

Ancient Monuments Laboratory  
Report 121/87

AMPHORAE FROM YORK.

D F Williams PhD FSA

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### Summary

Examination and identification of some 2,500 amphorae sherds from several sites in York: Ebor Brewery, Tanner Row/General Accident, Blake Street/City Garage, Bishop-hill Senior, Skelergate, Rougier Street, Bedern, Coppergate, Interval Tower SW5/Museum Chambers, Lendal, Coney Street/W.H Smiths and Clementhorpe. The southern Spanish olive-oil amphora Dressel 20 and the southern French wine amphora Pélíchet 47 dominate the amphorae assemblage from York. Also noted were small amounts of Dressel 2-4, North African cylindricals, southern Spanish fish-produce vessels, Rhodian style, Hollow Foot, Carrot type and possibly Biv. The wide range of different amphora types clearly shows the variety of goods that reached York from widely spaced regions of the Roman Empire.

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## AMPHORAE FROM YORK

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### Introduction

One almost complete amphora and a number of rims, handles and spikes were recovered from several sites in York, together with a large number of featureless bodysherds. The amphorae reported on here come from Ebor Brewery (1974, site 5), Tanner Row/General Accident (1984, site 32), Blake Street/City Garage (1975, site 6), Bishophill Senior (1973, site 15), Skelergate (1973/4, site 14), Rougier Street (1981, site 12), Bedern (1974, site 13 and 1976, site 14), Coppergate (1982, site 22), Interval Tower SW5/Museum Chambers (1974, site 4), Lendal (1972), Coney Street/W.H. Smiths (1974, site 18) and Clementhorpe (1977, site 3).

The amphorae as a whole were classified by fabric and form, and in order to consider the material quantitatively were then weighed and counted. The classification of types is based on Dressel (1899), Pélichet (1946), the Camulodunum series (Hawkes and Hull, 1947), Panella (1973), Arthur (1982), Keay (1984), Laubenheimer (1985), supplemented by descriptive terms suggested by Peacock (1971; 1977a) and in common usage (see Peacock and Williams, 1986). Brief notes on the origins and chronological span of the amphorae are given below. In order to help characterize certain fabrics, thin sections were made from a number of sherds and studied under the petrological microscope.

Total weight of amphorae from all sites	379,169gms
Total number of amphorae sherds from all sites	2,555

TABLE I% Total of each type from all the sites

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	269,224gms	71%	1,210	47.4%
Gallic	65,434gms	17.2%	815	32%
Dressel 2-4	8,887gms	2.3%	40	1.5%
Arthur '82	2,032gms	0.5%	10	0.4%
'black sand' b/s	4,195gms	1.1%	49	1.9%
North African	5,887gms	1.6%	70	2.8%
Southern Spanish	4,569gms	1.2%	45	1.8%
Camulodunum 185A	547gms	0.2%	4	0.2%
Camulodunum 186A	350gms	0.1%	1	-
Camulodunum 186C	111gms	-	2	-
Camulodunum 186sp	930gms	0.3%	3	0.1%
Rhodian style	35gms	-	1	-
Hollow Foot	167gms	-	1	-
Carrot type	275gms	0.1%	11	0.4%
Biv/variation	523gms	0.2%	21	0.8%
Unassigned	16,003gms	4.2%	272	10.7%

Comments

The southern Spanish olive-oil amphora Dressel 20 and the southern French wine amphora Pélisset 47 dominate the amphora assemblage from York, accounting for 88.2% by weight and 79.4% by count of the amphorae from all sites. This domination is also reflected on the individual sites, where the pattern is very much the same. The percentages of Dressel 20 weight and count are in fact remarkably similar to that found from the York Minster excavations, where the figures were 73% and 55% respectively (Williams and Peacock, 1973). A much higher percentage of North African cylindrical amphorae material was recovered from the Minster excavations than is the case with the York sites reported on here, the majority of the former coming from late levels (ibid.). On the other hand the total assemblage from Table I contains more early wine amphorae, e.g. Dressel 2-4 and Arthur '82 than is the case with York Minster. Otherwise the pattern is very similar, with small amounts of southern Spanish fish produce amphorae, Rhodian style, Hollow Foot and Carrot amphorae present at both the Minster and these other sites.

