NYCC HER	
SNY	7948
ENY	1228/1226
CNY	1499/1814
Parish	6900
Rec'd	25/03/2003

ARCHAEOLOGICAL SERVICES WYAS

Knaresborough Bus Station

Knaresborough

North Yorkshire

Archaeological Excavation

March 2003

Report No.1091

CLIENT

Woodhouse-Barry (Construction) Ltd

NYCC HER	
SNY	7948
ENY	1228,1226
CNY	1499,1814
Parish	6100
Rec'd	25·03·03

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Contents

Summary

Archaeological excavation at Knaresborough Bus Station, off High Street in Knaresborough Town Centre, has revealed three main phases of activity dating from the medieval to the modern period. A number of cut features including post-holes and pits were sealed by a 'garden' soil of later medieval and perhaps post-medieval date that was observed across the site. These earlier features were probably medieval, although not all of them contained dateable artefacts. The garden soil was presumably related to plots of land fronting High Street and developed through the later medieval period and perhaps into the post-medieval period. During the 18th century the site was terraced for the construction of several buildings, fronting onto, and to the rear of, High Street. These buildings were demolished to make way for the construction of the bus station in the 20th century.

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1. Introduction

1.1 Archaeological Services WYAS were commissioned by Woodhouse-Barry (Construction) Ltd to undertake an archaeological excavation on land at Knaresborough Bus Station, Knaresborough, North Yorkshire. The works took place in advance of a proposed mixed use housing and retail development (planning application ref. 6.100.1465J). The site is centred on NGR SE 3515 5697, immediately south of High Street in the town centre (Figs 1 and 2). SE 35129 56969

1.2 At the time of investigation, the ground cover was a mixture of reinforced concrete, concrete flagstones and tarmac, with an underlying geology of lower magnesian limestone (British Geological Survey 1987).

1.3 The archaeological investigations were undertaken between the 18th June 2002 and 18th July 2002.

2. Archaeological and Historical Background

2.1 The earliest documentary reference to Knaresborough or 'Chenaresburg' is in the Domesday Book of AD 1086. Meaning 'Cenheard's fortification, the place name suggests a pre-Conquest defended settlement (Smith 1961). Certainly Knaresborough developed into an important defended medieval town, with a parish church in existence by AD1114, when it was granted to Nostell Priory, and a castle established early in the 12th century. Little of the original castle survives as it was almost completely rebuilt by Edward I in the 14th century, a programme of rebuilding later completed by Edward II (Kershaw 1998).

2.2 By 1169 there were burgesses at Knaresborough and a market was first recorded in 1206 (Falkingham 2001). In the 13th century the town was the centre of an iron-working industry based on the quarrying of ironstone from the Forest of Knaresborough. This industry was in decline by the early 14th century, however, and a lack of fuel meant that the Forest could only support a few smithies. The town was also the focus of a thriving woollen industry, which continued until the 17th century before being replaced by linen weaving (Falkingham 2001).

2.3 The present buildings in the town are thought to be mostly of 18th-century construction, corresponding with one of the most prosperous times in the history of Knaresborough, and the heyday of the linen industry (Turner 1990). The 19th century saw the gradual decline of the linen weaving industry, following the growth and development of the nearby town of Harrogate (Tyler 1978). The first edition Ordnance Survey (OS) 6 inch map of 1854 shows a tightly packed complex of buildings fronting High Street, which were demolished prior to the construction of the existing bus station.

2.4 Archaeological work in the town centre has been limited, in contrast to the attention focused on the castle. The line of the medieval town ditch is thought to follow the line of Gracious Street, to the east of the proposed development, and High Street is believed to have been the main street of the medieval town. As such, it is likely that medieval burgage plots fronted onto High Street and extended back to the site of the present car park, to the rear of the bus station. In 1959, a well, thought to date to the 14th century, with preserved timber panels intact, was discovered during building work on Market Street. In 1993,

a watching brief to the rear of 14 High Street, on the supposed line of the town ditch, revealed no archaeological activity, albeit within restricted limits of excavation (York Archaeological Trust 1993). In 1994, a watching brief at 34 and 34a Market Place, the site of a 18th-century Grade II Listed building, revealed the possible remains of an associated unmortared wall and cobbled surface, with no evidence of earlier pre-18th-century occupation. Trial trenching at Berry's Avenue in 1998 revealed that post-medieval and modern activity had probably truncated earlier deposits (MacNab 1998).

2.5 Finally, an evaluation carried out at Knaresborough Bus Station in March 2001 by Archaeological Services WYAS revealed three main phases of activity dating from the late medieval to the modern periods (O'Neill 2001). A 'garden' soil of probable late medieval to early post-medieval date was observed across the site, presumably relating to plots of land fronting High Street. This soil contained some evidence of iron working on or near the site, and it continued to develop until the 18th century when the area was terraced for the construction of several buildings, either fronting or to the rear of High Street. The final phase of activity saw the truncation of these structures and deposits during the construction of the bus station. – NYE 357

3. Method

3.1 A written brief for archaeological excavation and recording of the current development area was prepared by Gail Falkingham of North Yorkshire County Council Heritage Unit (Appendix I). A detailed method statement was then prepared by Archaeological Services WYAS.

3.2 The aim of the excavation was to recover and record archaeological information and finds within the proposed development, focussing on those areas of the proposed foundation design that would cause the deepest disturbance. Sixteen of a total of twenty-nine foundation pad trenches were subjected to controlled excavation (typically to depths not exceeding 1.5m), along with associated service trenches. In addition, an archaeological watching brief was carried from the 25th to the 30th July 2002 to observe the extension of several wall footings in the south-eastern limits of the site.

3.3 Following the removal of overburden (tarmac, concrete, topsoil etc.), the resulting surface was cleaned manually and inspected for archaeological remains. Archaeological layers were investigated and within the constraints of the trenches, the shape, character and depth of features were determined. The intersections of features were targeted in order to understand stratigraphic relationships and provide a sequence of activity over time. A soil-sampling strategy was undertaken for the recovery and identification of carbonised plant remains, vertebrate remains and molluscs. Soil samples of up to ten litres were taken from all appropriate deposits, in particularly primary fills and those that appeared to be charcoal-rich.

3.4 In accordance with the Archaeological Services standard method (Boucher 1995), a full written, drawn and photographic record was made of all archaeological remains. Hand-drawn plans were made of excavated areas at a scale of 1:20 and sections were drawn at a scale of 1:10. The trenches have been located on an Ordnance Survey Landline digital map base of the area and all plan and section datum levels were calculated, using the Ordnance Survey

Bench Mark (OSBM) on the Market Cross at 76.69mOD, using a 600 series Geodimeter Total Station theodolite.

3.5 Of the sixteen trenches initially targeted, Trenches 11, 12, 13 and 16 revealed infilled cellaring immediately below the concrete surface. Due to the unsafe nature of the trench sides and following consultation with North Yorkshire County Council Heritage Unit, the excavation and recording of these trenches was halted. Four additional trenches (17 to 20) were opened to replace these.

3.6 Gail Falkingham of the North Yorkshire County Council Heritage Unit visited the site on the 20th June 2002 and 5th July 2002 in order to monitor the work in progress.

3.7 Following completion of the trenching, the site archive was prepared in accordance with the specification outlined in the Management of Archaeological Projects, MAP 2 (English Heritage 1991). The site archive contains all the information collected during the fieldwork. The site records have been checked, indexed and cross-referenced as necessary. The archive is currently held by Archaeological Services WYAS in an appropriate stable environment. The archive will be deposited with the Harrogate Museum following the completion of post-excavation work (Accession number: HARGM 11396). An inventory of the archive is presented in Appendix II.

4. Results

4.1 The total area investigated measured 61.4m^2, made up of 16 trenches. A further four trenches abandoned due to location of modern cellars are not included here (Fig. 2). Immediately below the modern ground surface of concrete slabs and tarmac, early modern/18th-century activity was identified, followed by later medieval/post-medieval and medieval deposits. Undisturbed natural was encountered at a height of 75.50m OD in Trench 1 to the south-east of the development area and seen only 0.25m higher in Trench 19 to the north-west of the area.

4.2 The trenches are discussed in numerical order below. The majority revealed evidence of three distinct phases; early modern activity, the build-up of a later medieval and post-medieval garden soil and medieval features cut into the natural and/or sealed by the garden soil. The sequence of activity is discussed from late (early modern) to early (medieval) occupation. Plans of medieval features are provided whenever possible, although some features are only visible in the sections: plans of early modern walls and drains are not included.

4.3 Context, artefact and environmental sample inventories are presented in Appendices III to V.

Trench 1 (Fig. 3, S.2 and S.4)

4.4 Trench 1, located towards the south eastern limits of the site, measured approximately 1.7m by 1.7m and was excavated to a depth of 0.95m. Beneath a reinforced concrete surface (101), a limestone mortar deposit (106/117/134) up to 0.37m in depth was contained within a poorly defined cut (135). This deposit containing occasional brick inclusions was cut by three early modern features (103, 105 and 109) ranging in depth from 0.40m to 0.60m. Although their purpose was not clear, some or all of them may have served as pipe/drain trenches. Further early modern features were located to a maximum depth of

approximately 0.76m. These included a foundation wall of brick fragments and poorly dressed stones orientated northeast-southwest (124/132) and a fragment of similarly constructed foundation wall oriented northwest-southeast (107). Both were bonded with a limestone mortar. Two trenches for drains (114/131 and 116; not illustrated) survived to depths of 0.74m, were steep sided and flat bottomed and were backfilled with rubble (113/130) and a green grey sand (115) respectively. Dateable artefacts were restricted to a sherd of 19th-century pottery from the mortar deposit (106/134), a mixed assemblage of 16th to 17th-century and 18th to 19th-century pottery associated with wall 107 and an 18th to 19th-century clay pipe fragment from feature 105. Although few stratigraphic relationships were established between these features and despite the presence of some earlier pottery, it is likely that this activity was related to the Victorian development of the area and was subsequently truncated during the redevelopment of the site as a bus station.

4.5 Beneath these early modern deposits a series of three layers was identified; a damp very dark grey clay silt (110/122) surviving to a depth of only 0.09m, a dark grey brown silty clay containing frequent coal inclusions (111) and immediately above the clay natural, a mid to dark brown clay silt (112). Deposit 110/122 contained a single sherd of 17th to early 18th-century slipware and from layer 111, medieval and post-medieval sherds were retrieved. Layer 111 interpreted as a 'garden soil' was up to 0.38m in depth and was identified previously during an evaluation of this area by Archaeological Services WYAS (O'Neill 2001). This garden soil, which probably formed during the later medieval and post-medieval period, sealed an earlier feature of unknown function (138). This feature was 0.60m in width and 0.25m in depth with steep sides and a flat base and contained a fill of a mid brown silty clay (137). Unfortunately no dateable artefacts were recovered from this feature, but a medieval date would be consistent with the stratigraphic record.

Trench 2 (Fig 4; Fig. 5, S.6 and S.8)

4.6 Trench 2, located 5m northwest of Trench 1, measured approximately 1.8m by 3.0m and was excavated to a depth of 0.80m. It was sealed by a layer of mid brown yellow sandy gravel (200) containing occasional modern bricks, tile and concrete fragments. This deposit was up to 0.15m in depth and represented a levelling layer for the concrete floor of the bus station. This layer sealed three early modern features (203, 205 and 208), which had cut through an earlier levelling deposit of sandy gravel (209). These features included a northwest-southeast orientated trench for a lead water pipe (205), which was 0.43m in width, 0.47m in depth and was steep sided with a flat base. Although the other two features varied widely in width from 0.35m (208) to 0.84m (203) and also in depth from 0.20m to 0.65m respectively, they both contained primary fills of yellow brown sandy gravel followed by secondary fills of grey brown clay silts. While of unknown function, both contained pottery dating from the 14th to 15th century through to the 20th century, indicating that prolonged urban activity had led to the disturbance of archaeological deposits.

4.7 Earlier activity was represented by a garden soil of dark grey brown silty clay (210) identified previously (Sections 2.5 and 4.5). This survived to a depth of 0.68m in Trench 2 and contained frequent coal flecks, animal bone fragments and pottery sherds of 15th to 16th century in date. This soil sealed two shallow

post-holes (212 and 214) which measured 0.32m and 0.21m in width and 0.11m and 0.07m in depth respectively. Both were filled with garden soil-type material and 15th to 16th-century pottery (fills 211 and 213). These post-holes were cut into a pinkish brown silty clay (215) that was noted above its parent material of natural, pink boulder clay.

Trench 3 (Fig. 6, S.11)

4.8 Trench 3, located 3m to the northwest of Trench 2, measured approximately 1.6m by 1.8m and was excavated to a depth of up to 0.89m. Beneath a concrete layer (318) and intermittent deposits of silty sand (301, 310 and 313), early modern features were noted, up to a depth of 0.60m. A pipe trench orientated northwest-southeast (305/312) was 0.65m in width, 0.59m in depth with steep sides and a flat base. It was backfilled with three fills (302-304) of silty sands or clays containing sub-angular stones and coal fragments. The remains of a wall (306) constructed from sandstone blocks and limestone mortar was observed within a straight-sided construction cut (307) orientated northeast-southwest. An additional masonry block (314) observed in the southwest-facing section of Trench 3 may represent a second wall, although the extent of this feature and its orientation could not be established. A further linear cut (309; not illustrated) containing a fill (308) of grey brown clay sand and occasional stones and rare brick fragments may represent another wall, although this could not be stated categorically.

4.9 As observed in the majority of trenches, a dark grey silty clay layer (316) had developed prior to the 18th-century redevelopment of the area. This garden soil was up to 0.60m in depth in Trench 3 and contained occasional coal inclusions, animal bone fragments and pottery, with the majority of sherds dating to the 15th to 16th century. Below the garden soil, lay a deposit of dark brown silty clay (317), previously identified in Trench 1 (Section 4.5). This deposit sealed the natural boulder clay, but once again contained no dateable artefacts.

Trench 4 (Fig. 6, S.18)

4.10 Trench 4, located 5.5m to the northwest of Trench 3, measured approximately 1.6m by 1.6m and was excavated to a depth of up to 1.15m. A compacted grey brown sandy silt (400) with frequent rubble inclusions and early modern pottery was observed over much of the trench and probably represents the levelling of Victorian development in advance of the construction of the modern bus station. It sealed an early modern drain trench (402; not illustrated) filled with a brown silty clay containing sub-angular stones (401) and a dark brown clay silt containing a number of worked sandstone blocks (403). These blocks appeared to be orientated northwest-southeast and were associated with late 17th to 19th-century pottery. The stones may represent a damaged wall foundation within a levelling deposit, but no construction cut was observed.

4.11 Two layers believed to be associated with later medieval activity were observed, a light brown grey clay silt (404) interpreted as a garden/rubbish deposit and a brown silty clay (405) believed to be the garden soil commonly identified within the development area. As the later deposit (404) included 13th to 14th-century pottery, while the earlier soil (405) contained later medieval material, some disturbance of these layers seems likely. This is confirmed by the intrusion of an 18th-century sherd into 404 and a 19th-century sherd into 405. The garden soil, which survived to a depth of up to 0.37m, sealed a

possible post-hole (407) that contained a brown red clay silt (406) with occasional charcoal flecks, but no dateable artefacts. This feature was 0.42m in width, 0.30m in depth and was steep sided with a flat base.

