

The stone objects

Catherine Smith, J Lawson Brown and Mark A Hall

Introduction: geological study of the stone objects and samples

Geological identifications are taken from two archive reports by J Lawson Brown (1979 and 1980). Brown thin-sectioned some of the spindle whorls, and other stone artefacts perhaps somewhat reluctantly. The introduction to his main report is reproduced here as it indicates some of the problems encountered in carrying out intrusive scientific study some thirty years ago. The identification sheets relating to this report may be consulted in the site archive lodged in RCAHMS (Box number 8/A/4; Folder 1).

Geology

J Lawson Brown

The problems involved in the geological examination and evaluation of archaeological specimens may generally be regarded as being twofold, firstly, to what extent the partial or complete destruction of the specimen for detailed examination can be justified by the likely benefit of the results of the process, and secondly the difficulties in, and often impossibilities of, delineating the possible origins and provenance of material with any certainty.

The specimens collected at the excavation are no exception to this general rule and the above-mentioned problems were rapidly encountered. They are of course interrelated: there is for example little point in cutting up a section of a common sandstone for detailed examination when there may be no specimen available for comparison and in any case the sample is not distinctive enough in itself to allow more than a generalised idea as to its possible place of origin to be suggested. At present the detailed data and knowledge of many of the rocks required for comparative purposes with the samples is just not available, and in the examination of the samples this has been constantly borne in mind. However, where it is felt that further work might cast some light on the possible origin of a specimen at some time in the future this is suggested in the appropriate place.

The question of provenance, or the likely place of origin of the material of which the specimens is composed, must now be considered. It should be made clear that, in the sense applied here, the provenance or origin has no implications as to where the specimen was worked or embellished and is only a suggestion as to the source from which the material was originally derived. It should also be understood that by the nature of rocks and in the light of the often great similarity

between the same rock-type from widely separated areas it is impossible to be absolutely certain as to the origin in the majority of cases, and indeed only the most distinctive of specimens can be ascribed with certainty to any one locality. For the majority of specimens composed of more common rock-types it is usually possible, particularly with the above-mentioned dearth of comparative information available, to give only an idea of the areas where similar material may be found and of the relative possibilities as to which are the more likely places of origin, and this will of course be influenced by any other non-geological evidence which may also be available. Care should be taken therefore to subscribe no more certainty to the suggested origin of a specimen than is indicated in the following descriptions, at least not on the geological evidence alone.

Finally the further complication should be noted that a specimen may be moved many miles from the locality of its original outcrop without the involvement of the agency of man, but by the geological processes of glacial and fluvial transport. The erosive and transportive power of glacial ice is considerable and glacial erratics, often of considerable size, are found throughout the area around Perth. These erratics include material from north of the Highland Boundary Fault which has often been transported over some distance. Smaller material can also be transported by river action, and although in comparative terms the sediment which can be transported by the River Tay is less than might be expected from its size, the movement of objects of up to pebble size over fairly long distances would still be expected, and these pebbles might perhaps be picked up for ornamental use, or some other purpose, a considerable distance from their original source. In the writer's opinion, however, the possibility of the material for the Perth artefacts having been transported far, by water in particular but also by glacial action, is not considered to be very likely in most cases, but has still been taken into account when necessary in the descriptions following.

Origins of the stone samples

This section has been summarised from Appendices A and B in the original archive report, in which all samples examined, including unworked samples, are listed by accession number (Brown 1979 and 1980). Building materials are discussed in Fascicule 1, CD Insert: Geology.

Chalk

The origin of the specimens examined could not be determined by the methods available, and several possibilities are apparent. The chalk could be derived from Ireland, continental Europe, or from England; the nearest exposures to Perth are in the Cretaceous rocks of Yorkshire. It is also possible, although unlikely, that the chalk could have derived from material glacially transported from the Cretaceous strata under the North Sea. The origin of the chalk might well be determined more conclusively by study of the microfossils present.

Accession numbers 06–0046, 06–0079, 06–0111, 06–0115

Crystalline limestone

The origin of this relatively pure white limestone is equally difficult to determine and much the same comments apply here as for the specimens of chalk, above.

Accession numbers 5958, 8175, 9151, 9464, 9537, 06–0014

Gastropod limestone

Although certainty is difficult this limestone appears to be the ‘Purbeck marble’ of the Dorset area of England, although similar limestones are known elsewhere, for example in the Cretaceous rocks of the Weald.

Accession numbers 5678, 8221, 8450

Flint

Flints are predominantly found in the Upper Cretaceous rocks, associated with chalk, and the same areas of possible origin may be suggested, namely Ireland, England and continental Europe. The possibility of these flints having been found in glacially transported material exists, but is considered to be unlikely.

Accession numbers 8321 and 11185.

Sandstones, siltstones etc

The origin of the majority of these specimens can be assigned with almost complete certainty to the extensive outcrop of the Old Red Sandstone (ORS; Devonian strata) around Perth and in the Strathmore area. Examples of the same rock types as the specimens all occur in this area, and although it is most unlikely that specimens could be assigned to any particular horizon, it seems unnecessary to postulate a more distant origin. In addition, quarries are known to have been in operation in the ORS as long ago as the 14th century. In 1328 Robert Bruce asked permission of the Abbey of Scone for hewn stone to be taken from

the quarries at Kincarrathie and Balcormac for ‘the edification of the Church of Perth and of the bridges of Perth and Earn’ across the River Tay (RRS, v, no 350).

Accession numbers 0133, 0522, 0668, 2622, 3108, 4500, 4501, 4502, 5392, 6035, 6843, 6964, 7527, 7645, 8074, 8484, 8512, 9019, 9541, 9692, 10077, 10164, 10285, 11150, 11430, 12517, 06–0010, 06–0011, 06–0013, 06–0015, 06–0021, 06–0023, 06–0027, 06–0028, 06–0032, 06–0033, 06–0034, 06–0055, 06–0064, 06–0066, 06–0067, 06–0068, 06–0069, 06–0072, 06–0076

Mudstones

Several specimens are thought to be natural ‘mudstones’ or compacted clays, rather than ‘man-made’ clays such as are present in bricks and daub from the site. The mudstones contain fine quartz grains in the matrix which indicate a quartz-rich source for the material which might well be the ORS strata from which material has been eroded and eventually redeposited as muds on the flood plain of the River Tay.