This clearly shows the wide range of amphorae-carried goods that reached York from several different regions of the Roman Empire, while at the same time emphasizes the important position that Spanish olive-oil and French wine held for the British province. It has already been pointed out elsewhere (ibid.), that following the decline of the Spanish olive-oil industry at the end of the third century /beginning of the fourth century A.D., what must have been a resulting gap in the olive-oil market for Britain does not seem to have been satisfied in full by the North African suppliers. Although North African cylindrical amphorae start appearing in Britain as early as the mid second century A.D. (Tyers, 1984), the majority come from late contexts (Peacock, 1977a), presumably when supplies of Dressel 20 dry up. Yet as we can see from York their numbers are relatively small when compared with the vast quantities of Dressel 20 that reached Britain at an earlier date.

Comments on individual forms

Dressel 20

This is the most common amphora form imported into Roman Britain, though it is now clear that it was already present in some numbers during the late Iron Age (Williams and Peacock, 1983). Dressel 20 amphorae were made along the banks of the River Guadalquivir and its tributaries between Seville and Cordoba in the southern Spanish province of Baetica, where they were used for the transportation of olive-oil (Ponsich, 1974; 1979). This type of amphora has a wide date-range, from the Augustan prototype (Oberaden 83) with a fairly upright rim, a short spike and less of a squat bulbous body than the later form, to the well-known globular vessel which, with some typological variation was in use up to at least the late third century A.D. (Zevi, 1967).

Gallic Amphorae

The most common Gallic type at the various sites at York is undoubtedly the flat-bottomed wine amphora form Pélichet 47/Gauloise 4, which is represented by a nearly complete vessel at Coppergate and several rims, handles and bases at other sites, and probably accounts for the vast majority of the bodysherds as well. This form was made predominantly in southern France, more particularly around the mouth of the Rhône in Languedoc, where a growing number of kilns have been discovered in recent years (Laubenheimer, 1985). The type has a long life from about the middle of the first century A.D. to the third, possibly early fourth century A.D. (Panella, 1973; Laubenheimer, 1985). In Britain, Pélichet 47 does not appear to be present in pre-Boudiccan levels (Peacock, 1978). It is possible that other flat-bottomed amphorae in the Gauloise series may be present amongst some of the Gallic bodysherds, though compared with Pélichet 47 their occurrence on British sites appears to have been slight (cf. Peacock and Williams, 1986).

Dressel 2-4

This form of amphora has a simple rounded rim, long characteristic bifid handles formed from two rods and a solid, slightly flared or knobbed spike. Dressel 2-4 amphorae are the direct successors on Italian kiln sites to the Republican form Dressel 1B and occur in a similar range of fabrics (Peacock, 1977<sub>b</sub>), dating from the latter half of the first century B.C. to the mid second century A.D. (Zevi, 1966; Sealey, 1985 with refs). However, in addition to Italy, this type was produced elsewhere in considerable quantity, mostly but not exclusively in the western Mediterranean region. The more important non-Italian producing areas include Catalonia and Baetica in Spain (Tchernia and Zevi, 1972; Pascual, 1977; Beltrán, 1978) and southern and central France (Zevi, 1966; Tchernia and Villa, 1977; pers. com. A. Ferdiere). As far as the writer is aware, this form was not made in Tripolitania, as stated in the York Colonia pottery report (Perrin, 1986, 61). Tituli picti suggest that the main content carried in Dressel 2-4 was wine, although on occasion other commodities such as dates, fish sauce and even olive-oil could be carried in these vessels (Zevi, 1966; Sealey, 1985; Peacock and Williams, 1986).

Arthur '82

Several of the York sites produced a number of thickened upright rims and parts of long oval handles. At least two fabrics appear to be present. One is the familiar 'black sand' fabric probably indicating an origin in the Pompeii - Herculaneum region (see below). The other contains a range of volcanic inclusions suggestive of an Italian origin, possibly from northern Campania (Williams, 1982). The rim and handles from York can be fairly closely paralleled with amphorae recovered from Masseria Dragone and Minturnae illustrated by Paul Arthur from a field survey conducted in the ager Falernus (1982, Fig. 5, nos. 7, 8 and 14). Arthur's no. 8 is a 'waster' and no. 14 comes from a probable kiln site, suggesting local production of this form. While the 'black sand' fabric of this type at York

shows that it was made elsewhere as well. The amphorae from Masseria Dragone and Minturnae unfortunately proved difficult to date (ibid.). The writer has come across this form at another British site, Claydon Pike in Gloucestershire, but the dating context is not yet available.