4.12 Immediately to the north of Trench 4, a well approximately 0.9m in diameter and constructed of dressed sandstone blocks (Fig. 2) was observed during the subsequent watching brief (Section 3.2). No dating evidence was recovered, but it was probably of early modern date due to its close proximity to the present ground surface.

Trench 5 (Fig. 4; Fig. 7, S.20 and S.28)

4.13 Trench 5, located 5m to the northwest of Trench 4, measured approximately 1.6m by 2.0m and was excavated to a depth of up to 0.99m. Significant early modern disturbance from two pipe trenches (506 and 508) of 0.98m and 0.42m depth respectively had removed much of the earlier archaeology including the garden soil identified in the other trenches. Four further early modern features of unknown function (520, 522, 528 and 530; not illustrated), which ranged in depth from 0.04m to 0.28m, were noted. Early modern activity also included a wall foundation (510) that was sealed by a levelling deposit of grey sandy silt (509). The wall was orientated northwest-southeast and constructed of roughly dressed stones, occasional bricks and limestone mortar. The brick fragments suggest a date for the wall around the first half the 18th century (Section 5.19). Two large pits (503 and 518) preceded the construction of this wall, with pit 518 containing pottery dating to the later medieval period (from fills 513 and 514). This pit contained a series of fills of brown to grey brown silty clays interspersed with layers of limestone mortar. Pit 518 was approximately 0.86m in width, 0.90m in depth and in profile was steep sided with a flat base. Pit 503, which was heavily truncated during machining, also contained a grey brown silty clay (502) with a secondary fill of limestone mortar (501). Although no dateable artefacts were recovered from pit 503, the similarity of the fills of pits 503 and 518 suggests that they were contemporary.

Trench 6 (Fig. 8, S.44 and S.45)

4.14 Trench 6, located 2m east of Trench 1, measured approximately 1.3m by 1.6m and was excavated to a depth of up to 1.48m. The disturbed nature of deposits in this trench and the inconsistency of pottery dates when compared to the stratigraphy made the interpretation of the archaeology extremely difficult. Excavation was also halted before natural was reached due to health and safety considerations.

4.15 Sealed by a layer of modern rubble (600), which was associated with the construction of the bus station, four early modern features were observed. Two cuts containing demolition rubble were noted (606 and 609; latter not illustrated), as well as two steep-sided pipe trenches between 0.30m and 0.40m in depth that contained stones, brick and tile fragments (602 and 604). Preceding this recent activity were a series of inter-cutting pits (611, 614, 616, 621 and 633; last not illustrated) and a number of layers described as possible garden soils (612, 623 and 626). Only layer 623 was described as the dark grey brown silty clay noted in previous trenches, while deposits 612 and 626 were brown orange silty clays. The pits were probably used for the disposal of rubbish and indeed they frequently produced stone, brick, tile, pottery, animal bone and glass. Pit 614 contained a single sherd of 17th to early 18th-century

Yellow Glazed Coarseware and building debris indicative of a post mid 17th-century date (613), while pit 616 included a single sherd of 18th to 19th-century Brown Glazed Coarseware (615). Pit 621 contained eight sherds of 17th to early 20th-century date, brick fragments of late 17th to late 18th-century date and an 18th to 19th-century clay pipe fragment (620). These suggest a relatively late date for the rubbish disposal, although layer 623 included a sherd of late 15th to 16th-century Cistercian ware. This discrepancy presumably relates to the inter-cutting nature of many of the pits and the disturbance of previous archaeological deposits.

4.16 Wall foundations 629 (sealed by layers 623 and 626) and 617 (cut by pit 616) represent earlier, although not necessarily contemporary, construction activity. Wall 629 constructed of partly dressed stones was seen to cut through a layer of brown orange silty clay (622) which sealed a thin charcoal-rich deposit (627), but any stratigraphic relationship between layer 622 and wall 617 was destroyed by the cutting of pit 616. Wall 629, orientated northeast-southwest, was constructed of regularly placed, unmortared sub-angular limestone blocks and survived to a height of up to 0.45m. Wall 617, seen only in the southeast-facing section, was made up of rough set, unmortared sub-angular stones surviving to a height of 0.25m. Four sherds of slipware associated with wall 617 were 18th to 19th century in date and attest to the disturbed nature of the deposits in Trench 6. Layer 626, which overlay wall 629, also sealed two features of unknown function and date (625 and 631; latter not illustrated).

Trench 7 (Fig. 4, Fig. 9, S.66 to S.68)

4.17 Trench 7, located 2m to the northwest of Trench 6, measured approximately 2.0m by 5.0m and was excavated to a depth of up to 0.99m. Beneath the modern concrete surface (741) and a levelling deposit of sand (724/754), early modern activity was represented by a trench for three drains (753) up to 2.0m in width and 0.40m in depth, and two small pits (702 and 706), 0.15m and 0.10m in width and 0.15m and 0.09m in depth respectively. Four shallow linear features (704, 708, 710 and 712) of unknown function were also observed. None of the pits or linear features, however, were observed in the sections of the trench. Linear features 704 and 708, both orientated northwest-southeast, contained sherds of 18th to 19th-century pottery. While the other features contained no dateable artefacts, all contained the same stony limestone mortar fill.

4.18 Fragments of early modern walls were also observed, including a dressed and coarsed wall, with less regularly constructed foundations (729) that was bonded with limestone mortar. This wall, forming the southwest-facing section, was exposed for a height of up to 1.02m and was also observed 5.5m to the northwest in Section 36 of Trench 8 (Fig. 10; Section 4.21). The intervening section of wall was followed during the subsequent watching brief (see Section 3.2) and two adjoining, northeast-southwest orientated walls were also observed (Fig. 2). These substantial walls, approximately 0.56m in width, probably represent early modern cellars, although in-filling (728) associated with the construction trench (730) for wall 729 contained pottery ranging in date from the 12th to 13th century to the late 17th to 18th century and a possible fiddle key nail of 11th to 14th-century date. The broad date range of these artefacts probably reflects the disturbance of medieval deposits by the construction of the wall foundation.

4.19 Dressed stones bonded with limestone mortar (749) and orientated northwest-southeast were also observed in the northeast-facing section of Trench 7. A possible construction cut (746) identified at the northwestern end of this section and containing rubble and stones may represent a further wall (745), although its fill was heavily disturbed. A final wall (734), also orientated northwest-southeast and identified in the northwest-facing section of the trench, consisted of dressed and undressed stones indicative of foundations. A backfill of green grey silt (732) associated with the construction trench (735) for this wall contained four sherds of 18th to 19th-century pottery.

4.20 Beneath the early modern activity, soil horizons previously seen in Trench 1 (Section 4.5) and associated with later medieval or post-medieval activity were observed. A grey brown silty clay (740/758) overlay the dark grey garden soil (715), which in turn sealed a light brown sandy clay (759). In the northwest-facing section, however, a series of red brown to grey silty clay layers (736, 737 and 739) and a yellow sand deposit (738/757) were observed above the garden soil (715). Unfortunately no dateable artefacts were recovered to allow these layers to be assigned to either the early modern or later medieval to post-medieval periods. In contrast, the garden soil, observed up to 0.40m in depth, contained ten sherds of 11th to 13th-century and later medieval pottery, but also two intrusive sherds of 19th-century date and an 18th to 19th-century clay pipe fragment. The garden soil was cut by four possible pits/post-holes (717, 719, 748 and 756), ranging between 0.26m and 0.55m in width and 0.10m and 0.34m in depth. Although these features clearly post-dated the formation of the garden soil, all were filled with a dark grey silty clay similar to the cultivated soil. A single sherd of medieval pottery from post-hole 717 also suggests that they were associated with the garden soil rather than of early modern date. Finally, two inter-cutting pits (721 and 723) up to 0.21m in depth were cut into the natural and sealed by layer 759. Both contained a mid brown silty clay with occasional stone inclusions (720 and 722), but unfortunately no dateable artefacts were recovered from these stratigraphically early features.

Trench 8 (Fig. 10, S.36 and S.37)

4.21 Trench 8, located 5.5m to the northwest of Trench 7, measured approximately 1.5m by 2.8m and was excavated to a depth of up to 1.28m. Beneath modern deposits of rubble (800) and hardcore levelling (801 and 803), a possible industrial feature (820) containing a coal deposit (804), a coal-rich clayey silt layer (805) and a pipe trench (809) were observed. Although no dateable artefacts were associated with these features, an early modern date is proposed. Also early modern in date was wall 816, oriented northwest-southeast and recorded to a height of 1.10m. This was a continuation of wall 729 identified in Trench 7 (Section 4.18) and was interpreted as early modern cellaring. A wall (810), orientated northeast-southwest and built upon a foundation of cobbles (811), probably represented an internal division similar to those identified during the watching brief (Fig. 2). Both walls were constructed of dressed and undressed stones and were roughly mortared in places. Separating the early modern activity from the later medieval/post-medieval garden soil (807/813) was a thin layer of pink sandy gravel (806/812) that contained no dateable artefacts.

4.22 The garden soil of dark grey brown silty clay (807/813) survived to a depth of approximately 0.25m and contained the only stratified pottery from this trench.

This dated from the 11th to 12th century to the later medieval period and given the relatively undisturbed nature of the deposits in this trench suggests that the garden soil may have built up over several centuries. Two earlier layers, a red brown silty clay (814) and a pink brown silty sand (815) were observed before health and safety restrictions precluded deeper excavation.

Trench 9 (Fig. 11, S.49)

4.23 Trench 9, located 4m to the northwest of Trench 8, measured approximately 1.5m by 1.6m and was excavated to a depth of up to 0.85m. The sequence of deposits recorded from Trench 9 was very similar to those of Trench 8 with the exception of the early modern walls and pipe trench. Beneath a modern deposit of demolition rubble (900), a coal-rich clayey silt layer (901) containing late 17th to 18th-century pottery, again sealed a thin deposit of pink sandy gravel (902) that was believed to be re-deposited natural. Below, the garden-soil of dark grey brown silty clay (903) survived to a depth of approximately 0.30m and was preceded by a red brown silty clay (904). These earlier deposits contained no dateable artefacts.

Trench 10 (Fig. 4, Fig. 11, S.72)

4.24 Trench 10, located 4.5m to the northwest of Trench 9, measured approximately 2.5m by 3.2m and was excavated to a depth of up to 0.85m. Beneath a layer of recent demolition layer (1000), a trench for a drain (1002; not illustrated) approximately 0.60m in width, 0.60m in depth and with steep sides and a flat base was noted. It contained a single fill (1001) of sandy gravel with occasional brick inclusions. A possible construction cut for a robbed out wall foundation (1004; not illustrated) containing a coarse gravel with sub-angular stones (1003), and a wall of partly dressed stones with mortar bonding (1009) surviving to a height of 0.20m were also observed. Although no dateable artefacts were recovered from these features, they were considered to be of early modern date. Drain trench 1002 and construction cut 1004 had cut through an earlier levelling deposit of light brown clay sand (1005), that sealed a dark grey silty clay described as a garden soil (1006).

4.25 The garden soil, which survived to a depth of up to 0.30m, overlay a layer of cobbles (1008) that had been re-used at a later date as a foundation for wall 1009. Given a proposed later medieval date for the garden soil, this earlier cobble surface may represent a floor associated with a medieval burgage plot. Whether this represents an internal floor or a cobbled yard, however, is not clear. Unfortunately no dateable artefacts were associated with either the cobbled surface or the garden soil. A red brown sandy clay (1007) identified beneath the cobbles was also devoid of dateable artefacts (although see Section 4.26), but it did seal a medieval rubbish pit (1012), 0.75m in width and 0.52m in depth. This steep sided, U-shaped feature contained two fills (1011 and 1010) of dark grey brown clay silt that included animal bones, charred plant remains, iron smithing debris and 25 fragments of medieval pottery.

Trench 14 (Fig. 13; Fig. 12, S.61 and S.62)

4.26 Trench 14, located 5.5m to the northwest of Trench 10, measured approximately 1.0m by 1.7m and was excavated to a depth of up to 1.02m. A recent layer of demolition debris (1400) sealed a wall constructed of large, dressed limestone blocks and unworked cobbles (1403; not illustrated in section), orientated northeast-southwest and surviving to a height of 0.32m.

This feature, presumably of early modern date, was sited on a natural geological ridge. Although no stratigraphic relationship was established between the wall and a garden soil of grey brown silty clay (1401), the latter is believed to represent later medieval to post-medieval activity. An earlier red brown silty clay layer (1402) previously identified in Trench 10 (Section 4.25) contained 11th to early 13th-century pottery as well as later medieval sherds. This layer sealed a pit (1405) cut into the natural that was 0.80m in width, 0.25m in depth and U-shaped in profile. A single fill of red brown sandy clay (1404) contained animal bone fragments, charred cereal grains and two pottery sherds of 12th to early 13th-century and medieval date.

Trench 15 (Fig. 13, Fig. 12, S.51 and S.58)

4.27 Trench 15, located 7.6m to the northeast of Trench 6, measured approximately 1.4m by 1.6m and was excavated to a depth of up to 1.11m. Early modern activity was represented by wall 1506 (orientated northwest-southeast) that survived to a height of 0.7m and was constructed of partly dressed stones with a limestone mortar, within construction cut 1507. Two layers, a mid brown silty clay (1508) and a dark grey silty clay (1511) may also have been early modern in date as they both overlay the later medieval garden soil (1512), but no dateable artefacts were recovered to confirm this. In contrast, the garden soil contained mid 13th to 15th-century pottery and later medieval sherds. This soil survived to a depth of up to 0.67m and sealed a final deposit of light brown sandy clay (1515). Through this layer, two pits (1502 and 1504) and a post-hole (1514) had been cut. Pit 1502 was 1.45m in width, 0.29m in depth with gradually sloping sides leading to a flat base, while pit 1504 (only partially revealed in the northwest-facing section) was 0.38m in depth. Post-hole 1514 was 0.26m in width, 0.20m in depth, with steep sides and a flat base. The fills of both pits (1501 and 1503 respectively) contained iron smithing waste and later medieval pottery, but pit 1502 also contained earlier 12th to 13th-century sherds.

Trench 17 (Fig. 13, Fig. 14, S.21, S.22, S.24 and S.26)

4.28 Trench 17, located 9.5m to the northwest of Trench 15, was L-shaped in plan and measured a maximum of 3.1m (northwest-southeast), a maximum of 3.8m (southwest-northeast) and was excavated to a depth of up to 1.26m. Below a recent rubble layer (1700/1718), a concrete lens (1701) and a levelling deposit (1702/1719) that contained late 17th to 18th-century pottery, early modern activity was represented by a northwest-southeast orientated wall (1703/1722) of limestone blocks and occasional brick fragments. A levelling layer of re-deposited natural (1705) and a cobble foundation (1704) were used to prepare the surface prior to the wall's construction. A second wall (1707), orientated northeast-southwest, was constructed of limestone blocks and survived to a height of 0.60m. A rubble deposit (1706) associated with this wall contained 16th to early 17th-century pottery as well as late 17th to 19th-century sherds. A possible trench for a third wall (1721) was noted in Section 26, although the majority of stones had been removed.