These clays are thought to be natural rather than ‘man-made’ since, firstly there is no evidence of working in the clays, for example in the form of laminations or ‘flow structures’. Secondly clay minerals are abundant. These tend to be lost during the firing of worked clays. Thirdly, in worked clays haematite staining, generally orange in colour, is generally fairly widespread, whereas in these specimens it is very limited (although A06–0054 does contain dark-brown ore dust).

Accession numbers 12281, 06–0026, 06–0054 and 06–0078

The stone artefacts

Amethyst

Mark A Hall

1 Amethyst Stone

Length 9.6mm; width 7.9mm; height 5.2mm; weight 0.52gms

Identified by eye with aid of a microscope by M Simmons and M Hall at Perth Museum and Art Gallery (PMAG).

Translucent cut and polished amethyst, made for the setting of a finger-ring (and not a bead as originally recorded in the site archive). The excavations produced several finger-rings with a range of settings including glass, pearl and precious stones (see Fascicule 2, The metalwork); for a gold and sapphire ring and a broken ring with an empty setting for a stone, both from Meal Vennel see Cox 1996, 760–1, Cat No 1 and 764, Cat No 43). Amethyst was regarded in classical and medieval thought as having various beneficial attributes: as an antidote to drunkenness, as well as those intoxicated with love; as a control over evil thoughts; as a booster of intelligence and shrewdness in business; as a deflector of disease; as an aid to the hunter and as a protection

for soldiers (Kunz 1971, 58). It was also symbolically linked to the apostle Matthias and to the divine male sacrifice (Kunz 1971, 373 and 269). As part of a ring, the stone is likely to have belonged to someone of, if not of the highest status of nobility, then at least a well-to-do merchant or town dignitary. As Cox (1996, 761) observed, legal restrictions limited the wearing of luxurious rings to the upper classes, which may have included wealthy merchants and craftsmen. The earliest surviving Scottish sumptuary law is dated March 1429/30 (The textiles; Shaw 1979, 81). The stone may of course never have been set into a ring, but had perhaps been part of the stock of an artisan working in the vicinity of the High Street. The dating of Midden 3c in Phase Vd gives a mid-14th-century date for the loss or deposition of the stone. Amethyst is an appealingly colourful purple variety of quartz. It need not be an exotic import to medieval Perth as it is common across Scotland (Hedde 1901, 49–50) and the PMAG collections include an example of the natural mineral from the Corsiehill quarry area of Kinnoull Hill, on the opposite bank of the river to Perth.

A2120; C2102–4; M3c; Phase Vd; Rig V
Not illustrated

Whorls (Illus 55, 56) Catherine Smith

Comparison with J L Brown's notes from 1979 and 1980 indicate that the whorls may have become darker in colour (oxidised) since the objects were first excavated. The colour stated here is that first recorded by Brown, with any substantial differences observed some thirty years later noted. Two whorls (Cat Nos 16/A06–0013 and 25/A06–0025) were not found at the time of writing, but had been seen by Brown in 1979; his valuable archive notes therefore form the catalogue entries for these items (abbreviated 'JLB'). The abbreviation ORS used below refers to the local Old Red Sandstone strata.

Whorl types

Walton Rogers (1997, 1736) has described three main stone whorl forms occurring at the Anglo-Scandinavian and medieval site of 16–22 Coppergate in York. Form A types date mainly to the 9th and 10th centuries, Form B to the late 10th to early 12th century and Form C to the medieval period, particularly of the north and east of Britain (ibid). In the site assemblage, whorl Cat No 32/A1077 appeared to be of the earlier Form A associated with the Anglian tradition. Unfortunately this example came from an unstratified context. Three examples were thought to be of Form B (Cat Nos 6/A8484 and 12/A06–0034 and 31/A6035) and are comparable to examples found at Goltho and north Lincolnshire (ibid, 1737). With these exceptions the majority of the stone whorls most closely resembled Form C. To date

all other whorls known to have been recovered from medieval urban sites in Scotland, for example Canal Street I, Meal Vennel and 80–86 High Street in Perth and Broad Street and 42 St Paul Street in Aberdeen, are of Form C (Ford 1987c, Illus 81, 149; Cox 1996, Illus 26, 785; Cox 1997, Illus 19, 754–5; Trewin 1982, Illus 106, 185). Whorls of Forms A and B are however known from the multi-period Northumbrian and medieval site of Castle Park, Dunbar (Cox 2000, Cat Nos 331 and 338 Illus 100, 140–1).

As regards raw materials for their manufacture, Walton-Rogers (2000, 2531) has analysed the sources for whorls from sites throughout Britain dating from the 6th to the 14th centuries and concluded that the use of local stone is entirely typical of the period. In this the whorls from the site are no exception.

2 Whorl Stone

Diameter 28.3mm; thickness 21.3mm; weight 20.62g

Complete but sampled globular spindle whorl with equally flattened base and upper surfaces. Central circular hole, diameter 8.2mm. Decorated with bands of polished surface alternating with rougher surface, giving a light and shade effect. In grey clay or mudstone, probably originating from the local ORS strata. York Form C (Walton Rogers 1997, 1736).

A12281; C3889–1/2; MC071; Phase IIb–IIc; Rig VI
Not illustrated

3 Whorl Stone

Diameter 26.8mm; thickness 23.2mm; weight 14g

Complete globular spindle whorl with flattened base and upper surfaces. Central circular hole, diameter 7.7mm. heavy wear around hole. Traces of polished alternate decorative bands, as whorl Cat No 2, although more worn by use. In smooth light grey-brown fine-grained sandstone, probably of local ORS origin. Traces of wood noted on surface on examination in 1979. York Form C.