#### 'Black Sand' Fabric Bodysherds

A number of sherds occur at York in a distinctive 'black sand' fabric, caused by numerous inclusions of dark-coloured grains of augite. This fabric is associated both with featured sherds of Dressel 2-4 and Arthur '82 mentioned above. It is difficult, therefore, to be exactly sure to which of these forms to assign some 49 featureless bodysherds in this fabric. Possibly the majority belong to the more common form Dressel 2-4.

The presence of yellow (melanitic) garnet in this 'black sand' fabric led Courtoise and Velde (1978) to suggest an origin for it in the Latium region of Italy. However, yellow-brown garnet is also a feature of the sands further south, and a Campanian origin, in particular the area around Pompeii and Herculaneum, has been advocated by Peacock (1977c). Further analysis by Velde and Courtoise (1983) using an electron microprobe has distinguished two separate compositional groups of yellow garnet. One source they propose is situated near to Rome and another in the Vesuvius region. The latter view agrees with Peacock's (1977c) suggestion, but as yet there is no archaeological evidence for an origin near Rome for the 'black sand' fabric. A Campanian origin seems more likely, since examples of bricks and tiles in the Pompeii - Herculaneum region are in an identical fabric (ibid.).



North African cylindricals

Present at some of the sites in York are a number of bodysherds and handles from North African cylindrical amphorae. There are also two Africana IIA/Keay V rims and two Africana IIC/Keay VI rims (Panella, 1973; Keay, 1984). These two North African forms were both made in the Sahel region of central Tunisia, Roman Byzacena. The Africana IIA/Keay V type is present at Ostia from the end of the second century A.D. and production probably went on into the fourth, possibly fifth century. The Africana IIC/Keay VI form does not appear to have been imported into Ostia until around the mid third century A.D. and probably continues production until at least the second half of the fourth century. These vessels are generally thought to have carried olive-oil, though fish-products may also have been transported to a lesser extent (Beltrán, 1978; Keay, 1984).

In Britain, North African cylindrical amphorae are attested to as early as the mid second century A.D. (Tyers, 1984), though it seems likely that the main export thrust came during the third and fourth centuries A.D., and may have continued to a lesser extent into the fifth century (Peacock, 1977a).

### Southern Spanish

This material probably derives from the coastal regions of southern Spain, between Cadiz and Malaga, and seems to have been mainly used to carry fish-based products from the late first century B.C. to the second century A.D. (Peacock, 1971; 1974).

### Camulodunum 185A

This form has its origin in Baetica, Spain (Tchernia, 1980), the similarity in fabric with the more common Dressel 20 suggesting a source in the region of the River Guadalquivir (Peacock, 1971). Amphorae of Camulodunum 185A type (Halterm 70) recovered from the Port Vendres II shipwreck carry inscriptions describing the contents as defrutum, a sweet liquid obtained by boiling down the must (Colls et al, 1977; Parker and Price, 1981). For a more recent discussion of the contents of this amphora form and the interpretation of defrutum as belonging to the vins cuits, see van der Werff (1984). The date range for Camulodunum 185A is from about the mid first century B.C. to about the mid first century A.D. (Colls et al, 1977; Tchernia, 1980).

### Camulodunum 186

This form was made along the southern Spanish coast, particularly in the Cadiz region, and was used to carry fish-based products, especially fish sauces such as liquamen and muria (Beltrán, 1970; 1978; Peacock, 1971; 1974). The type is characterized by a long hollow spike, 'radish-shaped' body and long flattened recurved handles. Two sub-divisions occur at York, Camulodunum 186A which has a bell mouth with a thickened short rim which has a concave outer face, and Camulodunum 186C with a broad neck and hooked rim. The date-range for the former type is from the late first century B.C. to the early second century A.D. (Panella, 1973), while the latter form is probably Flavian, or shortly before, to the early second century A.D. (Beltrán, 1970; Peacock, 1974). Some sherds from York were difficult to allocate to either one or the other of the forms.

### Rhodian Style

One bodysherd from Blake Street/City Garage is from a Rhodian amphora. This form developed from late Hellenistic prototypes by the late first century B.C., and probably lasted until the early second century A.D. (Panella, 1973; Peacock, 1977a). It has been suggested by Peacock (1977a), that the predominance of this form on pre-Flavian military sites in Britain may be associated with the possible tribute of Rhodian wine exacted during the period A.D. 43-53, when Claudius rescinded the liberty of the Rhodians. The sherd from York is in Peacock's Fabric 1, with a probable origin on Rhodes itself.