4.29 Beneath the early modern activity, a dark brown clay silt (1724) was observed overlying a garden soil (1709/1725) of dark grey brown silty clay which survived to a depth of up to 0.45m. Although the former contained no dateable artefacts, the latter included pottery dating from the late 11th to the 13th century up to the late 15th to 16th century (as well as animal bones, iron

smithing and iron working debris). The garden soil sealed four features, two of unknown function (1711 and 1715) and two pits (1713 and 1717). The pits ranged in depth from 0.11m to 0.41m respectively, but disturbance by the cutting of features 1711 and 1715 precluded any estimation of width. Both were filled with a mid to dark brown silty clay, but only the fill (1716) of pit 1717 contained pottery and this dated from the 13th to 14th century to the 15th to 16 century. The relationship between these features and a layer of dark red brown silty clay (1726) was not observed, although this deposit was observed previously in Trenches 3, 9, 10 and 14.

Trench 18 (Fig. 13, Fig. 15, S.73)

4.30 Trench 18, located 2.7m to the northeast of Trench 10, measured approximately 1.6m by 3.3m and was excavated to a depth of up to 1.17m. Beneath a recent demolition layer (1800), a series of levelling deposits (1801-1804) was observed and in the northwest-facing section, a wall of roughly cut stones (1812) was seen, presumably orientated northwest-southeast. Layers to the east of this wall, an initial levelling deposit (1814), a cobbled surface (1811), a second levelling deposit (1810) and compacted surface (1809) may represent floor surfaces associated with the wall. Although no dateable artefacts were recovered from these deposits, an early modern date is proposed. Later medieval/post-medieval activity was represented by a garden soil (1805) of dark grey brown silty clay up to 0.34m in depth that sealed two earlier features (1808 and 1817). Feature 1808, up to 0.32m in depth, was not clearly defined due to health and safety considerations, but was dated by medieval pottery in the secondary fill (1806) of red brown clay silt. One sherd of late 13th to 14th-century pottery from a single fill (1816) of brown orange clay silt offers a date for pit 1817, which also contained an annular glass bead and charred cereal grains.

Trench 19 (Fig. 16, S.55)

4.31 Trench 19, located 5m to the northwest of Trench 18, measured approximately 1.6m by 1.6m and was excavated to a depth of up to 0.78m. Below the recent demolition debris (1900), early modern activity was represented by a hardcore layer (1903), two masonry sandstone blocks (1909; not illustrated) and a feature (1902) filled with concrete. Once again later medieval/post-medieval activity was represent by a garden soil of grey brown silty clay (1904) which was noted to a depth of up to 0.24m. This overlay a lens of red brown sandy clay (1905) and a layer of brown sandy clay (1908) up to 0.37m in depth. The latter contained 12th to early 13th-century pottery as well as later medieval sherds. A post-hole (1907), 0.30m in depth, with steep sides and a flat base, cut through lens 1905 and layer 1908 and was sealed by the garden soil. Unfortunately no dateable artefacts were recovered from the fill of grey brown clay sand (1906) within this feature.

Trench 20 (Fig. 13, Fig. 16, S.32)

4.32 Trench 20, located 1.6m to the southeast of Trench 18, measured approximately 1.6m by 1.8m and was excavated to a depth of up to 0.85m. Modern demolition debris (2000) sealed a fragment of early modern wall made of limestone and brick fragments (2001) and a straight-sided pipe trench (2007; not illustrated) up to 0.74m in depth. Medieval and later medieval pottery within the pipe trench is considered to be intrusive. A layer of grey brown silty

sand (2002) seemingly associated with the wall was probably also early modern in date, although no dateable artefacts were recovered to confirm this. This deposit sealed the garden soil (2003) which survived to a depth of up to 0.43m and contained mainly medieval pottery, but also three fragments of 17th to 18th-century Blackware. A post-hole (2005), 0.55m in width and 0.14m in depth which was sealed by the garden soil, contained a single fill (2004) of red brown sandy clay with later medieval pottery, a copper alloy strap mount and iron smithing waste.

5. Artefact Record

Pottery analysis by C. Cumberpatch

5.1 The pottery was weighed and counted and an estimate of the maximum number of vessels made on the basis of joining sherds. The assemblage consisted of 442 sherds of pottery weighing 10057 grams and representing a maximum of 393 vessels. The details are summarised in Appendix VI.

Type series

5.2 The majority of wares identified fall into established regional traditions, both medieval and post-medieval. Much of the pottery is of types well known from other sites and well documented elsewhere.

5.3 The gritty wares, which are the commonest type of medieval pottery from the site, differ from the types identified elsewhere (notably Pontefract, see Cumberpatch 2002) in the type and density of inclusions visible. Dating information (both relative and absolute) for the majority of wares is limited, but a later medieval date seems possible where indicated, given the technical characteristics of the sherds themselves and the associations with the sandy wares found on the site. Two previously undocumented types of Gritty ware were noted as occurring on a regular basis. Specimens of these wares were retained for inclusion in the county ceramic type series and they are described below.

5.4 The West Yorkshire Gritty wares pose a number of problems for the analyst. The range of fabric types and the typological variety exhibited in almost all assemblages dating to the medieval period make the establishment of a coherent county-wide type series difficult and it seems at present that the industry was a dispersed one with many potters operating to supply local areas. While the broad outlines of the situation are reasonably clear (Cumberpatch 2002), the details remain obscure. Single site assemblages are not, in themselves, adequate to unravel the complexities of the typological and petrological situation and a full review of the situation is needed as a matter of priority.

Coarse Gritty ware 1

5.5 A coarse gritty fabric distinguished by the presence of large (up to 4mm) platey non-crystalline inclusions together with large (up to 3mm) sub-angular quartz grit in a buff oxidised matrix. The vessels, apparently cooking pot / jar forms, have relatively thin walls (6-7mm) and a rilled profile resembling that seen on Hillam type wares (although Hillam wares tend to be somewhat thinner. The analogy with Hillam ware would suggest an early date, but this cannot be confirmed and the general date of the deposits on the site (on the basis of the

sandy wares) is a later medieval one. Rims tended to have a rounded profile when compared with Hillam wares, but were not as thick and heavy as those seen on Northern and Orange Gritty wares (e.g. Fig. 17, no. 1), although it should be noted that there was considerable variation between individual vessels.

Reduced Gritty ware 1

5.6 A hard, reduced gritty ware containing moderate to abundant rounded and sub-angular quartz grit (0.8mm-1.2mm) in a dense dark grey matrix. The majority of sherds were unglazed, but a rim sherd from layer 814 had thin green glaze on the inner surface of the rim. This may indicate a later medieval date, as suggested in the report on the pottery from Pontefract Castle (Cumberpatch 2002, 183). No complete vessel profiles were identified, but the majority of vessels appeared to be utilitarian jars and the numbers of sherds with traces of burning and sooting suggested widespread use as cooking pots. Rims tended to have a rounded profile when compared with Hillam wares, but were not as thick and heavy as those seen on Northern and Orange Gritty wares. An unusual rim with an internal flange can be seen in Fig. 17, no. 2.

Buff Gritty wares

5.7 The term Buff Gritty ware has been applied to a group of fabrics which are predominantly buff in colour and are characterised by a moderately gritty character. They generally contain abundant inclusions (mainly quartz with varying quantities of black non-crystalline inclusions and rock fragments), but of a size grade somewhat finer than that seen in the coarser Hillam type and later medieval Gritty wares. The types defined at Pontefract Castle are far from a complete cross-section of the industry and amongst those identified here are types which were not found at the Castle. As with the other components of the industry, it seems that production was widespread and presumably related in part to the occurrence of buff-firing clays. The range of variation in form was considerable (e.g. Fig. 17, nos. 3, 4 and 5).

Later Medieval Gritty wares

5.8 Although production of Gritty wares continued into the later medieval period, the tradition underwent a degree of transformation during the 14th and 15th centuries, with the widespread adoption of glazing, previously found predominantly on Sandy wares (Cumberpatch 1997, 2002). Typologically and petrologically the situation is somewhat more complicated than in the earlier medieval period, with a variety of fabric types distinguishable within the overall class. This assemblage is not one suited to the resolution of the many problems surrounding this issue and a further study, drawing on material from a number of sites is needed if the issues are to be resolved.

Reduced Sandy wares

5.9 Although the term 'reduced sandy ware' can be used to describe a wide range of fabric types, it has been used specifically here to define a widespread tradition in the north-east of England (Cumberpatch 2001). A number of sherds of this type of ware were identified here and were classified as 'Reduced Sandy ware 4 / 8'. The potteries responsible for the production of this class of wares have yet to be identified, but there were certainly a considerable number

and the volume of production seems to have been high, perhaps similar to that of the Humberware potteries.

Post-medieval pottery

5.10 The post-medieval pottery consists of types well known from other sites and representing well known, if rather poorly understood, traditions of pottery manufacture (Cumberpatch in press). Cistercian wares, Blackwares, Yellow wares, Slipwares and Brown Glazed Coarsewares have all been described from other sites and no attempt has been made to document them in detail here.

Discussion

5.11 The general picture across the site was one of the upper layers (and unstratified material) producing mixed assemblages of pottery with 18th and 19th-century material accompanied by residual medieval wares. The extent of this varies slightly across the site, as might be expected, but presumably relates to the general occurrence of features of recent date cutting earlier layers and features.

5.12 The medieval pottery is, generally, of later medieval date (later 13th to 15th century), with small amounts of earlier medieval material (11th to 13th century) occurring sporadically across the site. In almost every case, however, the earlier medieval material was found mixed with later material. Other early material might be concealed within the types dated broadly as 'medieval', but given that the earlier types are generally more easily identifiable than the later, the quantities are unlikely to be significant. While this evidence certainly indicates the presence of activity of this date either on the site (perhaps underlying the excavated strata) or in the near vicinity, it can hardly be used as evidence for the nature of this activity or its relationship with the later use of the site.

5.13 The evidence of the pottery suggests that the site was used extensively in the later medieval period. There is little to indicate the nature of this activity, although the character of the pottery, with a preponderance of gritty wares, suggests that it was primarily domestic. As discussed elsewhere (Cumberpatch 1997), gritty wares are preferentially associated with food storage and preparation, although there is some evidence that some tableware forms (particularly jugs) were manufactured in gritty fabrics in the later medieval period. This theory receives some support from this assemblage in the shape of the numbers of gritty ware sherds with evidence of burning and sooting on the exterior and in the rare, late, occurrence of gritty ware jugs (e.g. from the fill (1501) of pit 1502 and the secondary fill (1806) of pit 1808).

5.14 The question of the transition from the later medieval to the post-medieval period is one which still requires further investigation, although in ceramic terms the broad outlines are clear (Cumberpatch, in press). A precise explanation for the changes which are visible generally and in broad outline at Knaresborough remains elusive, due largely to the lack of any effective integration of ceramic (and archaeological evidence generally) with the abundant historical data. Fifteenth and sixteenth century pottery reflecting the transformation in tradition was present widely across the site, including Cistercian ware, Green Glazed Sandy ware, Early Yellow ware and Purple Glazed wares. Of a similar, or perhaps slightly later, date were the only European wares identified from the site, two sherds of German stoneware (garden soil 2003).

5.15 Later 17th to 18th-century wares were relatively common on the site with utilitarian wares (mainly Brown Glazed Coarsewares, Late Blackwares and Redwares), Slipwares and tablewares (Manganese Mottled wares and the later Creamware) all well represented. The absence of White Salt Glazed Stonewares, which might have been expected, given the presence of other 18th-century wares (notably the contemporary Brown Salt Glazed Stoneware), is not readily explicable, but may relate to the nature of the use of the site in the 18th century.

5.16 Later 18th and 19th-century activity is indicated by the presence of Pearlwares, Cane Coloured wares, Banded wares and Whitewares. The quantities of these wares and contemporary utilitarian wares (notably stonewares) were not large, which is unusual for an urban site and presumably reflects the character of the deposits and may indicate some degree of 20th-century truncation.

Brick and tile by J. Tibbles

5.17 A total of 38 fragments of ceramic building material weighing 19935 grams was retrieved from six contexts and was visibly examined using a 10x-magnification lens.

5.18 The general manufacture of the bricks within the assemblage appeared to be of the slop-moulded technique, although the drying adhesions noted would also be common on the sand-moulded types. The majority of the fabrics were similar and consisted of a fine, possible alluvial, clay with few inclusions. The exception was an unstratified fragment of flat roof tile from Trench 6 that displayed an extremely sandy fabric with frequent quartzite inclusions.

5.19 The three incomplete brick examples from wall 510 (Trench 5) suggest a date for the structure around the first half of the 18th century. The thinner of the bricks (50mm) within the structure, however, may be early 17th century in date, although this discrepancy may be accounted for by the possible re-use of reclaimed earlier materials.

5.20 The brick assemblage from the fill (613) of pit 614 (Trench 6) suggests one of building demolition or rubble. The majority of the bricks showed mortar adhesions indicative of building usage. A single worn brick from a floor or yard surface and a partially burnt brick, probably from a hearth or oven structure, support this interpretation, although burnt building materials are also indicative of the demolition process. The general manufacture of the bricks suggests a post mid 17th-century date with re-used earlier material.

5.21 The brick samples from the fill (620) of pit 621 (Trench 6) suggest a late 17th to late 18th-century date. The presence of pantile fragments, although manufactured in Holland by the 16th century, were commonly imported into Britain by the mid to late 17th century. English manufactured pantile within the Humber region is generally thought to be *c.*1700 (Neave 1991). Three joining fragments, however, are more likely to be of 19th-century English manufacture.

5.22 The ceramic building material associated with wall 617 (Trench 6) contained only a non-diagnostic brick and a fragment of pantile suggesting a late 17th to 18th-century date. A single fragment of pantile of late 19th or early 20th-century date was identified within the unstratified context of Trench 6.

5.23 The single fragment of flat roof tile from Trench 6 is of a residual nature and was probably brought into the area within a batch of roof tiles for building repair purposes during the medieval period.

Metal-working debris by J. Cowgill

5.24 Each piece of hand-collected slag was visually examined and identified solely on morphological grounds, occasionally with the aid of a 10x-magnification binocular microscope. The magnetic element of all retents was checked for hammerscale, as was the soil in all the bags containing slag and the individual pieces of slag themselves. A full catalogue is given in Appendix VII and summarised in Table 1.

5.25 Most of the slag was generated by iron smithing, which is the manufacture, repair or recycling of iron objects. The only fresh, unabraded piece of slag was from layer 1726 which was sealed by the garden soil, but this is too small an assemblage to be of any particular significance. Some of the hammerscale is also fairly large and in a fresh condition, but again the quantity recovered was reasonably small (*c.*35 pieces from the garden soil (2003) in Trench 20).