A12517; C3902–1/2; MC071; Phase IIb–IIc; Rig VI
Illus 55

4 Whorl Stone

Diameter 32.3mm; thickness 6.0mm, weight 5.89g

Rough discoid whorl, probably lathe-turned. Laminated horizontally; probably part of much larger biconical or globular whorl (cf Cat No 13). In fine-grained light grey siltstone, probably originating from the local ORS strata. York Form C.

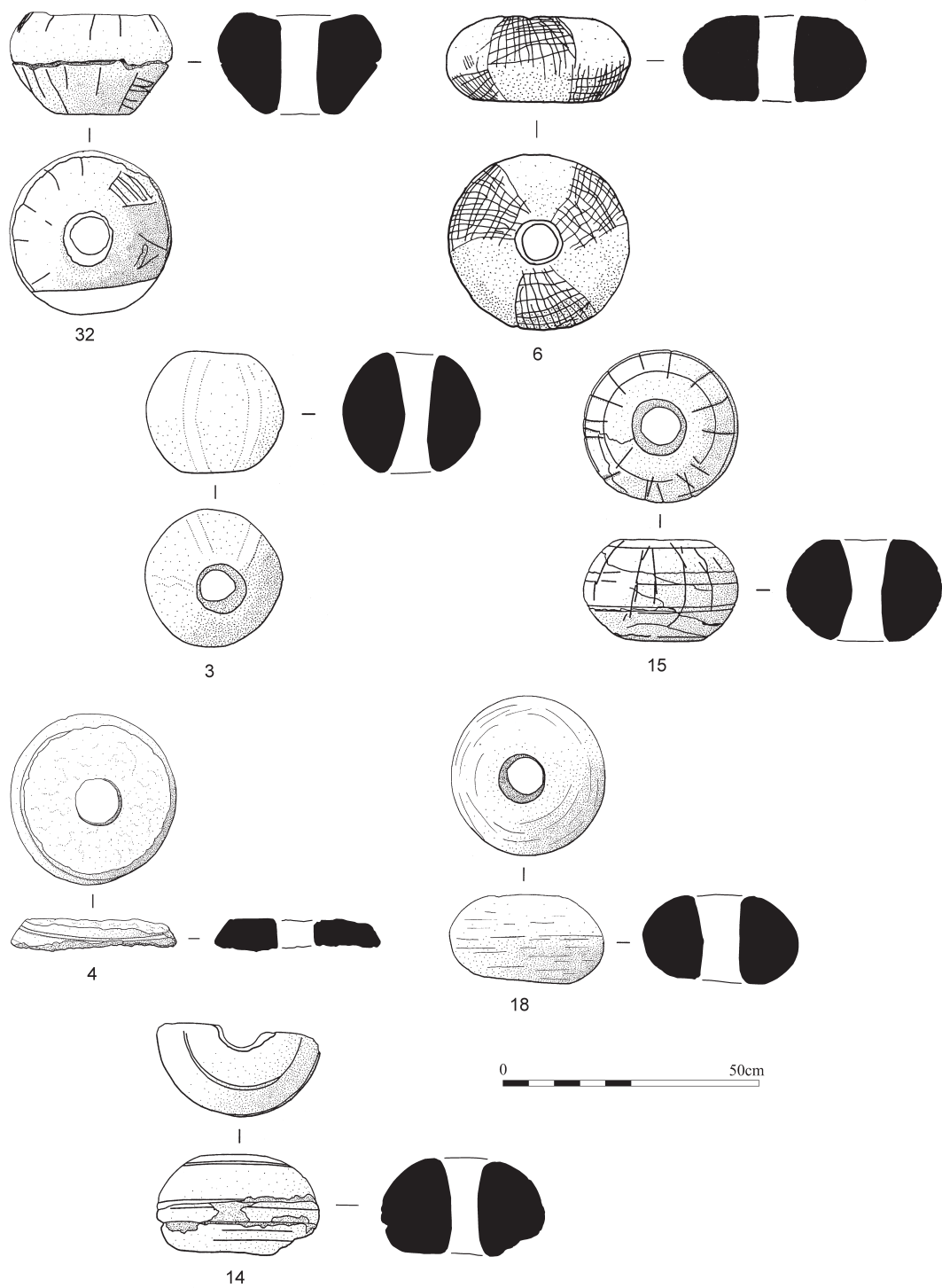
A8512; C2581–3; M6b; Phase IIg–IIId; Rig V
Illus 55

5 Whorl Stone

Diameter 25.2mm; thickness 21.6mm; weight 15.33g

Globular whorl with flattened base and irregularly flattened upper surface, higher on one side than another, possibly due to uneven wear. Central circular hole, diameter 9.3mm. Decorated with horizontal and vertical incised lines. In light brown, fairly coarse-grained sandstone, probably originating from the local ORS strata. York Form C.

A06–0072; C9447–9; P8.1c; Phase IIIC; Rig VII
Not illustrated



Illus 55 Stone whorls. Cat Nos 3, 4, 6, 14, 15, 18 and 32.

6 Whorl Stone

Diameter 34mm; thickness 16.7mm; weight 27.56g

Biconical whorl with flattened base and upper surface with central circular hole, diameter 7.6mm. Decorated all over with three alternating bands of cross-hatching. Evidence of use wear. In light grey fine-grained sandstone, weathered darker, probably originating from the local ORS strata. cf more finely decorated Form C example from Meal Vennel, Perth (Cox 1996, 784, Cat No 566; Illus 26). York Form B.

A8484; C2593–3; P2.2b; Phase IVa; Rig V
Illus 55

7 Whorl Stone

Diameter 30.1mm; thickness 4.4mm; weight 2.44g

Flat discoid, circular whorl with central hole diameter 8.3mm. laminated horizontally and broken across middle of hole. Probably fragment of larger Form C whorl; cf Cat No 4 above and Ford 1987c, Cat Nos 146 and 149 and Illus 80. In light grey-brown fine-grained sandstone, probably from local ORS strata.