### Hollow Foot

A single bodysherd from a 'hollow foot' amphora came from Tanner Row/General Accident. This form of amphora has a high conical neck with tapering body and a tubular, hollowed base with shallow horizontal grooves on the exterior, thick broad handles steeply arched above the level of a narrow rim. The source of this form is uncertain, though on quantified distributional grounds an Aegean origin appears a distinct possibility (Riley, 1979). The form is current during the third and fourth centuries A.D., although it may begin earlier at the end of the second century A.D. (Panella, 1973). It has occurred sparsely on a number of British sites in late third to early fourth century contexts (Peacock, 1977d).

### Carrot Type

A number of rilled bodysherds were found at various sites in York of the carrot type of amphora, which normally has a plain or rounded rim, small thick loop-handles and a small tapered body. The source of this form is uncertain, although scanning electron microscopy of the quartz grains in the fabric suggests an origin in a desert environment (Shackley, 1975). A Mediterranean source seems

likely, but the relative dearth of finds from this area is curious. This unusual amphora form may possibly date from the very end of the first century B.C. and continue until the latter part of the first century A.D. (Peacock and Williams, 1986). This form is often associated with early military sites in Britain and Germany (Reusch, 1970).

#### Biv/Variations

There are a number of small, highly micaceous, ribbed bodysherds from Tanner Row/General Accident and Blake Street/City Garage. One of these (2148 from Tanner Row/General Accident) is in a deep reddish-brown fabric and may well be from a Biv amphora (Thomas, 1959). A similar sherd has been identified from the Colonia at York (Perrin, 1986). The remainder of the material from Tanner Row/General Accident and Blake Street/City Garage come from vessels which may be related to this form.

The Biv amphora has a slender neck, high rounded shoulder and a tapering foot. A broad shallow ribbing covers most of the vessel, which is comparatively thin-walled. This type has a long tradition in the Mediterranean region. Unfortunately, it is not possible to tell from the small bodysherd from Tanner Row/General Accident (2148) whether it belongs to the earlier Biv form which has just one strap-handle and first appears in the late first century A.D., or the two-handled version which is first found in late fourth century A.D. contexts (see Peacock and Williams, 1986 for references). In Britain, two nearly complete examples of the one-handled form, from Bath and Ospringe, predate the late fourth century A.D. (Peacock, 1977d). This form is now generally thought to have come from Asia Minor (Peacock and Williams, 1986). It is interesting to note that another late eastern Mediterranean type the Bi amphora is also reported to come from the York Colonia (Perrin, 1986, 61). It is rather unusual to come across this vessel in the eastern part of Britain, if it has been correctly identified.

The amphorae from the individual sites

TABLE 2

Ebor Brewery

% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	37,759gms	70.7%	252	50.4%
Gallic	4,310gms	8.1%	99	19.8%
Dressel 2-4	2,588gms	4.8%	15	3%
Arthur '82	500gms	0.9%	3	0.6%
'black sand' b/s	1,525gms	2.9%	24	4.8%
North African	1,794gms	3.4%	19	4%
Southern Spanish	1,435gms	2.7%	20	4%
Camulodunum 186sp	230gms	0.4%	1	0.2%
Unassigned	3,233gms	6.1%	66	13.2%

Total weight of amphorae 53,374gms

Total number of amphorae sherds 499

Ebor Brewery (1974, site 5)

Dressel 20

762, 796(3), 708(4), 775, 761(3), 714(2), 747, 749(6), 723, 798(2), 831, 800, 888(2), 868(5), 896, 884, 826, 878, 844(5), 802(7), 827(2), 838, 883, 862, 872(2), 891(3), 799, 749, 752, 725(2), 748, 746(4), 748(2), 716(5), 710, 776, 744, 873(8), 819(2), 940, 966, 950(2), 944(4), 958(3), 965(6), 946(2), 955, 940(15), 965(17), 959(2), 968, 960, 949(2), 906(5), 971, 635(9), 698, 597, 647, 650(2), 489, 521, 682, 538, 581, 636(6), 430, 494(2), 681(2), 699(3), 574(2), 933(6), 910(6), 921, 918, 937(3), 900(5), 909(4), 924, 936(2), 907(2), 903(7), 920(9), 925, 920(2), 933, 901, 903(10), 947, 888.

All the above are bodysherds except for a basal wart (682), five stamped handles, one unstamped handle (944) and four rims.