Table 1. Summary of the slag and metal-working debris

Type	Count	Weight
Clinker	1	15g
Hammerscale	see catalogue	-
Hearth bottom	2	292g
Iron object	1	243g
Slag (unspecified)	3	36g
Tap slag	1	4g
Total	8	590g

5.26 These results reinforce the conclusions reached following the evaluation (O'Neill 2001), that the majority of the slag was associated with some of the earliest deposits encountered on site, in particular the garden soil. The slag and hammerscale was presumably discarded from a nearby smithy along of later medieval occupation. Certainly Knaresborough was known for its iron-working industries in the 13th century (Section 2.2). The hammerscale and slag from later deposits may be reworked medieval material, or could be evidence of a later smithy within this part of the town.

Metal objects by H. Cool

5.27 The metal finds from the sites included four items that were sufficiently well preserved to be identified, but unfortunately none are forms that may be closely dated within the medieval to post-medieval period. Two items of personal equipment were recovered. No. 1 is a small mount that from the length of the integral rivets was probably attached to a leather strap such as a belt where it would have acted as a stiffener. The sewing pin no. 2 was a multi-functional item that could be used as a clothes fastener as well as a sewing aid.

These items had a very long lifespan from the 13th to 19th centuries (Biddle and Barclay 1990, 2561-4) and it is not possible to date this unstratified example within that period. No. 3 is a carpenters paring chisel and no. 4 is a horseshoe nail. The latter is probably a fiddle key nail, i.e. one with an expanded head that is no thicker than the thickness of the shank, but without investigative conservation it is difficult to be sure. Such nails were used on distinctive forms of horseshoes with counter-sunk nail holes that were in use from the 11th to 14th centuries (Clark 1995, 86-7). Of the other items, most are not sufficiently diagnostic to be identified. The unstratified spike no. 6 is probably of relatively recent date.

Personal equipment

1 Strap mount. Copper alloy. Shallow 'D' sectioned bar with short ends retaining small flange along each lower edge. Two integral square-sectioned rivets on underside with slightly burred ends. Length 10.5mm, section of bar 4 x 2mm, total depth including rivets 4.5mm. *Trench 20, post-hole 2005, 2004*

2 'Sewing' pin. Copper alloy; corroded. Circular-sectioned wire shank tapering to point, globular wound head. Slightly bent. Length 34mm, shank diameter 1.5mm, head diameter 2.5mm. *Unstratified, south of Trench 14*

Tools

3 Paring chisel. Square sectioned bar with maximum section approximately one-quarter of way from head, possibly of octagonal section; bar tapers to narrow edge (now missing). Corroded and surfaces missing, but in some areas mineralised wood deposits extend down bar towards blade. Length 115, maximum width 17mm. *Trench 7, drain 735, 732*

Transport

4 Horseshoe nail. Iron. Fiddle-key, shank bent, expanded head with semi-circular profile. Length 30mm. *Trench 7, wall trench 730, 728*

Miscellaneous

5 Wire. Copper alloy. Circular-sectioned, both ends cut. Length 27mm, section 1mm. *Trench 10, pit 1012, 1011*

6 Spike. Iron. Rectangular-sectioned tapering to flat point. Length 128mm, maximum width 10mm. *Trench 6, unstratified*

7 Bar. Iron. Ends probably broken. Length 21mm. *Trench 7, 'garden soil' 715*

8 Fragment. Iron. *Trench 6, pit 621, 620*

9 Fragment. Iron. *Trench 17, layer 1726*

Coin by C. Barclay

5.28 A single, unstratified coin was recovered from Trench 8. It is an Edward I/II penny dated to 1301-14.

Clay pipes

5.29 In total, 24 clay tobacco pipe fragments comprising one bowl fragment and 23 plain stems were recovered. The size of the bore has been used as diagnostic of a date range (Table 2), although plain stems are very difficult to date. Most of the stems were associated with early modern activity, although fragments from the earlier garden soil (715, 2003) and from the fill (2004) of post-hole 2005 observed beneath the garden soil were probably intrusive.

Table 2. Stem fragments by context and date range

Trench	Context	4	5	6	7	8	Not measurable	Date range
1	104	1						18th-19th century
2	207		1					18th-19th century
6	620		1					18th-19th century
6	U/S		4	3				17th-19th century
7	703	1	1					18th-19th century
7	715		3					18th-19th century
7	U/S		2					18th-19th century
8	810			1				17th-18th century
17	1704					1		17th century
20	2000				1			17th century
20	2003						1	
20	2004					1		17th century

4-9 = measured stem bores in six-fourths of an inch (after Davey and White 2002)

Glass

5.30 In total, 37 fragments of early modern glass were recovered (Appendix IV). The majority was undiagnostic fragments, but a bottle base and two bottle necks were noted. An annular glass bead was retrieved from a sample retent from the fill (1816) of medieval rubbish pit 1817 (Section 4.30). The bead is opaque blue green, 3.7mm in diameter with a hole of approximately 1.1mm.

Lithics by J. Dodds

5.31 Five pieces of flint were recovered, of which three are flint flakes and two are represented by a core fragment and a possible core fragment/chunk. While the flint flake (1011) and core fragment (2003) are probably earlier prehistoric in date, all these objects are considered to be residual.

1 Proximal flint flake made upon grey semi-patinated flint. The flake contains heavy inclusions and is of poor quality material. *Trench 9, Layer 904*

2 Whole flint flake made upon semi-translucent grey / brown flint. The flake has a double dorsal ridge and evidence of scarring on the left and lower margins. *Trench 10, pit 1012, 1011*

3 Core fragment/chunk made upon creamy white flint. The artefact shows evidence of once possible blade removal and possible flake scars, although these facets may be natural in origin. *Trench 17, pit 1717, 1716*

4 A core fragment of creamy white flint, which shows clear evidence of at least two blade removals. Some partial cortex is evident on the dorsal side and right margin of the ventral surface. *Trench 20, 'garden soil' 2003*

5 A flake of semi-patinated grey flint with partial cortex on the left margin. The ventral surface shows evidence of flake scars suggesting previous removals. *Trench 20, 'garden soil' 2003*

6. Environmental Record

Animal bone by J. Richardson

6.1 The excavations produced 211 animal bone fragments from hand-excavated and sieved contexts; 49% from medieval deposits, 29% from later medieval/post-medieval deposits and 22% from early modern, unstratified or unphased deposits. Unfortunately, the animal bone assemblage was small and of limited statistical significance, although bone preservation was excellent.

Method

6.2 As the total assemblage was so small, all bone fragments were identified where possible to species, species group (such as sheep/goat) or a lower order category such as 'cattle-size' (Appendix VIII). Age data (epiphyseal fusion, dental eruption and dental wear) were considered and butchery marks were noted. The prevalence of gnawing, burning, fragmentation and erosion was used to assess bone preservation. No metrical data were collected, however, due to the fragmented nature of the assemblage.

6.3 To facilitate analysis, the animal bones were assigned to one of three phases, medieval (including features sealed by the garden soil), later medieval/post-medieval (associated with the garden soil) or early modern. Unfortunately, as the number of bone fragments fell well below the minimum reliable sample size of around 500 (with reference to a number of statistical parameters after Van der Veen and Fieller 1982, 296), the conclusions reached here should be treated with extreme caution. Early modern, unstratified and unphased bones were excluded from further analysis.

Bone preservation

6.4 Bone condition was typically excellent with little evidence of erosion or weathering, although the assemblage was heavily fragmented. This was probably due to the reduction of bones to facilitate cooking or to extract marrow. Although butchered bones were more commonly recorded from later medieval/post-medieval deposits (Table 3), high levels of fragmentation were ubiquitous from both phases. Bone destruction as a result of gnawing by dogs appeared to be more prevalent from the later

medieval/post-medieval period, but burning of bones was not extensive from either phase.

Table 3. Animal bone preservation

	Butchered	Gnawed	Burnt
Medieval	5%	8%	1%
Later medieval/post-medieval	12%	14%	1%

Species and element representation

6.5 The proportions of the most common domesticates (Table 4) indicate that sheep (and sheep/goat) bones predominated in medieval period at 48%, with cattle at 45% and pig at 7%. By the later medieval/post-medieval period the proportion of cattle bones had declined sharply to 21% with a concomitant rise in sheep (67%) and also pig (13%). Given the greater size of cattle, however, they would always have offered more in terms of meat weight than either sheep or pigs. These animal bones indicate the consumption of beef, lamb/mutton and pork, with a diet occasionally supplemented by fish, domestic goose and perhaps rabbit (Table 4). Butchery marks noted on two articulating horse vertebrae may indicate the sporadic consumption of horsemeat, but equally the carcass may have been processed to provide meat for dogs.

Table 4. Animal bone fragments by phase

	Medieval	Later medieval/post-medieval
Cattle	19	5
Sheep	20	16
Pig	3	3
Horse	1	4
Rabbit		1
Domestic goose	2	1
cf. Jackdaw		1
Fish	4	2
Frog/toad		1
Microfauna		1

6.6 For the three common domestic animals, cattle, sheep and pigs, all body parts were represented. The presence of cranial fragments, ribs and limb

bones suggests that entire carcasses were being dealt with in the area. Cut and chop marks to the bones of these animals indicate thorough processing, including carcass dismemberment, meat removal and probably marrow extraction.

Age data

6.7 Epiphyseal fusion data were extremely scarce for cattle, sheep and pig. A few bones of sub-adult cattle and pigs were noted from medieval deposits and sub-adult sheep and pigs were identified from later medieval/post-medieval deposits. These suggest that prime (younger) meat was available. Two sheep mandibles, however, indicate adult animals were also occasionally consumed. These animals had probably served as breeding stock or for fleece production prior to their slaughter.

Pathology

6.8 Three lumber vertebrae from a horse displayed the early signs of ankloysis due to the ossification of the dorsal longitudinal ligaments. This may be related to stresses caused by riding or being used as a pack animal. Butchery marks to two of these vertebrae indicate that once the animal ceased to be useful, the carcass was processed for its meat (Section 6.5).

Conclusions

6.9 Too few animal bones were recovered to make any meaningful interpretation of livestock husbandry or dietary preferences over time. It is only possible to suppose that beef, lamb/mutton and pork provided the majority of the meat to be consumed, while additional resources such as milk can only be alluded to. Fleece production may be indicated by the presence of a few adult sheep.

Plant material by D. Alldritt and J. Richardson

6.10 Selected soil samples were analysed for the recovery of environmental material. The samples chosen were those associated with the garden soil or sealed by this deposit, while those from early modern deposits were excluded due to their disturbed nature.

Method

6.11 Up to ten litres of soil were processed from fourteen pit and post-hole fills, four 'garden soil' deposits and two layers. For the purposes of analysis, these samples were subjected to a system of flotation in an Ankara-style flotation tank. The floating remains (the flot) were collected in a 300μm sieve and the heavy fraction (the retent) was collected in a 1mm mesh. The flots, once dry, were scanned for botanical material using a binocular microscope (Appendix IX). The retents were scanned by eye for ecofacts and artefacts and subsequently discarded (Appendix X). Both flots and retents were scanned for metallurgical debris.

Flot samples

6.12 Samples were commonly contaminated by modern plant material, mainly root fragments, but also also weed seeds. This contamination has implications for the provenance of the charred plant material and in addition to the disturbed nature of the archaeological deposits (e.g. Section 4.14), any conclusions reached here should be treated with caution.

6.13 Wood charcoal fragments were commonly recorded and metallurgical debris was recovered from five deposits. From a post-hole (2007), three pits (1012, 1405 and 1504) and the garden soil (111) cereal grains of oat, barley and wheat were identified. In the absence of any charred weed seeds, these presumably represent cleaned crops.

Retent samples

6.14 All of the retents contained wood charcoal fragments, but only two features revealed further evidence of the use of cereals (pits 1012 and 1817). Animal bone fragments and artefacts, however, were commonly recovered including pottery, brick, slag and copper objects.

Conclusions

6.15 Cereal grains were relatively scarce from the flots and retents studied and as a result offer little in the way of data for the economic reconstruction of this food source. Human consumption of barley, wheat and oats may be supposed, although oats may have been a weed of another crop and cereals may also have been purchased for animal feed. Nevertheless, in the absence of cereal chaff and weed seeds, the cereal crops had apparently been cleaned of these by-products prior to entering the town. This suggests that cereals were grown and processed beyond the limits of medieval Knaresborough.

7. Discussion

7.1 Three main phases of activity were identified from the investigation of sixteen foundation pad trenches and a subsequent watching brief. These included stratigraphically early features often cut into the natural, the development of a later medieval to post-medieval 'garden soil' and early modern construction activity typically associated with 18th and 19th-century pottery which culminated with the construction of the modern bus station. These correspond to the stratigraphic sequences identified during the evaluation of this area (O'Neill 2001).

Medieval activity

7.2 The earliest phase of activity identified at the site was represented by features cut into the natural and sealed either by the garden soil or by the subsoil. Six post-holes were noted in Trench 2 (212 and 214), Trench 4 (407), Trench 15 (1514), Trench 19 (1907) and Trench 20 (2005), but only the two post-holes from Trench 2 contained pottery, dating to the 15th to 16th century. These features may represent fences between burgage properties or timber outbuildings, but as the archaeology was only examined within discrete foundation pads, the function of the post-holes and any association between them was not established. Eight pits, perhaps for rubbish disposal, were identified in Trench 7 (721 and 723), Trench 10 (1012), Trench 14 (1405), Trench 15 (1502 and 1504) and Trench 17 (1713 and 1717). Four of these contained animal bone with over 70 fragments recovered from pit 1012. Five pits contained pottery, two with material dating to the medieval period (1012 and 1405), while the other three (1502, 1504 and 1717) also contained later medieval sherds. Finally, features of unknown function were noted in Trench 1 (138), Trench 17 (1711 and 1715) and Trench 18 (1808 and 1817). Medieval pottery was only recovered from the two features in Trench 18.

7.3 Two walls (617 and 629) identified in Trench 6 may have associated with this early phase and may have defined or divided a medieval burgage plot. Certainly both preceded a series of inter-cutting pits believed to be early modern in date and wall 629 was apparently sealed by the later medieval to post-medieval garden soil. Wall 617, however, was associated with 18th to 19th-century pottery and a late 17th to 18th-century pantile, although given the disturbed nature of the archaeology in this trench, these artefacts may have been intrusive in the earlier deposit. Wall 617 observed in the southeast-facing section was probably orientated northwest-southeast, although only a few undressed stones remained. In contrast wall 629 seen in the southwest-facing section was orientated northeast-southwest and included dressed stones.

Later medieval/post-medieval activity

7.4 Beneath the early modern activity associated with the 18th-century development of the area, a deposit of dark grey to brown silty clay was observed in all trenches apart from Trench 5. Here the disturbance of the early modern features had removed all traces of the earlier 'garden soil'. Elsewhere this soil survived to depths of between 0.24m in Trench 19 to 0.68m in Trench 2. Although the garden soil revealed post-medieval pottery from Trench 1, a 19th-century sherd from Trench 4 and three 17th to 18th-century sherds from Trench 20, the majority of trenches produced medieval and/or later medieval pottery. As a result, it is proposed that this soil began to develop in the later medieval period and probably continued in use into the post-medieval period. Disturbance of the soil by 18th-century development would explain the presence of the early modern pottery.