A9541; C2677–3; B2, T2846; Phase IVa, IVaa; Rig V
Not illustrated

8 Whorl Stone

Diameter 28.7; thickness 20.8; weight 17.81g

Biconical whorl, flattened on base and upper surface. Damaged at base and upper surface. Central circular hole, diameter 8.0mm. Decorated with alternate bands of incised horizontal lines confined within vertical lines. cf Meal Vennel, Perth (Cox 1996, 784, Cat No 566 and Illus 26). Thin-sectioned. In dark grey clay or mudstone, probably of local origin. York Form C.

A06–0078; C7327–7; B18 (Phase 1b), North Room and South Room–Occupation (6); Phase IVa, IVaa; Rig VII
Not illustrated

9 Whorl Stone

Diameter 33.1; thickness 23.2; weight 27.44g

Asymmetrical biconical whorl, flattened base and upper surface. Central circular hole, diameter 11.2mm. Base of whorl worn and broken unevenly across hole. Decorated with incised horizontal lathe-turned bands. cf Cat No 8 and Walton Rogers 1997, 1739, Cat No 6572 and Fig 807. Thin sectioned: in dark grey clay or mudstone, probably of local origin. York Form C.

A06–0054; C 9317–9; B18 (Phase 1/2), Pit 9301; Phase IVaa, IVb; Rig VII
Not illustrated

10 Whorl Stone

Diameter 33.1mm, thickness 16.6mm, weight 20.24g

Biconical whorl with off-centre circular hole, diameter 10.0mm. Flattened base and upper surface. Knife trimmed. Decorated with radiating incised lines, meeting at bevel in centre of outer face of whorl. In light brown very fine-grained sandstone, probably of local ORS origin. York Form C.

A06–0067; C 7298–7; B18 (Phase 2b), North Room, Hall and Hall South–Occupation (10); Phase IVb; Rig VII
Not illustrated

11 Whorl Stone

Diameter 20.0; thickness 16.7mm; weight 23.81g

Biconical whorl with flattened base and upper surface and central circular hole, diameter 8.2mm. Decorated with crude incised radiating lines, meeting at knife trimmed bevel in centre of outer face of whorl. In dark weathered light brown fine-grained sandstone, probably of local ORS origin. York Form C.

A06–0066; C 7299–7; B18 (Phase 2b), North Room, Hall and Hall South–Occupation (10); Phase IVb; Rig VII
Not illustrated

12 Whorl Stone

Diameter not available (broken); thickness 13.5mm; weight 3.47g

Fragment of discoid whorl with central circular hole. No evidence of decoration. cf Walton Rogers 1997, 1739, Cat 6555 and Fig 807. In fawn/white micaceous siltstone, probably of local ORS origin. York Form B.

A06–0034; C9130–9; B18 (Phase 2b), Hall–Occupation (11b); Phase IVb; Rig VII.
Not illustrated

13 Whorl Stone

Diameter 30.6mm; thickness 16.6mm; weight 19.09g

Biconical/doughnut-shaped whorl with flattened base and upper surface and central circular hole, diameter 7.2mm. Undecorated; wavy horizontal lines are remains of worn knife-trimming marks. Walton Rogers 1997, Cat 6575. In light brown very fine-grained sandstone, probably of local ORS origin. York Form C.

A06–0076; C 6169–10; MC153; Phase IVb; Rig VIII
Not illustrated

14 Whorl Stone

Diameter 31.0; thickness (reconstructed) 17.6mm, weight 11.00g

Three conjoining fragments of biconical whorl with central circular hole, diameter 8.9mm. Flattened base and upper surface. Laminated horizontally, creating 'discoid' fragment which compares well with rough whorl Cat No 4. In light grey micaceous schist, probably from metamorphic strata to the N of Highland Boundary Fault. Probably York Form C.

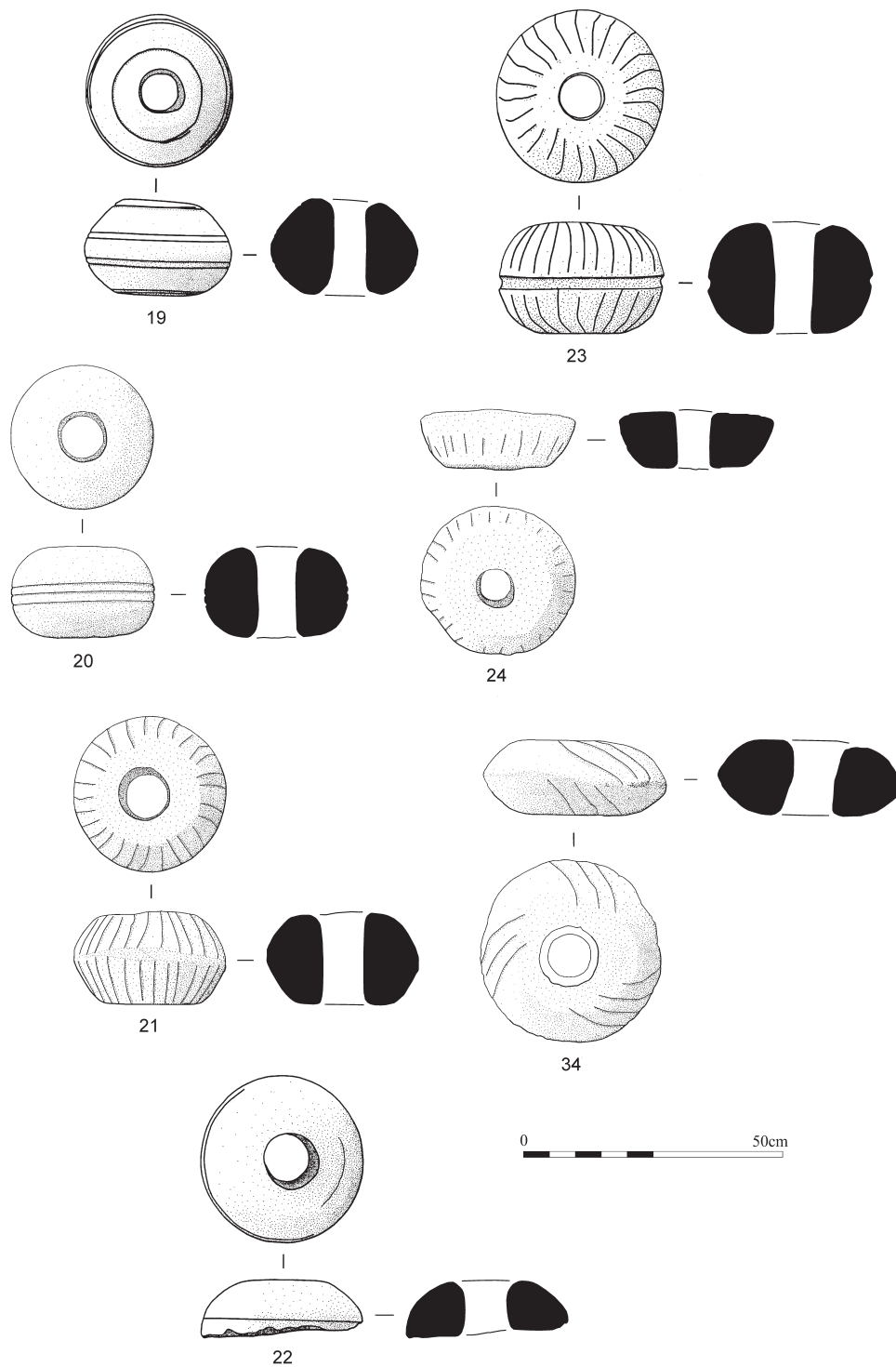
A5182; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Illus 55