The stamps are as follows:

749 is stamped II IVNI MELISSI || ET MELISSE. This stamp appears in Callender (1965, 879b) as the two Iuni Melissi, possibly husband and wife or brother and sister, who seemed to have operated around the city of Italica in Baetica in the first half of the second century A.D.

819 is stamped LCM. This stamp appears in Callender (1965, 827) where a tentative date of A.D. 140-190 is suggested

933 is incompletely stamped ...IRG. This may represent the stamp ACIRG, which appears in Callender (1965, 18) where he suggests a date of A.D. 90-140.

901 is incompletely stamped ..EX.F.. and cannot be exactly paralleled in Callender (1965).

903 is stamped LI·IVN and cannot be exactly paralleled in Callender (1965).

The four rim sherds can be paralleled by Martin-Kilcher (1983) in her scheme for the development of the Dressel 20 rim at Augst as follows:

716 is similar to no. 13, dated second half of the first century A.D. early second century.

838 is similar to no. 20, dated c. A.D. 75-125.

762 is similar to no. 30, " " " .

636 is similar to no. 29, dated mid second century A.D.

#### Gallic

728, 762, 796(4), 791(3), 775, 733, 787, 798(2), 737, 882, 880, 898, 876(2), 868(6), 801, 838, 836(2), 862(4), 822, 863, 748(4), 716(3), 709, 873(4), 873(4), 950, 958, 946, 940(2), 959, 968(2), 960(4), 949, 952, 906(2), 971(4), 635, 412, 553, 501, 901(6), 936(2), 920(8), 925, 920(4), 947, 733.

Amongst this group are two Pélichet 47 rims (920, 925) and one handle (949). The remainder are bodysherds, the majority of which are probably Pélichet 47.

#### Dressel 2-4

761, 750, 723, 799, 946, 906, 698, 650, 901, 937, 947, 971, 925, 943(2).

Present here are one rim (937), one handle (761) and one spike (943) in the 'black sand' fabric. Two handles (650, 925), one spike (971) and one bodysherd (901) which are almost certainly Italian. In addition, there are three handles (946, 947, 943).

#### Arthur '82

Three 'black sand' fabric handles (737, 906(2)).

'Black Sand' Bodysherds

703, 724, 727, 878(2), 872(2), 949, 906(5), 412, 699(2), 935, 903(7).

North African

798, 799(3), 873(3), 810(2), 971, 479(2), 697(3), 533(2), 888(2).

There are four handles here (873, 810(2), 697) and a rim from an Africana IIC/  
Keay VI amphora (888 - Panella, 1973; Keay, 1984).

Southern Spanish

723, 800, 863, 875, 799, 752, 716(2), 946, 906, 635, 498, 682, 901, 920(4),  
903(2).

All of this material consists of bodysherds.

Camulodunum 186sp

One flattened handle (710) typical of the Camulodunum 186 form.

Unassigned

747(2), 775, 798(10), 737, 826, 824(2), 801(2), 878, 799(2), 716, 873(3),  
828, 873, 895(3), 820, 944, 940(2), 525, 635, 698, 636 (2), 501, 901(3),  
937, 903(10), 920, 903(4), 868, 695(2), 703, 746(2).

All this material consists of bodysherds except for parts of five handles  
(868, 873, 525, 698, 901) and a rim (820).



TABLE 3

Tanner Row/General Accident% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	103,938gms	72.9%	379	53.2%
Gallic	24,049gms	16.9%	203	28.6%
Dressel 2-4	4,829gms	3.4%	19	2.7%
Arthur '82	1,126gms	0.7%	3	0.3%
'black sand' b/s	510gms	0.3%	6	0.8%
North African	2,542gms	1.8%	33	4.6%
Southern Spanish	564gms	0.4%	4	0.5%
Camulodunum 185A	190gms	0.2%	1	0.1%
Camulodunum 186C	55gms	-	1	0.1%
Camulodunum 186sp	500gms	0.3%	1	0.1%
Hollow Foot	167gms	0.1%	1	0.1%
Biv/variation	199gms	0.2%	6	0.8%
Unassigned	3,907gms	2.8%	57	8.1%

Total weight of amphorae 142,576gms

Total number of amphorae sherds 714

Tanner Row/General Accident (1984, site 32)