7.5 This garden soil presumably represented the ground cover to the rear of properties or burgage plots fronting High Street. It may or may not have been cultivated, but it was common for such plots to be the focus of industrial and other activities (Dunkley and Cumberpatch 1996). Certainly hammerscale recovered from the garden soil (Section 5.26) is indicative of iron smithing in the area and the soil was also the focus for the discard of domestic debris. Relatively few features were cut into the garden soil, however, and these were exclusive to Trench 7. Here four pits/post-holes were placed within the garden soil and filled with garden soil-type material, with one post-hole containing a medieval pottery sherd (Section 4.20). Two further pits observed in Trench 5, which preceded the construction of an early modern wall, may also have been associated with later medieval and/or post-medieval activity (Section 4.13). Certainly one pit contained later medieval pottery, but the depth of these features (up to 0.90m) had removed any evidence of a stratigraphic relationship with the garden soil.

7.6 Associated with the garden soil was a probable subsoil that formed above the natural limestone marl. This varied from a pinkish brown silty clay in Trenches 2 and 8 to a red brown silty to sandy clay in Trenches 9, 10, 14, 17 and 18. It survived to a depth of only 0.05m in Trench 2 and reached a maximum depth of 0.22m in Trench 1. Domestic debris including dateable artefacts were less commonly recovered from the subsoil when compared to the garden soil, although Trenches 14 and 18 produced 11th to 13th-century pottery and later medieval sherds.

Early modern activity

7.7 Activity related to the early modern occupation of the area was routinely seen in the construction of walls and pipe/drain trenches, as well as a well. Less commonly observed were features of unknown function such as the four shallow linear features in Trench 7 (Section 4.17) and a possible industrial feature in Trench 8 (Section 4.21), but numerous inter-cutting pits within Trench 6 (Section 4.15) were presumably for rubbish disposal. In addition to brick, tile, stone, glass and animal bones, they contained pottery dating from the 17th to the early 20th century. The pipe/drain trenches were typically aligned either northwest-southeast or northeast-southwest and while they were typically steep-sided, they did vary in depth from approximately 0.40m to 1.00m. A single ceramic drain was commonly observed, but lead pipes were also seen in Trenches 2 and 5. In contrast, a broad, relatively shallow trench (753) recorded in Trench 7 contained three drains orientated northwest-southeast (Section 4.17). These drains were probably associated with the subsequent construction of the bus station, although no dateable artefacts were recovered to confirm this later date.

7.8 The walls were typically constructed of partly dressed stones, bonded with limestone mortar, with occasional brick inclusions. In addition, wall 810 (Trench 8) and wall 1703/1722 (Trench 17) were also constructed on a foundation/levelling deposit of cobbles. The level of dressing, however, suggested that wall foundations rather than the walls themselves were commonly observed and that these were often damaged by later activity. The exception was a series of connecting walls observed in Trenches 7 and 8 and followed during the watching brief (Section 4.18). The northwest-southeast wall seen in the southwest-facing sections of both trenches and surviving to a height of 1.10m was constructed of dressed and coarsed stones supported on less regular foundations. An adjoining wall observed in Trench 8 extending south-westwards and two adjoining walls observed during the watching brief extending north-eastwards presumably formed part of the early modern cellars which prevented the excavation of Trenches 11, 12, 13 and 16 (Section 3.5). As all the walls observed during the archaeological investigations were orientated northwest-southeast or northeast-southwest, they probably relate to the construction of buildings on a common alignment onto and to the rear of High Street. These buildings were probably 18th century in date, in line with the known date for most of the present buildings in Knaresborough (Turner 1990) and may correspond with those shown on the first edition Ordnance Survey map of 1854.

7.9 The majority of trenches revealed concrete layers, rubble/demolition deposits or levelling deposits of sand or gravel associated with the preparation of the ground surface prior to the construction of the modern bus station. Only Trenches 5 and 15 were without such make-up layers, but these were probably removed by machine prior to the sections being recorded. A rubble layer (400) from Trench 4 contained late 18th to 19th-century pottery and levelling deposit (1702/1719) from Trench 17 included late 17th to 18th-century pottery. These intrusive pottery sherds represent the demolition and disturbance of early modern/Victorian occupation deposits.

8. Conclusions

8.1 The archaeological excavations at Knaresborough Bus Station confirmed the sequence of development ascertained from the results of the evaluation (O'Neill 2001). Medieval features were sealed by a later medieval to post-medieval garden soil, which was truncated by the 18th-century development of buildings fronting and to the rear of High Street. These properties were levelled to allow for the construction of the modern bus station.

8.2 Both the earliest features (including post-holes and pits) and the development of the garden soil over the later medieval period probably represent the use of burgage plots in this area. These plots were certainly a focus for the disposal of domestic debris and iron smithing was presumably carried out here also. Conclusive evidence for the continuation of such activities into the post-medieval period was not forthcoming, however, as pottery of this date was restricted to the garden soil identified in Trenches 1, 4 and 20. Perhaps the level of activity declined during the post-medieval period or domestic debris (including pottery sherds) was less commonly discarded.

8.3 The 18th century saw the terracing of the site for the construction of early modern buildings with associated drain and pipe trenches. Numerous wall fragments and/or wall footings were observed across the current development area and were routinely observed running northwest-southeast or northeast-southwest. These presumably related to the construction of buildings fronting and to the rear of High Street, in particular cellaring and boundary walls between plots. Domestic debris continued to be discarded (e.g. the series of inter-cutting rubbish pits in Trench 6), but the small quantities of iron smithing debris may represent re-deposited material associated with medieval or later medieval activity. A possible industrial feature observed in Trench 8 may indicate the continuation of industrial activity in this area, although its function remains conjectural. Finally, the buildings and their yards/gardens were levelled in preparation for the construction of the present bus station.

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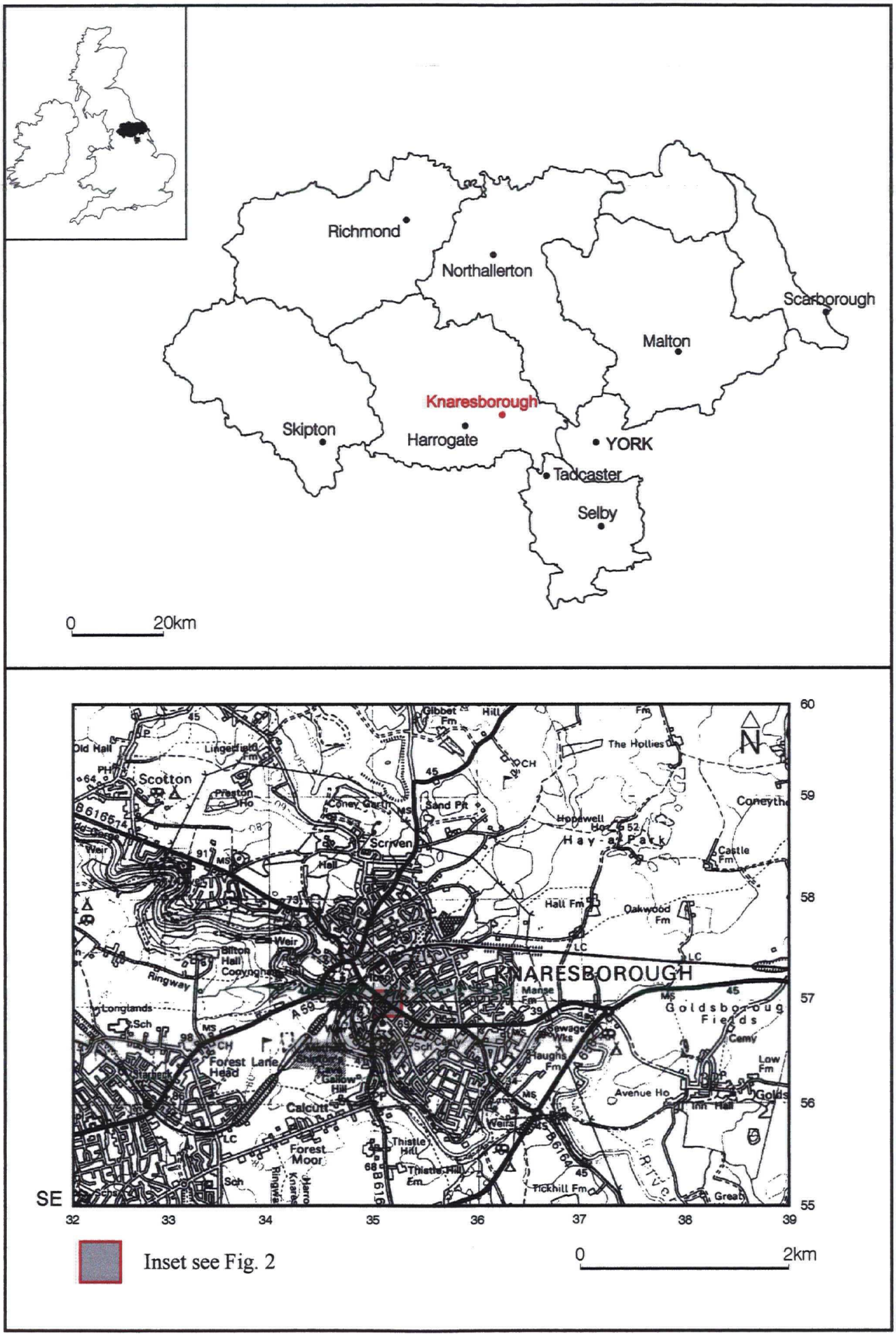

Fig. 1. Site location

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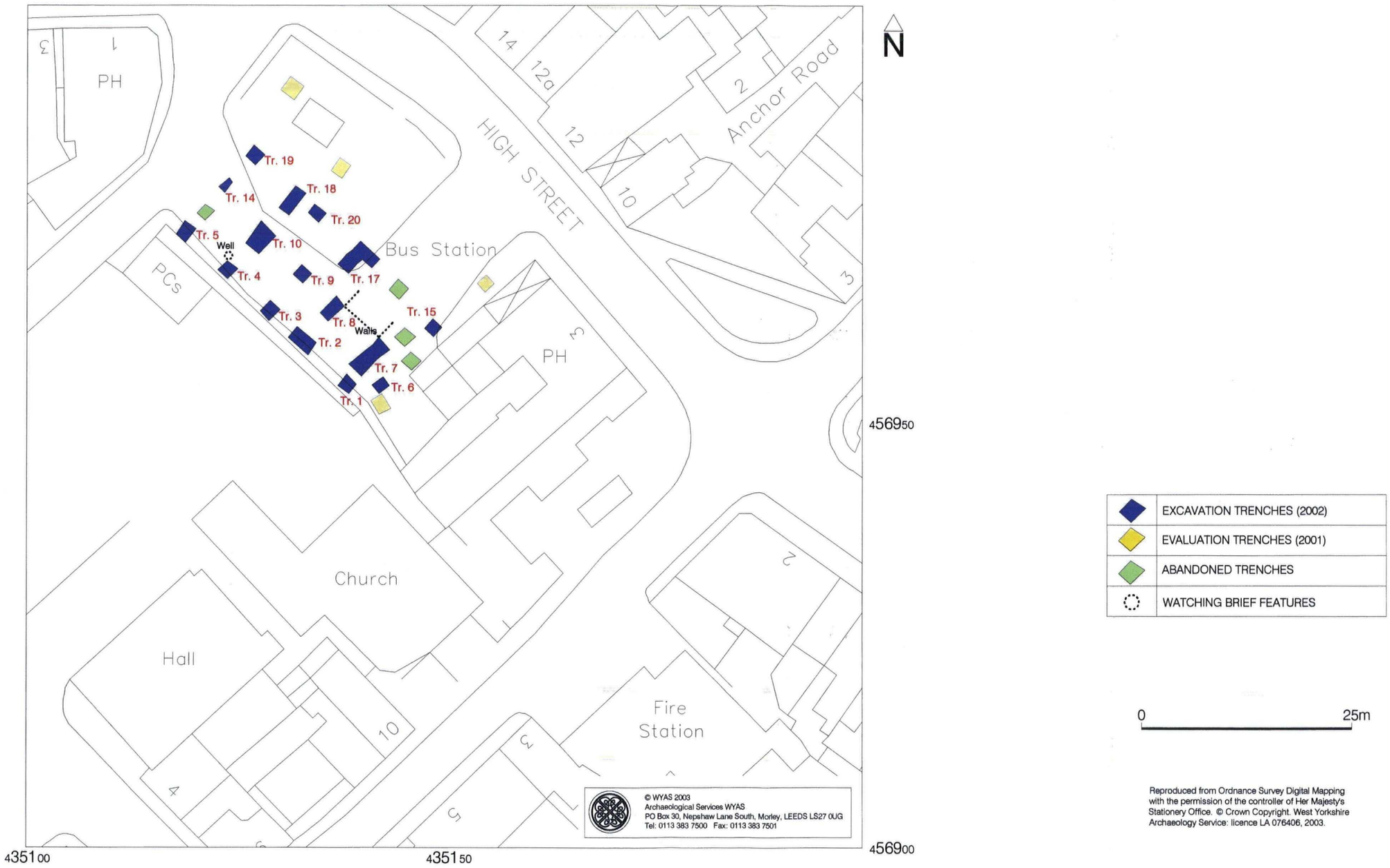