15 Whorl Stone

Diameter 30.1mm, thickness 24.4mm, weight 21.19g

Biconical whorl with central circular hole, diameter 14.5mm. Flattened base and upper surface. Decorated with lathe-turned horizontal lines and incised vertical lines. In light grey highly micaceous siltstone, probably of local ORS origin. York Form C.

A06–0055; C7231–7; M9a; Phase IVc, IVcc; Rig VII
Illus 55



Illus 56 Stone whorls. Cat Nos 19, 20, 21, 22, 23, 24 and 34.

16 Whorl Stone

Weight 11.56g

Whorl seen by JLB in 1979. In white/light grey medium-grained sandstone, probably of local ORS origin.

A06–0013; C9001–9; M9a; Phase IVc, IVcc; Rig VII

Not illustrated

17 Whorl Stone

Diameter 13.2mm; thickness 20.5mm; weight 27.08g

Flattened globular whorl with central circular hole, diameter 8.9mm. Undecorated but lathe-turning marks visible on outer, upper and lower surfaces. In light grey fine-grained sandstone of local ORS origin. Probably York Form C (although upper surface more flattened than lower surface).

A06–0062; C6145–10; M9b(b); Phase IVc, IVcc; Rig VIII

Not illustrated

18 Whorl Stone

Diameter 30.3mm; thickness 16.4mm; weight 20.00g

Flattened biconical whorl with central circular hole, diameter 6.8mm. Many horizontal lathe-turning marks visible. In very fine-grained light grey sandstone, weathered almost black. York Form C.

A4500; C2759–2; B34, MF2759; Phase Va; Rig VI

Illus 55

19 Whorl Stone

Diameter 28.4mm; thickness 18.2mm; weight 17.73g

Flattened biconical whorl with central circular hole, diameter 7.5mm. Decorated with double horizontal lathe-turned lines. In light grey micaceous fine-grained sandstone, probably of local ORS origin. York Form C.

A06–0022; C9012–9; M8a; Phase Va, Vaa; Rig VII

Illus 56

20 Whorl Stone

Diameter 27.3mm; thickness 16.6mm; weight 16.88g

Flattened biconical whorl with central circular hole, diameter 7.9mm. Decorated with three parallel clean-cut lathe-turned horizontal lines. In light grey clay or mudstone, weathered dark, probably of local origin. York Form C.

A06–0026; C9012–9; M8a; Phase Va, Vaa; Rig VII

Illus 56

21 Whorl Stone

Diameter 29.4mm; thickness 17.1mm; weight 17.62g

Biconical whorl with central circular hole, diameter 8.4mm. Knife trimmed. Decorated with fairly thick vertical incised lines. In light grey non-micaceous very fine-grained sandstone, probably of local ORS origin. York Form C.

A06–0032; C7113–7; B53 (Phase 1), Central Area–

Occupation (2a); Phase Vb; Rig VII

Illus 56

22 Whorl Stone

Diameter 31.4mm; thickness 9.1mm; weight 10.97g

Incomplete whorl, probably biconical, with central circular hole, diameter 9.1mm. Broken surface shows signs of abrasion indicating whorl may have continued in use after breakage. In light grey fine-grained micaceous sandstone, probably of local ORS origin.

A06–0033; C7113–7; B53 (Phase 1), Central Area–Occupation (2a); Phase Vb; Rig VII

Illus 56

23 Whorl Stone

Diameter 32.7mm; thickness 21.2mm; weight 30.54g

Biconical whorl with central circular hole, diameter 8.1mm. Lower surface more flattened than upper. Decorated with deep lathe-turned central horizontal groove and knife-cut incised vertical lines. Originally described as 'white/fawn' in colour, has now apparently oxidised to grey-green. In coarse-grained sandstone, probably of local ORS origin. York Form C.

A06–0021; C7071–7; B53 (Phase 2), North Area–Occupation (7a); Phase Vbb; Rig VII

Illus 56

24 Whorl Stone

Diameter 29.4mm; thickness 10.5mm; weight 10g

Incomplete biconical whorl, split in half at centre (cf Cat No 22) with central circular hole, diameter varying from 6.2–7mm, drilled inwards towards centre. Has possibly been knife-trimmed on upper and lower surfaces in order to prolong use. Decorated with incised vertical lines. In light grey very fine-grained micaceous sandstone, probably of local ORS origin. York Form C.

A06–0028; C 7071–7; B53 (Phase 2), North Area–Occupation (7a); Phase Vbb; Rig VII

Illus 56

25 Whorl Stone

Weight 15.12g

Seen by JLB in 1979. Whorl in grey-brown micaceous schist. Probably derived from Dalradian metamorphic rocks N of Highland Boundary Fault.