Dressel 20

2398(35), 2235, 2405(45), 2318, 1418, 1241, 1372(2), 1431, 1396(4), 1358, 1252(2), 1395(3), 1398(12), 1309, 1383, 1406(8), 2239, 2409(2), 2318(8), 2261(4), 2196(3), 2352, 2326, 2489, 2454, 2389, 2105, 2381, 2361, 2487, 2317(2), 2275, 2148(4), 1166(2), 1189, 1200(4), 1151(2), 1165(5), 1071, 1297, 1274, 1141, 1158(2), 1146(2), 1160(2), 1254(3), 1104, 1308(2), 1167, 1303(3), 1391(7), 1149(2), 4198, 4202, 4261(2), 4167, 4219, 4243, 4164(4), 4136(2), 4261, 4201(2), 4150, 4242(2), 4220, 4102, 4143, 4151, 4145(3), 4166(3), 4161, 4147, 2076(2), 2077(2), 2079, 2077(5), 2168(7), 2075(5), 2351(3), 2156, 3077, 3047, 3110, 2095(3), 2103(3), 2071(21), 3127, 3091, 3029, 3042, 3006, 3017, 3018(3), 3047, 3107(2), 3098, 3282, 3045(2), 3102, 3132, 3038, 3362, 3303(2), 3349(4), 3363, 3319, 3348, 3373(5), 3360(5), 3203(2), 3356(3), 3153, 3361, 3087(2), 3241, 3360, 3361(2), 3156, 3158, 3344, 2420(2), 1399, 3139, 2405(26), 2235(10).

All the above consist of bodysherds except for two basal warts (1071, 1358), one stamped and two unstamped handles (1418, 3360), and nine rims. The stamped handle is as follows:

2235 is an incomplete stamp .XOFE. not quoted in Callender (1965).

The nine rim sherds can be paralleled by Martin-Kilcher (1983) at Augst as follows:

1303 is similar to no. 20, dated late first century A.D. to early second century.

1309 is similar to no. 27, dated mid second century A.D.

3158 is similar to no. ?28, dated mid second century A.D.

3156, 2275 and 2261 are similar to no. 29, dated mid second century A.D.

1166 and 4151 are similar to nos. 35/36, dated second half of second century A.D. to early third century.

3132 is similar to nos. 37/39, dated second half of second century A.D. to first half of third century.

Gallic

2398(18), 1151(2), 1396(2), 1376, 1252(2), 1305(2), 1365, 1309, 1383, 1406(11),  
2418, 2409(3), 2318(2), 2261(2), 2196(5), 2368, 2361(9), 2487(6), 2317(4),  
2275, 2148(6), 1327(2), 1166, 1301, 1173(4), 1189, 1260, 1123(2), 1200, 1165,  
1141(3), 1139, 1176(2), 1072, 1158, 1146, 1308, 1187, 1167, 1391(2), 4167(2),  
4219, 4138(5), 4164(5), 4139(6), 4201(5); 4130(2), 4143(2), 4151, 4147, 4145(2),  
4166, 4147(2), 2076(3), 2077(6), 2168(2), 2156, 2320, 2266, 2198, 2071(5), 2088(2),  
3072, 3101, 3021(2), 3018, 3107(2), 3098(2), 3034, 3040, 3045(2), 3102(2), 3083,  
3038(5), 3046, 3239, 3345, 3203, 3343, 3135, 3360(6), 3361, 3309, 2420(2).

All the above are bodysherds except for four Pélichet 47 bases, two of them complete(3045, 2320, 3038, 1305), eleven rims, three of them complete, and the top half of a vessel (1301, 3203, 4151, 1402(2), 2196, 1391, 4167, 4139(2), 4201). Also present is a ?Gallic handle (2317). The majority of the bodysherds belong undoubtedly to the Pélichet 47 form, one of which has a rivet hole in (2148).

Dressel 2-4

2317, 2457(2), 2148, 1190, 4216, 4147(2), 2077(2), 3161, 3356, 3362, 3356, 3119,  
1399(2), 4145(2).

All the above are bodysherds except for four handles (2077, 3161, 1190, 1399), one rim (3119) and two spikes(3362, 3356). It is possible that the following may be Italian: 2077, 3161, 3356, 3119, 1399, including the bodysherds 4216, 4145(2) and 2457.

Arthur '82

Two thickened upright rims (2148, 3139), the latter in the 'black sand' fabric, and one long oval handle (3099), also in 'black sand'.

'Black Sand' Bodysherds

4140, 4138, 3117, 3057, 3135, 3139.

North African

2049, 2404, 2148(2), 1106, 1173, 1104, 2077(3), 2079, 2077, 2075(2), 2095(2),  
2071(3), 3070, 3101, 3054, 3066, 3078(2), 2318, 2420, 2088(5), 3099.