Fig. 2. Location of trenches and features identified during the watching brief

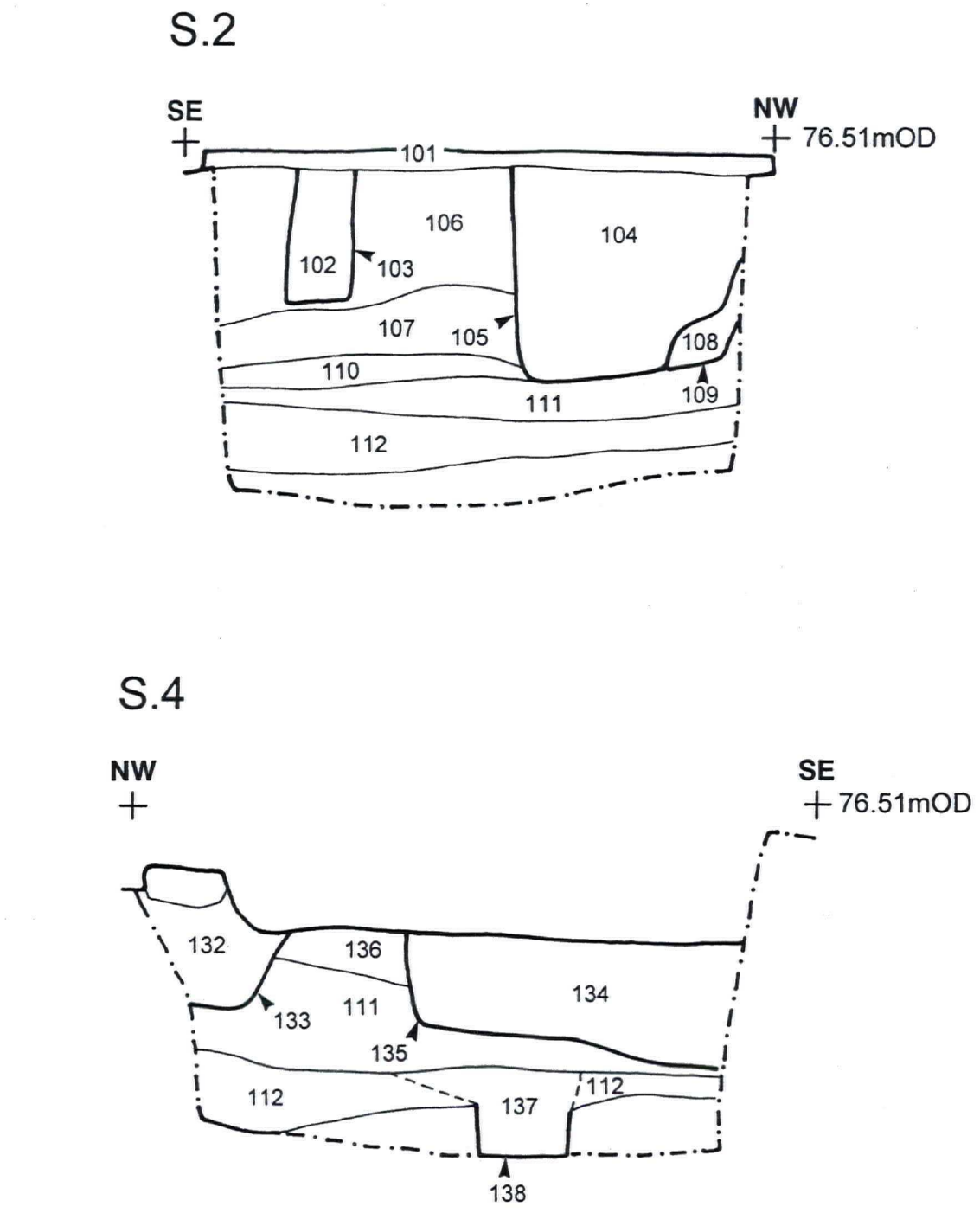


Fig. 3. Sections: Trench 1

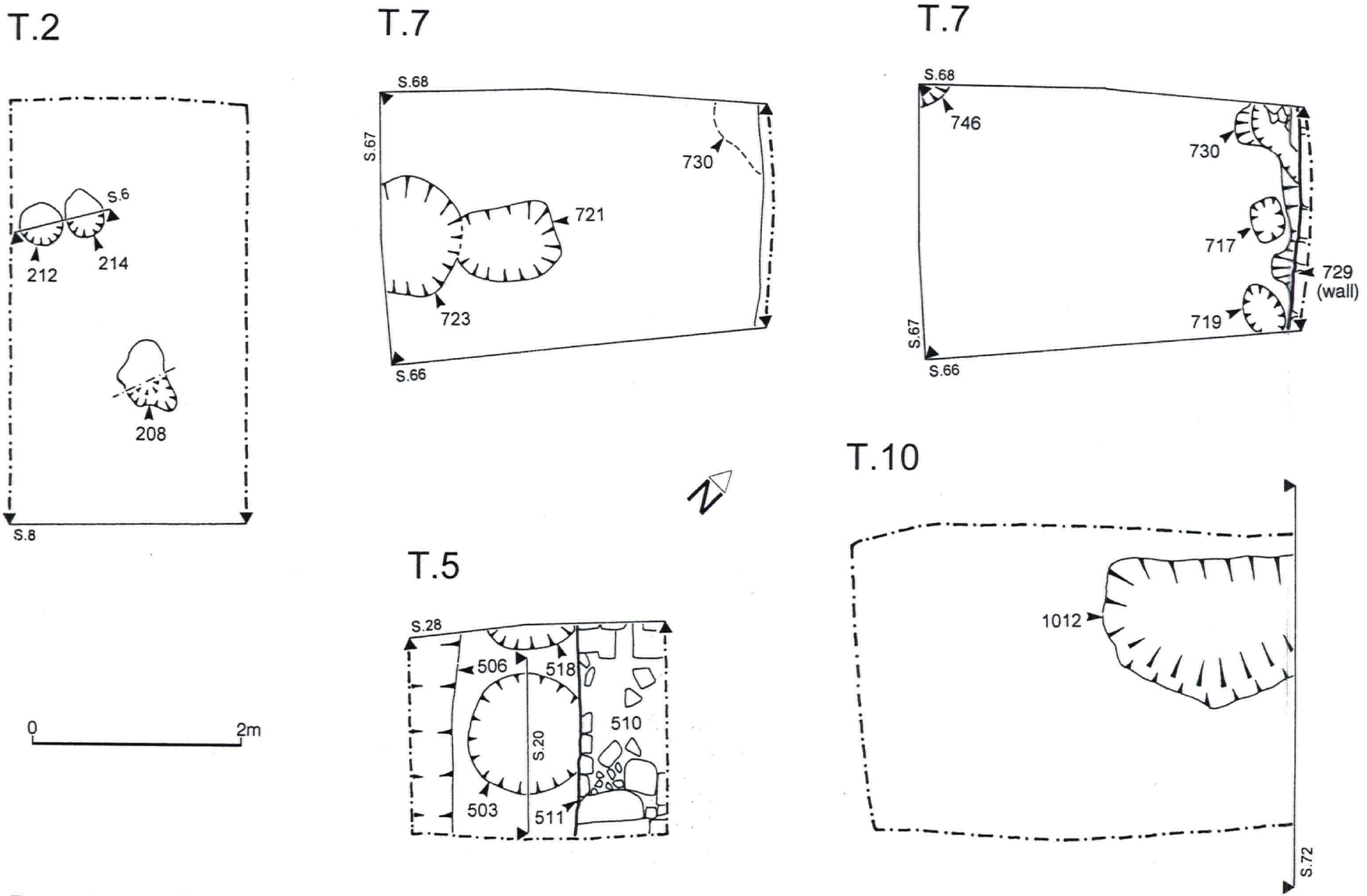
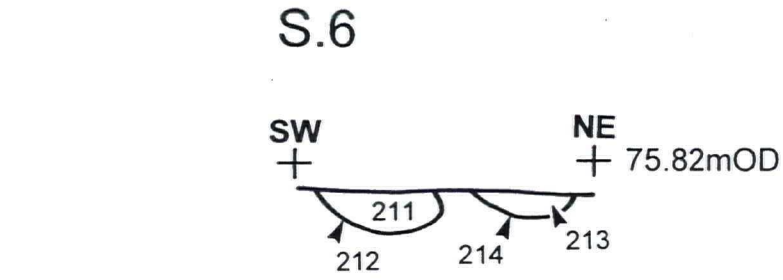


Fig. 4. Plans: Trenches 2, 5, 7 and 10



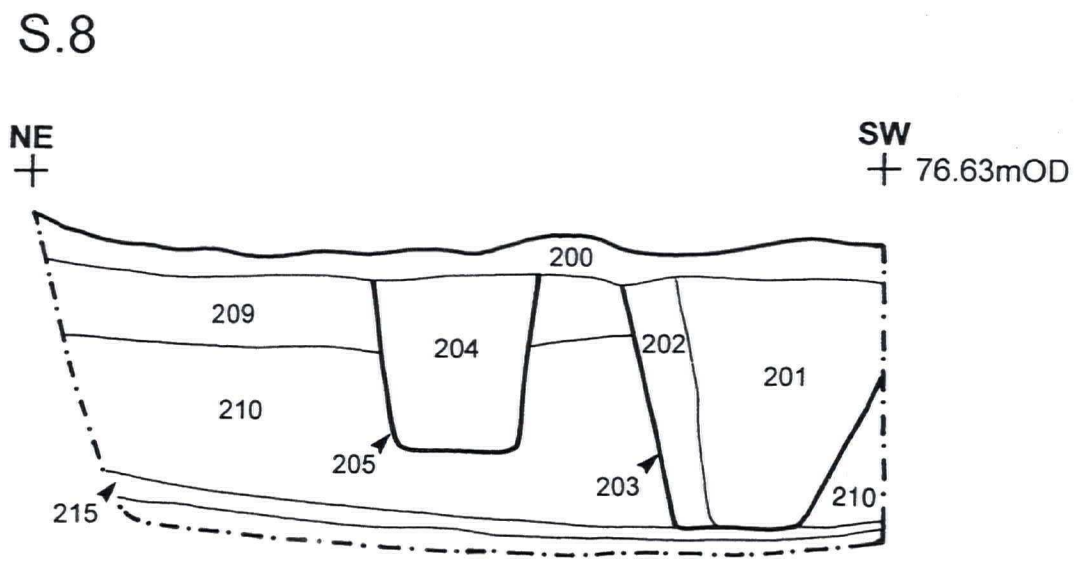


Fig. 5. Sections: Trench 2

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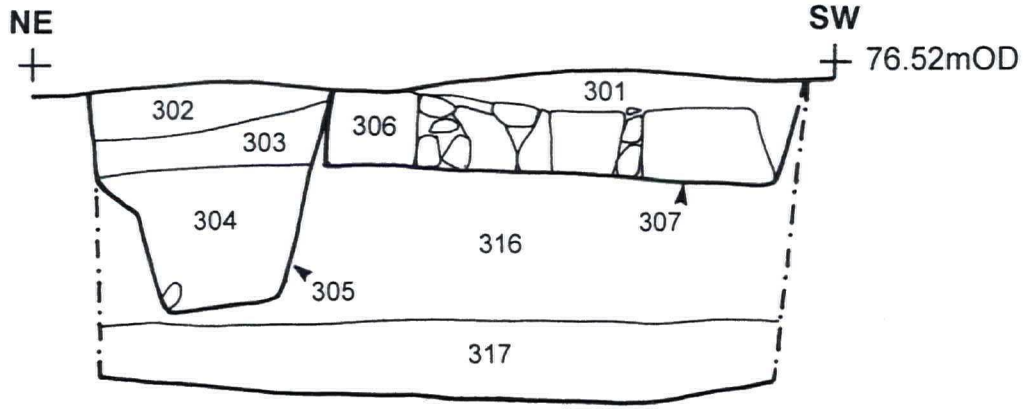

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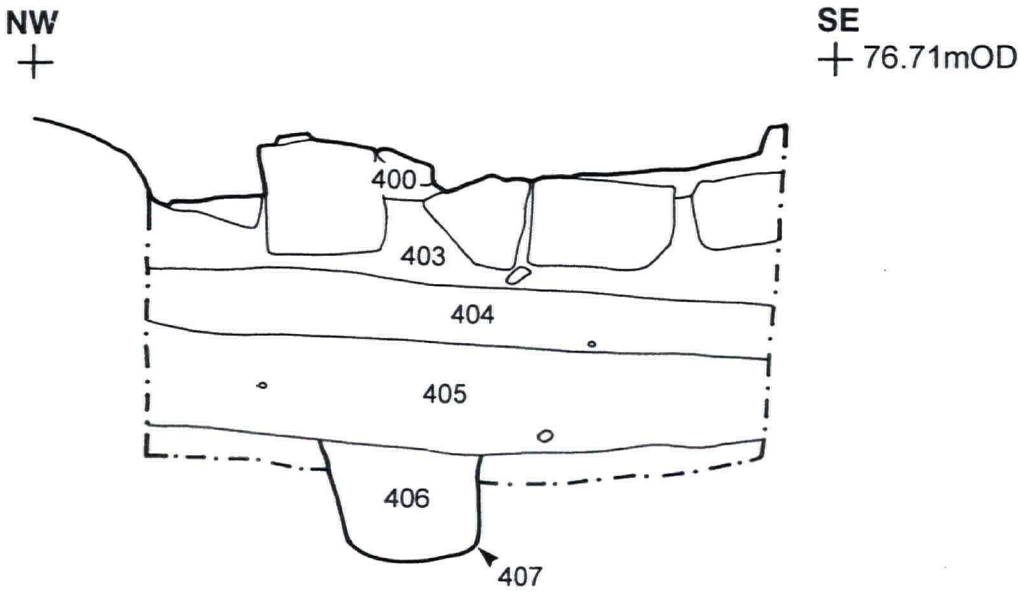

Fig. 6. Sections: Trenches 3 and 4

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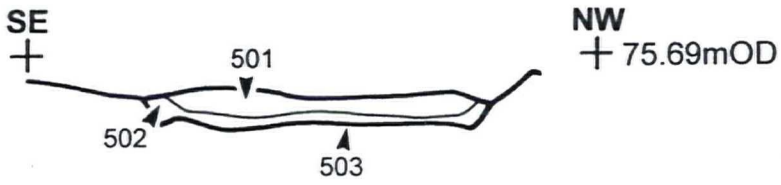

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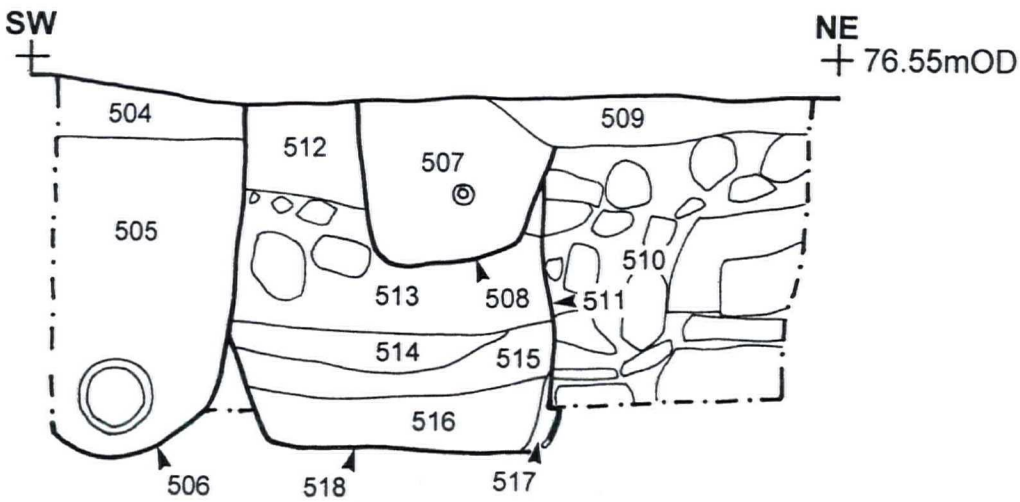