A06–0025; C7084–7; B53 (Phase 2), North Area–Occupation (12); Phase Vbb; Rig VII

Not illustrated

26 Whorl Stone

Diameter 30.3mm; thickness 18.8mm; weight 19g

Broken biconical whorl with central circular hole, diameter 8.5mm. Decorated with double bands of horizontal lathe-turned lines. In light grey micaceous siltstone, probably of local ORS origin. York Form C.

A06–0027; C7060–10; M8b; Phase Va, Vaa(–Vc); Rig VIII

Not illustrated

27 Whorl Stone

Diameter 31.8mm; thickness 14.2mm; weight 18.4g

Broken biconical or doughnut-shaped undecorated whorl with central circular hole, diameter 10.7mm. Probably not reused after breakage (no wear on broken surface). In white/light brown coarse-grained sandstone, probably of local ORS origin. Probably York Form C.

A3108; C2750–2; M4a; Phase Vaa–Vc; Rigs V and VI
Not illustrated

28 Whorl Stone

Diameter 28.7mm; thickness 17.2mm; weight 17.85g

Biconical, undecorated whorl with central circular hole diameter 6.8mm. Base roughened or abraded; damage to upper surface. In light grey, slightly micaceous medium-grained sandstone, weathered to rust colour, probably of local ORS origin. York Form C.

A4501; C2750–2; M4a; Phase Vaa–Vc; Rigs V and VI
Not illustrated

29 Whorl Stone

Diameter 33.3mm; thickness 8.8mm; weight 10.47g

Broken half of biconical whorl with central circular hole, diameter 9.2mm. Decorated with incised vertical lines. Broken face is abraded indicating whorl may have been reused after breakage. In light brown micaceous siltstone, probably of local ORS origin. York Form C.

A4502; C2750–2; M4a; Phase Vaa–Vc; Rigs V and VI
Not illustrated

30 Whorl / perforated ?counter Stone

Length 41.2mm; breadth 36.1mm; thickness 6.5mm; weight 14.98g

Roughly trimmed flat sub-circular/rectangular whorl or ?counter with cleanly drilled central circular perforation, diameter 8.0mm. May have been fabricated from a reused roof tile. Rather roughly made for use as a whorl; may possibly have been a rough and ready gaming piece. Other disc-shaped playing pieces from the site have been fashioned in bone and wood, although these are more finely finished and are decorated (The worked bone, Cat No 4; The wood, Cat No 428). In dark grey highly micaceous schist, probably from metamorphic rocks of Grampians, N of Highland Boundary Fault.

A3815; C2404–3; M1.5a; Phase Va, Vaa(VI); Rigs V and VI
Not illustrated

31 Whorl Stone

Diameter 33.4mm; thickness 13.5mm; weight 20.60g

Flattened doughnut-shaped whorl with central circular hole, diameter 8.2mm. Upper and lower surfaces decorated with radiating incised lines. Outer surface undecorated, but with traces of lathe-turning. cf whorl Cat Nos 6 and 12. In white/light brown fairly coarse-grained sandstone (now oxidised to grey), probably of local ORS origin. York Form B.

A6035; C3578–1/2; Building T, Well 3758; Phase VI; Rig VI
Not illustrated

32 Whorl Stone

Diameter 32.1mm; thickness 18.8mm; weight 21.9g

Biconical whorl with flattened upper surface wider than lower; central circular hole diameter 7.9mm. Outer surface decorated with crude incised horizontal and vertical lines. In strongly laminated micaceous light grey shale, possibly of local origin, perhaps Fife shales in the Carboniferous succession. Thin-sectioned. York Form A, most likely A2 (one face wider than other).

A1077; C2006–3/4; unstratified; Rigs V and VI
Illus 55

33 Whorl Stone

Diameter 28.9mm; thickness 19.2mm; weight 17.83g

Undecorated biconical whorl with central circular hole, diameter from 7.6mm (lower side) to 10.5mm (upper side). Surface abrasion damage. In white carbonate fine-grained crystalline limestone, weathered orange; possibly glacially transported. York Form C.

A06–0014; C7000–7–10; unstratified; Rigs VI–VIII
Not illustrated

34 Whorl Stone

Diameter 35.3mm; thickness 13.4mm; weight 19g

Flattened biconical whorl, with central circular hole, diameter 9.0mm. Much worn by use. Decoration consists of crude diagonal incised lines. In white/fawn fine-grained sandstone, weathered dark brown, probably of local ORS origin. ?York Form C.

A06–0015; C9000–9; unstratified; Rig VII
Illus 56

Hones (Illus 57)

Only four hone stones could be located at the time of writing. As these had not been seen by Lawson Brown, a geological identification has kindly been provided by Mark Simmons, (MS) Perth Museum and Art Gallery. All four of the surviving hones had been perforated to accommodate a thong or cord, probably so that the tool could be conveniently secured to a belt. Hones, or sharpening stones, of varying sizes are a common find on medieval sites throughout Britain and similar examples have been recovered from sites in Perth at 80–86 High Street, (Cox 1997, 753; Illus 117), 1–5 High Street, Canal Street II and Kirk Close (Ford 1987c, 147–8; Illus 80) and Horse Cross (Smith et al 2007, 167).

All were manufactured from a hard micaceous schist or quartzite, probably of fairly local Highland origin. There was no evidence that the hones or the stone from which they were made had been imported from any great distance as may have been the case at Canal Street II, where one example may possibly have originated in Scandinavia (Ford 1987c, 147).

35 Hone Stone

Length 117.6mm; breadth 12.6mm; thickness 11.2mm

Complete tapering hone stone. Rectangular section, tapering to rounded point. Circular drilled perforation for suspension, diameter 4.3mm. Quartz mica schist of ?Highland origin (MS).

A12606; C4727–4; B16b; Pit 4726; Phase Id–IIa; Rig V
Illus 57

36 Hone Stone

Length 65.2mm; breadth 11.2mm; thickness 6.4mm

Broken hone stone. Rectangular section. Circular drilled perforation, diameter 4.4mm. Wear on broken end implies continued use after breakage. Quartzite of ?Highland origin (MS).

