ* deposits of industrial waste. A sample taken from the deposit had previously been considered to be glassworking debris.

3. Methodology for Assessment of Metalworking Debris

3.1 All the debris, totalling 184g, was washed prior to visual examination.

4. Classification of Debris

Table 1. Industrial Debris Summary from Victoria to Trinity, Bristol

Activity	Classification	Total weight (g)	Total contexts
Iron smelting/ glass melting	Probable blast furnace slag or possible glass working waste	39	1
Copper smelting	Non-ferrous smelting slag	145	1
Total		**184**	**2**

4.1 Context (2312) produced two similar fragments of debris which cannot be identified with absolute certainty. They are un-weathered, angular shattered pieces from a larger mass. The fabric is highly glassy but opaque and of black with blue/grey streaks of colouration. The material strongly resembles certain blast furnace slags from post-medieval/early industrial iron smelting. However, their extremely glassy nature may point to the manufacture of bottle glass, or perhaps a more refined material that has been altered by further heating – such as falling into the flue or ash pit (Paynter & Dungworth 2011).

4.2 Deposit (2313) produced a single fragment of more distinctive appearance, having original surfaces on top and bottom and fracture surfaces on the two ends revealing a plano-convex section which suggest the slag has solidified as it has run though a channel. The fabric is dense and slightly glassy having a uniform opaque black colouration with slight haematite

sheen. More tellingly copper alloy oxidation/corrosion products on the surface suggest that this slag derives from copper smelting.

5. Discussion

5.1 The single piece of copper alloy smelting waste is unsurprising in a city where copper smelting formed a major industry with four furnaces operating by 1719 (Symons 2003). The more glassy slag from context (2313), does however appear to be from a different industry altogether. Initial examination of the two fragments suggests they derive from a historic blast furnace. However, Bristol's reputation as a manufacturer of glass, including glass bottles, may provide an alternative explanation for the deposition of this waste within the city. If, as is believed, further examples of this material were discovered on site it is hoped that some may prove more morphologically diagnostic.

6. Suggestions for Future work

6.1 The fragments from the glass furnace flue should be made available to a specialist of this industry.

7. Retention of finds

7.1 It is recommended that all debris be saved.

8. References

Symons, J., 2003, *The Mining and Smelting of Copper in England and Wales 1760-1820.* Unpublished Master's Thesis, University of Coventry

Paynter, S & Dungworth, D., 2011, *Archaeological Evidence for Glassworking: Guidelines for Best Practise*, English Heritage

10.4 Appendix 4: Assessment of Glassworking Debris

David Dungworth PhD

All material, derived from two contexts (2312) and (2313) was examined visually. Overall the material comprises several categories of material: clinker, crucibles, glassy waste and glass.

Clinker (that is vitrified coal ash) is the most abundant. This clearly derives from a high-temperature coal-fired furnace. Some fragments of crucible are embedded in clinker suggesting that the clinker derives from a coal-fired glass furnace. The crucible fragments are generally very hard, pale grey in colour and (despite their small size) are certainly of the sort used to melt glass in the post-medieval period.

The glassy waste forms a very small proportion of the material examined and includes both small fragments of rather frothy green glass and the opaque pale blue waste typical of high-lime low-alkali (HLLA) glass manufacture. HLLA was used to make tableware, windows and bottles from the late 16th century onwards. Its use for tableware appears to decline in the 17th century; and by the beginning of the 18th century it was used only for the manufacture of bottles. HLLA glass continued until the beginning of the 20th century.

The small amount of glass recovered includes very small fragments of mostly rather robust, thick-walled vessels that are likely to be bottles. None of the fragments are large enough to indicate the form of the bottles (and so cannot provide any indication of the date of manufacture). The 1mm fraction material also includes a proportion of coal dust.

The lack of association with a historically-known glasshouse and the paucity of both useful glassworking waste and diagnostic vessel forms means that the material has almost no potential for further analysis. It does not warrant further investigation and there is no need to retain this material.

Document Control

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