All the above are bodysherds except for two Africana IIA/Keay V rims(2088,3420 -  
Panella, 1973; Keay, 1984) and one Africana IIC/Keay VI rim (2318 - ibid.).

Southern Spanish

4143, 2318, 3134, 3344.

Three of the above are bodysherds except for a hollow base (3344).

Camulodunum 185A

One handle (3360).

Camulodunum 186C

One hooked rim characteristic of this form (1398).

Camulodunum 186sp

One bodysherd (2065).

Hollow Foot

One bodysherd (4140).

Biv/Variation

2148(2), 1201(3), 4147.

All of this material is in the form of small bodysherds. One of these (2148) may well come from a Biv vessel - it is not possible to say exactly which type - the remainder are perhaps related to this class of amphora.

Unassigned

1189(2), 2049(2), 2318, 1310, 2265(2), 2105, 2361, 2386, 2416, 2457, 2148(10), 1141, 1201, 4252, 4201, 4254, 4137(2), 4166(7), 4200, 4148, 4161(3), 2076, 3013, 3098, 4147, 3059, 3078(3), 3214, 3343, 1397, 2398, 3040(2).

All the above are bodysherds except for a flat base (1310) and a handle (4161).

TABLE 4Blake Street/City Garage% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	65,367gms	75.9%	299	43.2%
Gallic	11,054gms	12.9%	250	35.9%
Dressel 2-4	1,171gms	1.3%	7	1.0%
Arthur '82	82gms	0.1%	1	-
'black sand' b/s	1,255gms	1.5%	10	1.6%
North African	593gms	0.7%	9	1.5%
Southern Spanish	1,577gms	1.9%	11	1.6%
Camulodunum 185A	122gms	.1%	1	-
Camulodunum 186A	350gms	0.4%	1	-
Camulodunum 186C	56gms	-	1	-
Rhodian style	35gms	-	1	-
Carrot type	155gms	0.2%	4	0.6%
Biv/variation	324gms	0.4%	15	2.2%
Unassigned	3,973gms	4.6%	86	12.4%
Total weight of amphorae		86,114gms		
Total number of amphorae sherds		696		

Blake Street/City Garage (1975, site 6)

Dressel 20

7314(6), 7483, 7770, 7689, 7274, 7453, 7349, 7249, 7272, 7524, 7616(2), 7576, 7771, 7588, 7437, 7676(4), 7428, 7360, 7200, 7429, 7759, 7387(4), 8119, 8179, 6256, 8286, 8306, 8274, 8101, 8104(2), 7967, 8118(2), 8115, 6254(2), 8229(5), 6122, 6062, 6392(2), 6763(5), 6599, 6743(6), 6723, 6558, 6999(3), 6792, 6790(7), 6751, 6935, 6789, 6757, 7043, 6589(3), 7028(3), 6761, 6758, 6855, 7118, 7141, 7134(2), 6762, 6841, 6800, 6847, 6996, 5086(5), 5068(5), 5082(5), 5083(6), 5059(2), 5107, 5064(7), 7999, 7879, 7876(4), 7970, 7907, 7997, 7829(3), 7920(8), 8022, 7924, 7894, 7855, 8086, 8076, 1396, 4460, 4450, 4626, 4573, 3693(2), 4927(5), 4682, 3567, 3677, 5045, 4224, 3667, 4865, 3562(2), 4625, 4977, 3259, 5040, 4423, 4415, 3595, 3515, 4802, 4627, 3520, 5057, 5030(3), 5031(5), 3411, 3321, 3328, 3302, 3467(2), 3392, 3334(3), 3443(2), 3259, 3296(2), 3303, 3277, 3236, 3271(5), 3194, 3224, 3283(3), 3268(5), 3278(3), 3223(7), 3279(6), 3300(2), 1326, 1213, 1312, 1371, 1319, 1294, 2129, 1318(2), 1221, 1257, 1263, 1200, 1264, 1210, 1282, 1299, 1298(9), 3267(4), 1297, 1281(2), 1277(4), 1325, 1291, 3275(2), 6949.

Amongst this group are five handles (3223, 6996, 7770, 7483, 3303), the latter one with a graffito cut into it "VII", and six rims. The rim sherds can be paralleled by Martin-Kilcher (1983) at Augst as follows:

3520 is similar to no. 12, dated around the mid first century A.D.