A6316; C3509–1; M5d; Phase Vc–Vdd; Rig V
Illus 57

37 Hone Stone

Length 106.4mm; breadth 17.0mm; thickness 9.5mm

Incomplete hone stone. Broken at suspension perforation (drilled, circular). Quartz mica schist of ?Highland origin (MS).

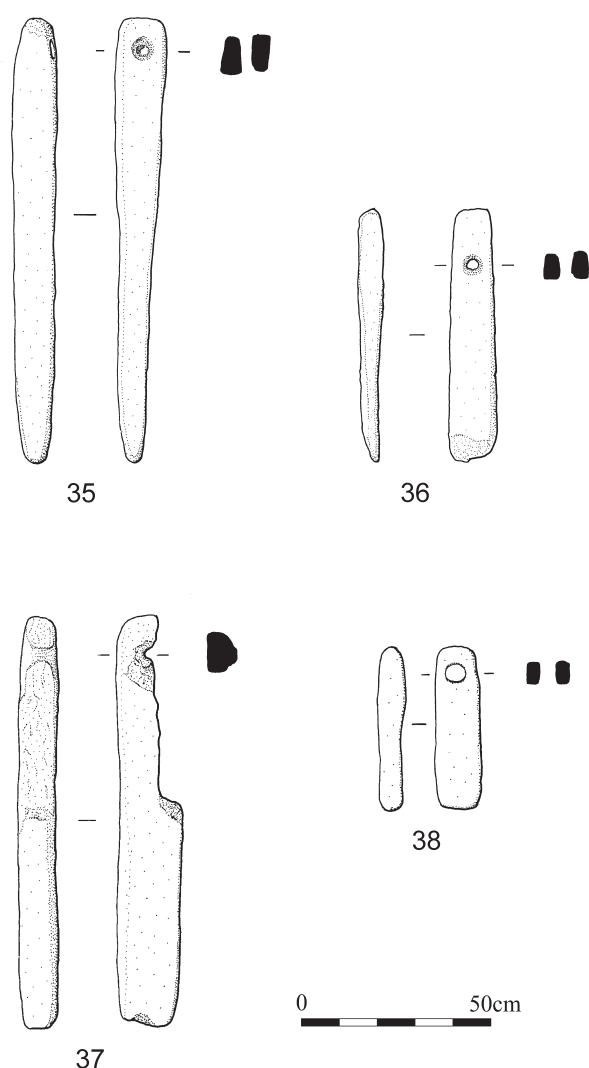
A06-0001; C7000–7–10; Rigs VI–VIII
Illus 57

38 Hone Stone

Length 42.9mm; breadth 11.6mm; thickness 6.0mm

Hone stone, possibly broken at one end. Rectangular section, circular drilled perforation, diameter 4.6mm. Quartz mica schist of ?Highland origin (MS).

A3465; C0001–5; U/S; Phase 19; Rig VII
Illus 57

**Two-part moulds (Illus 58–63)**

Five pieces of two-part stone moulds used in casting decorative metalwork were recovered, providing important evidence for the production of penannular brooches, brooch pins and mounts on the site. The brooch moulds would have been used to produce cast objects in two sizes: larger brooches of approximately 24–25mm diameter, with a constriction to allow the brooch-pin to be attached, and smaller ring-brooches or ringlets from approximately 8–11mm diameter, without constrictions for a pin. Copper alloy brooches recovered from the site may therefore have been made fairly locally (see Fascicule 2, The metalwork). Similar two-part moulds have been recovered from other sites on or near the High Street. Both the upper and lower parts of a mould used to cast decorative penannular brooches came from a watching brief in the Skinnergate (Cachart 2004) and another fine example from 80–86 High Street was used to cast a series of decorative finger-rings (Cox 1997, 755 and Illus 19). One mould appears to have been used on both faces (Cat No 42/A06–0040) and may represent a reused fragment. However in two examples from Bedern, York both faces of the mould also have artefact impressions (Ottaway and Rogers 2002, 2712–3, Nos 13436 and 13437; Fig 1321).

The moulds from the site are made from fine-grained limestone or siltstone, probably of fairly local origin; the moulds from York were likewise made from chalk available locally (ibid, 2712).

Illus 57 Hones. Cat Nos 35, 36, 37 and 38.



Illus 58 Mould for casting penannular brooches, brooch pins and ringlets. Cat No 39. Scale 1:1.



Illus 59 Mould for a decorative mount (above) shown with a computerised model of the inverse (positive) surface (below). Cat No 40. Scale 1:1.



Illus 60 Mould. Cat No 41. Scale 1:1.

39 Mould Stone

Half of two-part rectangular brooch mould in fine-grained carbonate clay/limestone with feldspar, quartz and mafic fragments (JLB). Working surface of mould has channels at top for introduction of molten metal, leading to two circular impressions for penannular brooches, two pins of a size suitable to the brooches and three small ring-brooch or ringlet fittings. Penannular brooch external diameter 24.4mm; pin length 26.8mm; ringlet diameter 11.2mm. Remains of lead plug on internal face and external short edge. Four incised lines on unbroken external short edge. Empty (receiving) plug holes on one long edge, opposite to origin of channels. cf mould Cat No 41, and example for producing decorated brooches from Skinnergate (Cachart 2004).

A4750; C2817-2; B26, Floor/Occupation (10c); IIg-IVaa;

Rig V

Illus 58

40 Mould Stone

Length 61.8mm; breadth 61.8mm; thickness 11.1mm

Half of broken rectangular siltstone mould with incised form of decorative mount. Snapped off across decoration. Not part of mould Cat No 41, but found in same pit. In light grey fine-grained siltstone, originating in local ORS strata (JLB).

A8074; C2580-3; M1.4d, Pit 2566; Phase IVb,IVc; Rig VI
Illus 59



*Illus 61 Mould (upper surface).
Cat No 42.*



*Illus 62 Mould (lower surface).
Cat No 42.*



Illus 63 Mould. Cat No 43.