Fig. 7. Sections: Trench 5

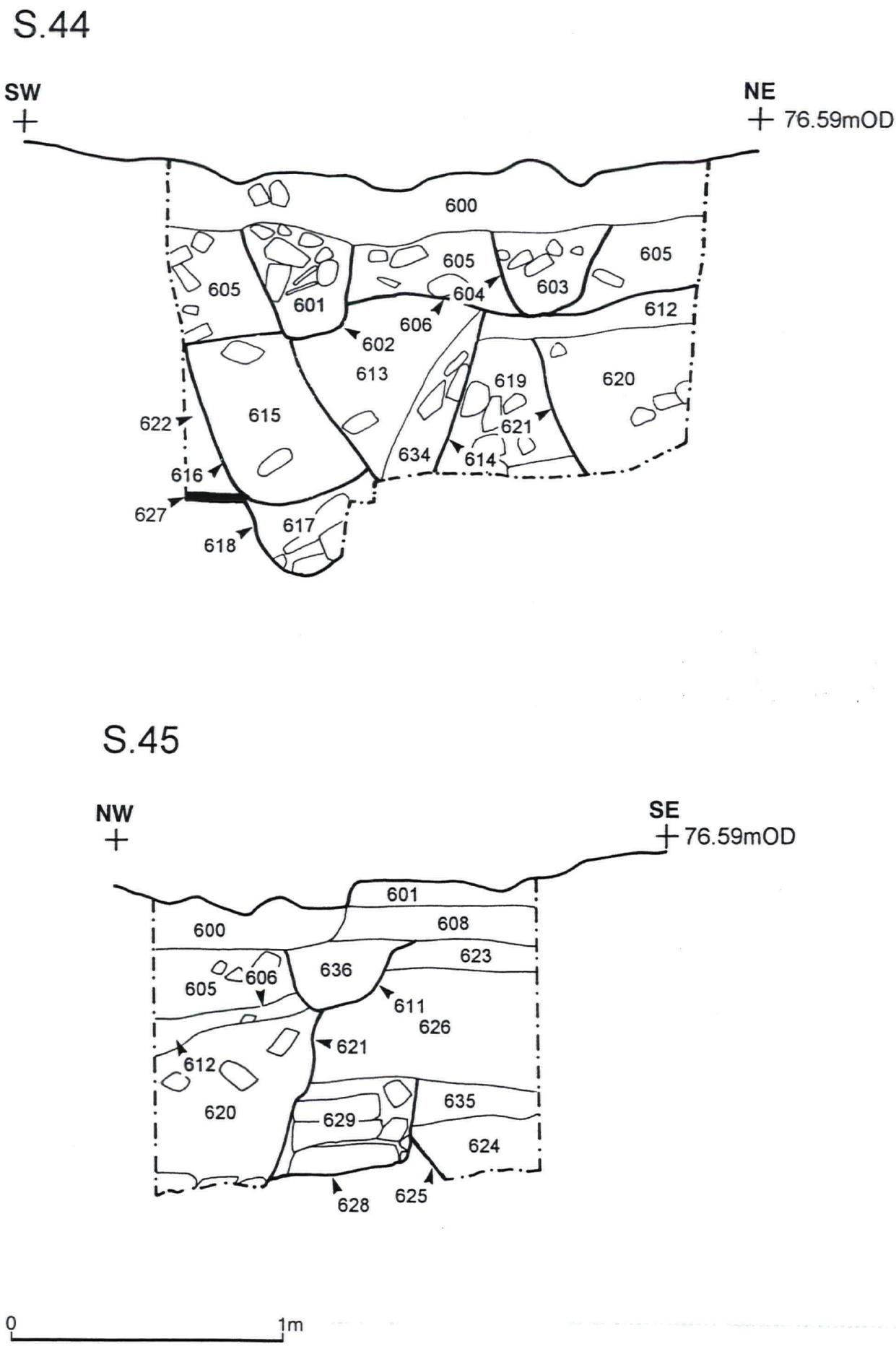

Fig. 8. Sections: Trench 6

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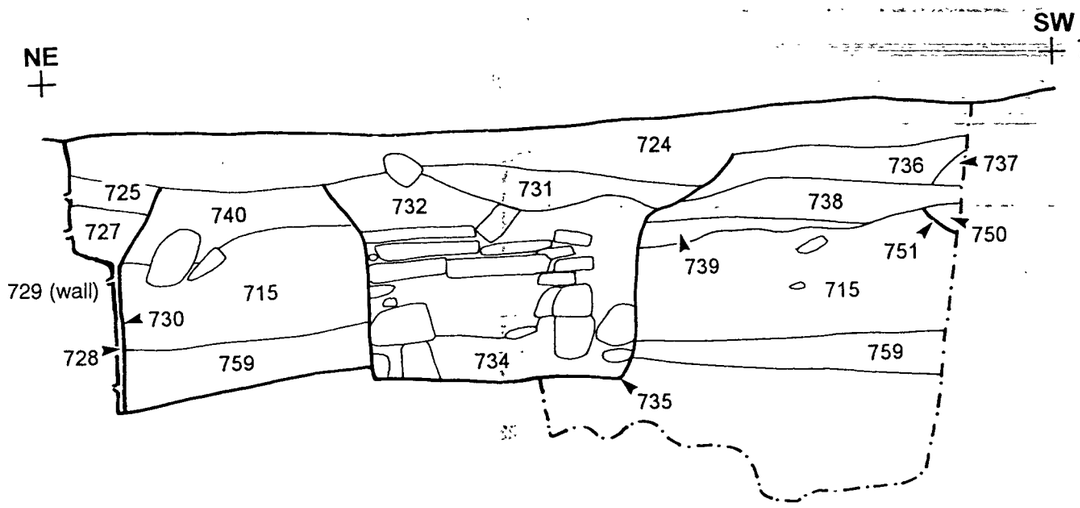

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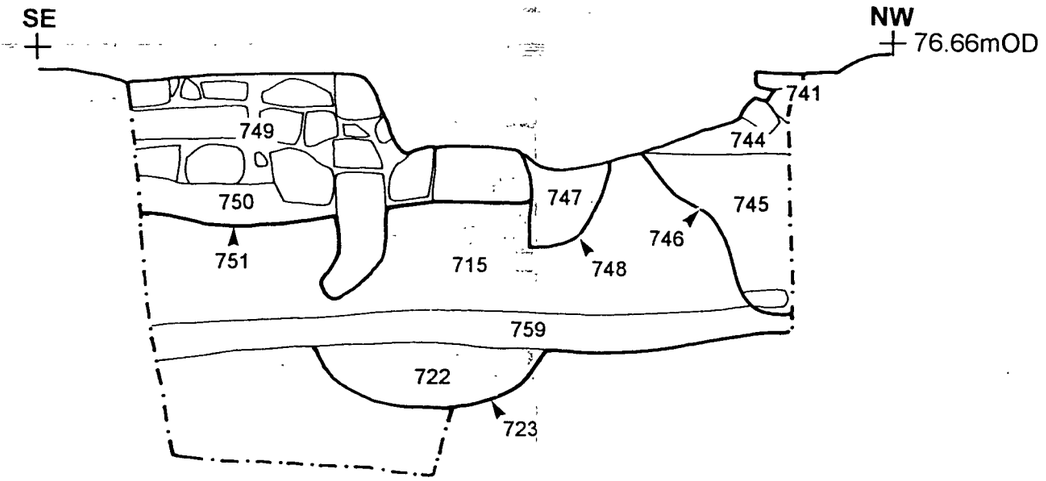

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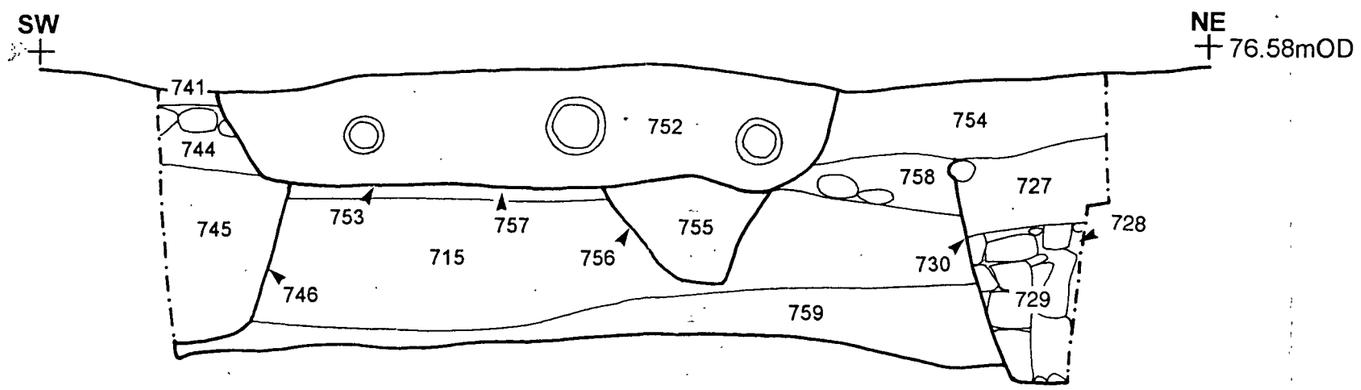

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Fig. 9. Sections: Trench 7

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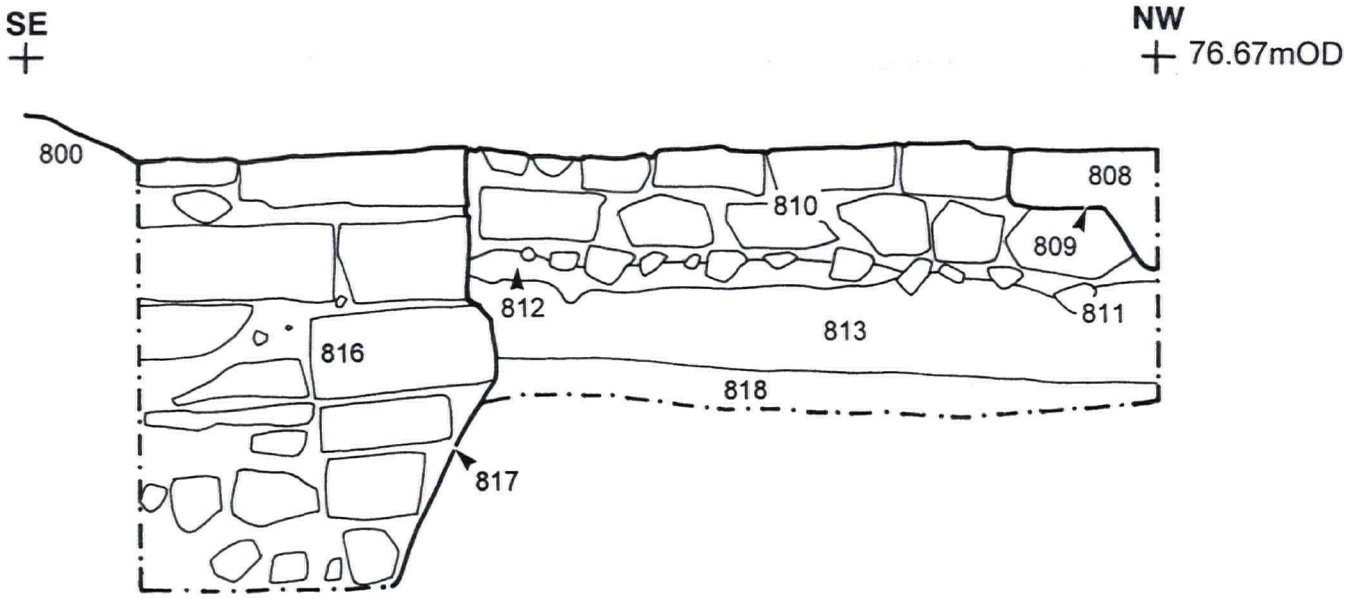

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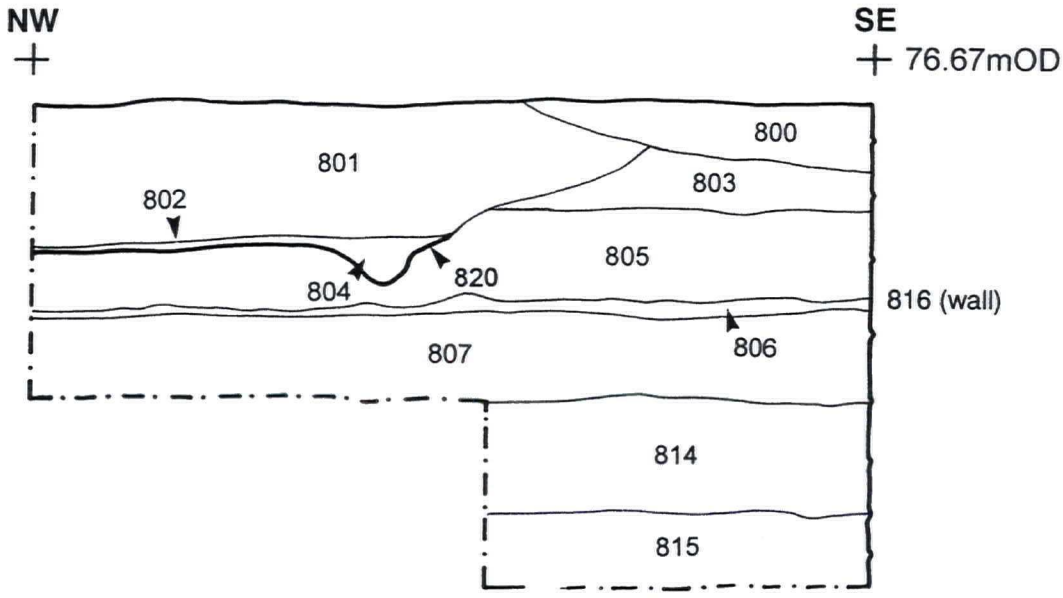