41 Mould Stone

Length 85.8; breadth 66.4mm; thickness 21.7mm

Half of trapezoidal two-part limestone brooch mould with channels cut to supply two circular forms for pen-annular brooches. Separate channel leads to two brooch pin impressions. cf mould Cat No 39. External diameter of brooch 25.5mm; pin length 25.2mm. Two small circular depressions for receiving lead plugs which held upper and lower parts of mould together when casting was in progress. A brown deposit on the inner face of the mould may be metallic (?Cu) residue. Parallel knife marks and chips on each long edge may indicate where mould parts were prised apart after casting. Outer surface (back) of mould bears lightly incised marks which may be a crude diagram or symbol, although there is no evidence that this was contemporary with useful life of mould.

A10909; C2580-3; M1.4d, Pit 2566; Phase IVb,IVc; Rig VI
Illus 60

42 Mould Stone

Length 60.2mm; breadth 46.3mm; thickness 11.7mm

Broken piece of two-part limestone mould in poor condition. Upper surface has three impressions for small ring-brooches (cf mould Cat No 39), external diameter 8.0mm, and remains of channels supplying five more. Possible depression for receiving lead plug in upper corner. Reverse surface has remains of impression for full-size brooch pin, as in moulds Cat Nos 39 and 41, but not suitable for ringlets. May represent reused fragment, but cf 13436 and 13437 from Bedern, York in which both faces of mould have artefact impressions (Ottaway and Rogers 2002, 2712). Brown staining may be metallic oxide residue. In fine-grained white carbonate clay with quartz, feldspar and no mafic fragments. Origin local/unknown? (JLB)

A06-0040; C7170-7; P8.4; Phase Va; Rig VII
Illus 61, 62

43 Mould Stone

Part of broken two-part mould. Evidence of knife paring on outer surface, which appears polished through use or handling. Hole containing lead plug on one long edge. One long channel on working surface leads to seven tapering impressions, possibly for pins or rivets (without heads). Pin length 9.3mm. In light grey siltstone, probably originating in local ORS strata (JLB).

A06-0023; C7079-7; M1.5b; Phase Va,Vaa; Rigs VI and VII
Illus 63

Stone mortar

Part of the rim of a heavy stone vessel, a mortar in an attractive imported stone, probably Purbeck marble, was found in a late medieval midden. A sandstone example to which it bears superficial resemblance was found at 1-5 High Street, Perth (Ford 1987c, 147, Illus 80). Mortars were employed to grind up foodstuffs and were used in England from the 13th century onwards, when they began to replace rotary querns (Ottaway and Rogers 2002, 2803). Purbeck marble was used to

make mortars found at King's Lynn in Norfolk and the Bedern in York (ibid, 2800). Two other samples of Purbeck marble were identified by Brown, A8221 and A5678, both described in his notes as 'shaped' so it is possible that they too may have been parts of mortars.

44 Mortar Stone

External rim diameter 250mm; thickness of rim 31.0mm

Broken rim of heavy stone vessel or mortar. Externally fairly roughly trimmed but polished by use/wear. No evidence of lugs on rim. In gastropod limestone, probably Purbeck marble; white weathered brown (JLB).

A8450; C2476–3; M1.4d; Phase IVb,IVc; Rig VI

Not illustrated

Possible die

Mark A Hall

A small cube of chalk was probably fashioned as a die blank, and may be compared with several examples from the site in bone, one of which was, as in this example, blank (The worked bone; Cat No 48; Phase Va,Vaa). On the face of it, chalk is an unlikely substance for a die because of its softness and friability. There is no obvious fault or damage in this piece which might have lead to the abandonment of its manufacture. Chalk was used to make a range of gaming equipment. A selection of boards and playing pieces is known from Castle Acre Castle, Norfolk, for example (Hinton 1983, 260–3). However that assemblage did not include any stone dice: all eight dice found were of bone (Margeson 1983, 253). Excavations at Lurk Lane, Beverley did however recover a die of chalk as well as a chalk playing piece, albeit of a very crude/highly degraded form (Foreman 1981, 112, no. 81). In Perth, chalk was an exotic material most likely imported from England. Lumps of chalk from the High Street excavations have been identified as ship's ballast (Fascicule 1, The excavation: discussion) and this cube may well derive from that source, possibly fashioned as an expedient or an experimental venture. An alternative possibility for the blank cube is that it was a tessera.

45 Die Stone

Dimensions 9.3mm by 8.6mm by 9.1mm

Six-sided chalk cube. Faces plain, without markings. May be a blank for a die, or perhaps a tessera.

A10257?; C2530–3; MC155, Pit 2691; Phase IVb,IVc;

Rig V

Not illustrated

Tile

A fragment of an ornamental tile, probably a floor tile, in a green translucent marble, was recovered from an unstratified context in Area 3/4. The raw material has been quarried in Scotland, for example Iona, Tiree and Skye since the medieval period.

46 Tile Stone

Length 38.0mm; breadth 31.0mm; thickness 12.9mm

Broken tile fragment. Upper surface flat, polished, smooth. Lower surface flat but less highly finished. In green translucent marble; fairly pure recrystallised limestone. May originate in Scotland although England or continental Europe are also possibilities (JLB/MS).

A0638; C2001–3/4; U/S; Rigs V and VI

Not illustrated

Pot lids

A number of stone pot lids are noted in the site records, but were recorded by Brown in 1979 as 'not ... located for examination' or indeed subsequently (A06–0100, C7294–7). These were probably only roughly worked and most likely similar to a collection of stone lids and discs found at the Horse Cross, Perth made from locally obtained sandstones and Dalradian micaceous schists (Smith et al 2007, 167–8; Illus 57–61). Not illustrated.

Querns

At least two, and possibly three quern fragments were noted in the site records, although these were not seen at the time of writing. Two were examined by Brown (A06–0010, C7030–10; and A06–0011, C7052–10, both in Rig VIII). The former was associated with an internal wall of Building 50(b) and the latter found in Well 7048. Both were in local stone, a light brown (weathered dark) micaceous medium-grained sandstone, from the local ORS strata. Not illustrated.