Fig. 10. Sections: Trench 8

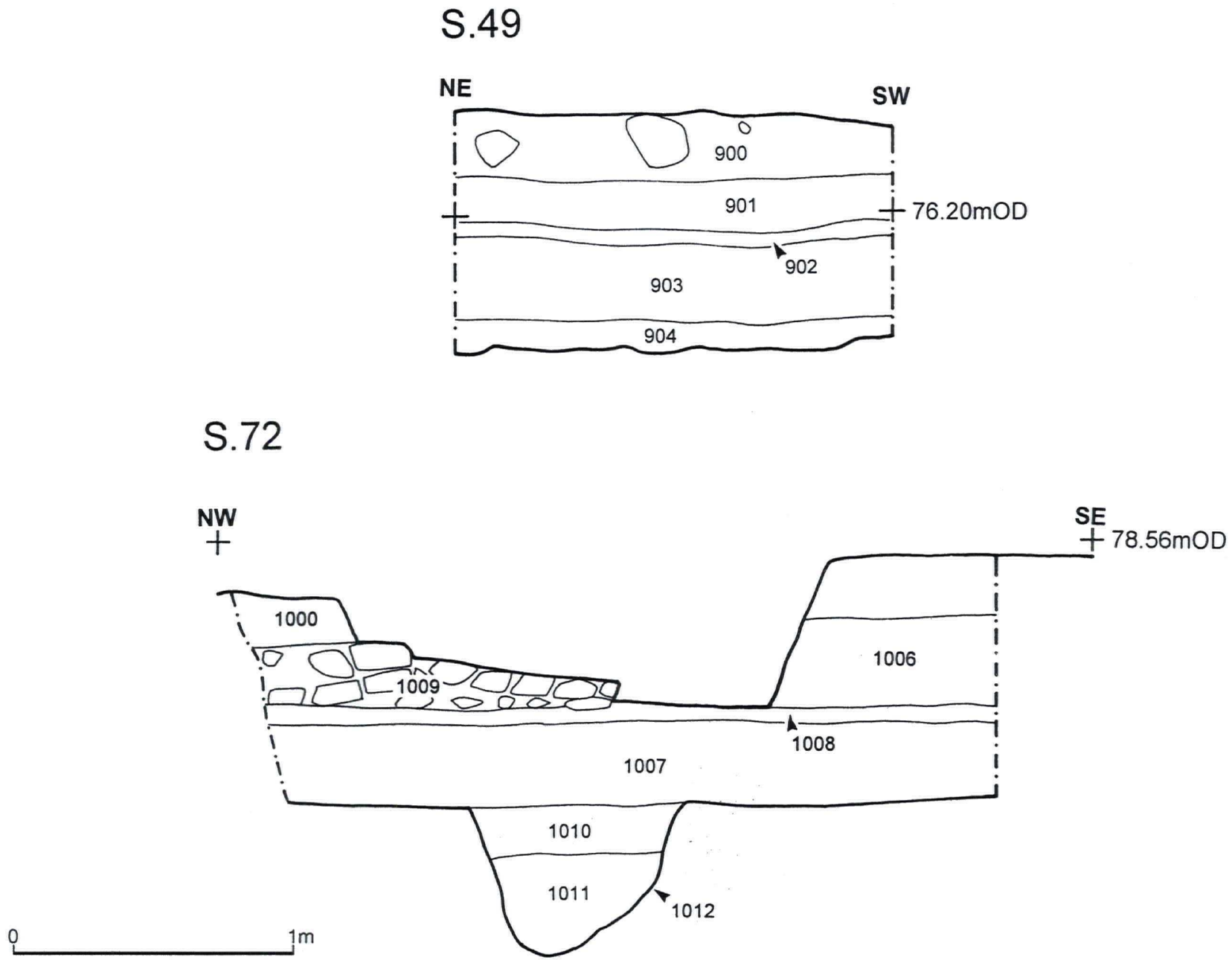

Fig. 11. Sections: Trenches 9 and 10

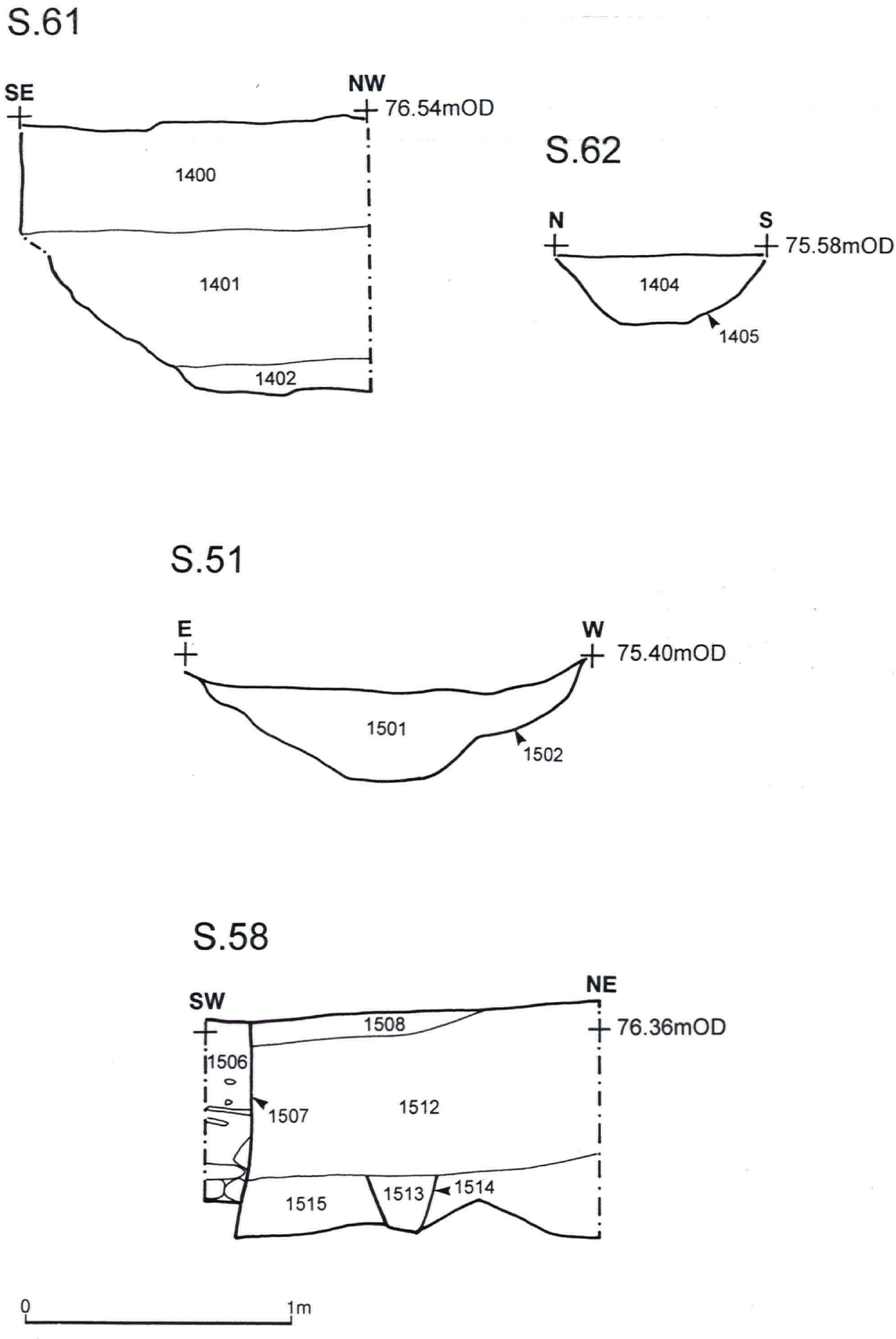

Fig. 12. Sections: Trenches 14 and 15

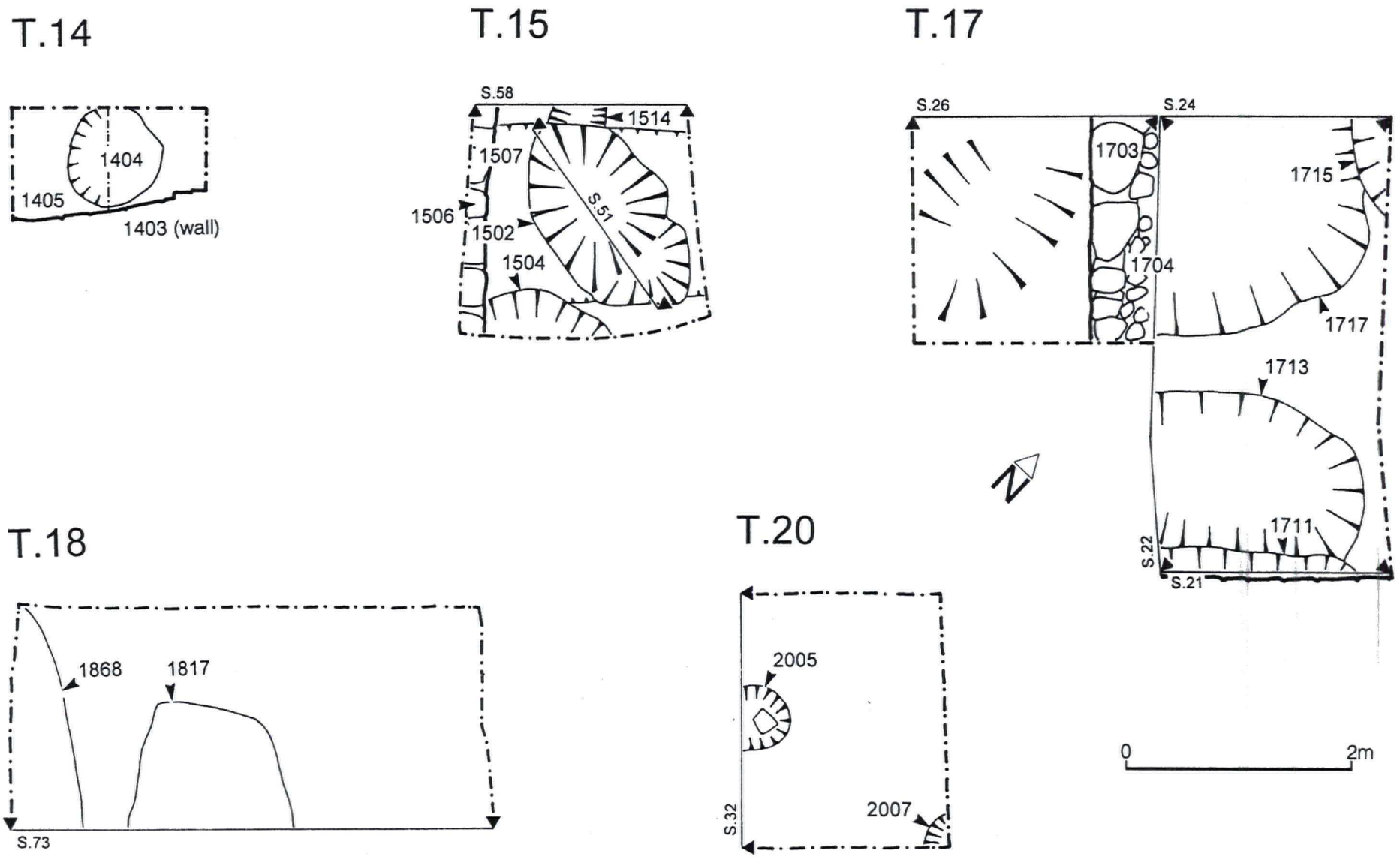

Fig. 13 Plans: Trenches 14, 15, 17, 18, and 20

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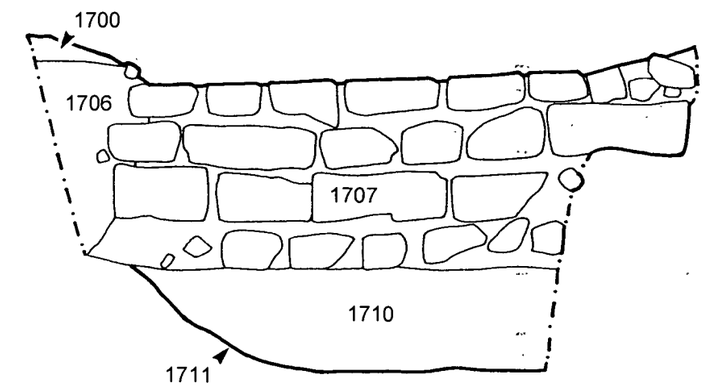

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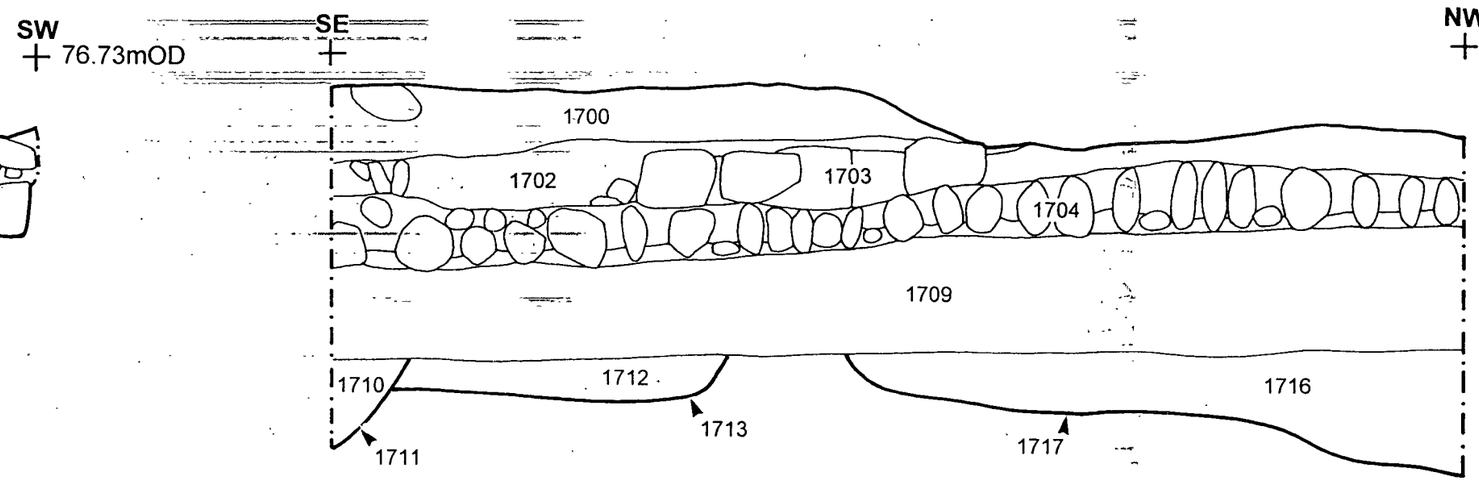

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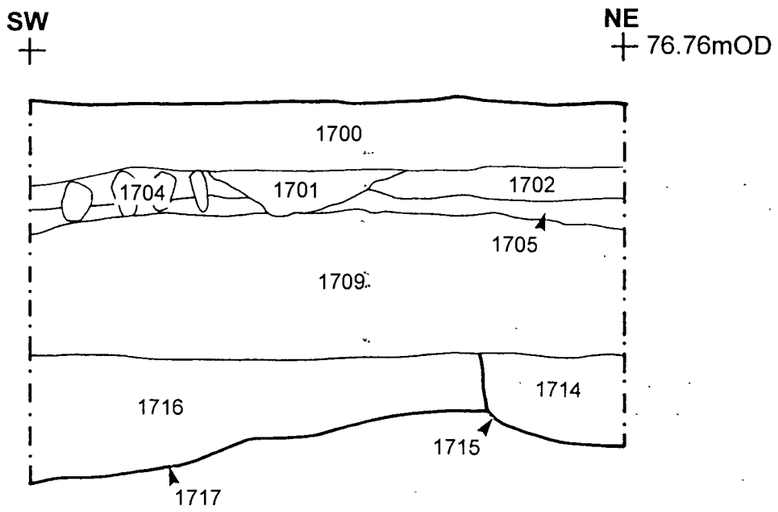

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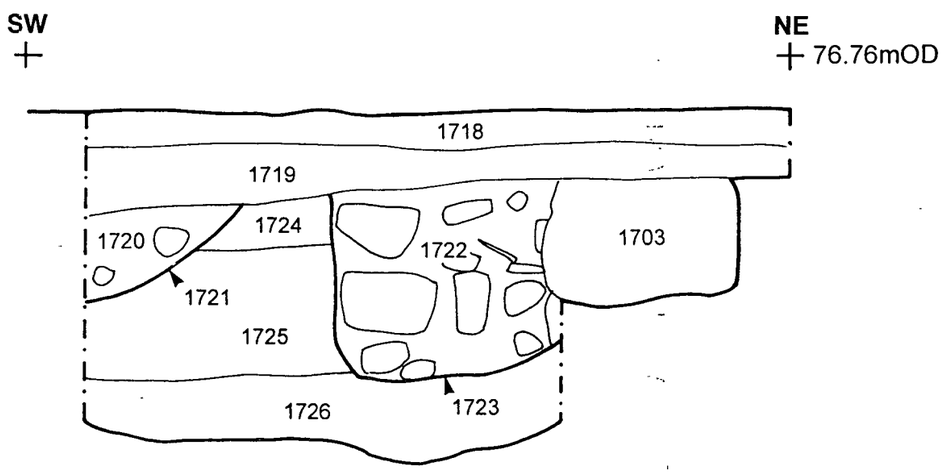

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Fig. 14. Sections: Trench 17