4627 is similar to no. 27, dated around the mid second century A.D.

3275 is similar to no. ?30, dated latter part of the first century A.D. to the mid second century.

1325 is similar to no. 36, dated second half of second century A.D. into the third century.

1291 is similar to no. ?41, dated third century A.D.

Also present is the top half of a Dressel 20 amphora containing the rim and two handles, one of which is stamped. The rim form is similar to no. 36, dated second half of the second century A.D. into the third century. The stamp is SALS, , which occurs in Callender (1965, no. 1563), where it is suggested it could be a figlina in the area of Arva, possibly operating during the period c. A.D. 110-170.

### Gallic

7770, 7360, 7203(5), 7200(2), 7758(3), 7414(2), 7752, 7760(5), 7757(4), 7278, 7577, 7575(4), 7363, 7759(2), 7256(5), 7641, 7213, 7251(2), 7761(2), 7201(4), 8119, 8215, 8188, 8214, 8279, 8297(2), 8104, 8318(4), 8180(2), 4927, 6999, 6550, 7043, 6809(3), 7028(2), 7120(4), 7029, 6997(7), 6876, 7003, 6388(4), 6716(4), 6980(4), 6998(2), 6996(9), 5068, 5107(2), 5059, 5063(4), 5064, 8022, 8071(2), 7802, 7814(2), 8095, 7798(2), 1396, 4927(2), 4909, 4495, 3577, 3595, 3874(2), 3515(4), 4756, 3649, 3538(2), 5057(8), 5030(11), 5049(2), 3279, 3227, 3313(2), 3236, 3271(5), 3194, 3240, 3283(12), 3268(14), 3278, 3223(5), 3269, 1213(2), 1257, 1263, 1236, 3204, 1212(2), 1283(2), 1303(4), 1297(2), 1242, 3228, 2157, 1287(5), 1281(2), 1277(6), 1291(4), 3275(5).

Apart from the bodysherds, one of which has been shaped like a counter (4927), and which the majority appear to be Pélichet 47, there are three Pélichet 47 rims (1396, 3874, 1303) and one ?Gallic handle (7770).

### Dressel 2-4

One 'black sand' handle (1302), one ? Italian handle (6797), one single rod (3333), one spike (7179) and threebodysherds (3278, 8186, 5040).



Arthur '82

One thickened upright rim (6038).

'Black Sand' bodysherds

7768, 5040, 4756, 5057, 3300, 3313, 3278(2), 5031(2) .

North African

Nine bodysherds(4678, 4526, 3194, 3283, 3223, 1303(3), 1236)•

Southern Spanish

Eleven bodysherds (7203, 7200, 7512, 6996, 7817, 3268, 3300, 1221(2), 1287(2)).

Camulodunum 185A

One handle (5068).

Camulodunum 186A

One thickened short rim (8297).

Camulodunum 186 C

One hooked rim (3519).

Rhodian Style

One bodysherd of Peacock's Fabric 1 (1977a).

Carrot Type

Four bodysherds (8227, 3520, 4364, 1307).

Biv/Variation

Fifteen very micaceous bodysherds which may be related to the Biv amphora form (3269(6), 3199, 3198, 3223(7)).

Unassigned

7616, 7200, 7231, 7263(2), 8306, 8111(18), 8186(8), 8118, 8180, 8104, 8115(14),  
6599, 6855, 7029, 6998, 5086, 5068(2), 5060, 5082, 8071, 8076, 7912, 4405,  
3595, 4789, 5057(4), 5031(2), 5049, 4978, 3321(2), 3392, 3283(2), 3267(2),  
8115(2), 7440(2), 3514, 4977, 4394.

All the above material consists of bodysherds except for two rims (8115), one base (4978), and three handles (8104, 7440(2)).

TABLE 5

Bishophill Senior

% Total of each type

	<u>% By Weight</u>		<u>%By Count</u>	
Dressel 20	5,905gms	47.5%	42	29.6%
Gallic	5,070gms	40.8%	82	57.7%
Dressel 2-4	254gms	2.1%	2	1.4%
North African	290gms	2.3%	2	1.4%
Southern Spanish	45gms	0.4%	1	0.7%
Unassigned	861gms	6.9%	13	9.2%
Total weight of amphorae		12,425gms		
Total number of amphorae sherds		142		

Bishophill Senior (1973, site 15)

Dressel 20

10199(3), 10181(2), 10185, 10188, 10980, 10980(2), 10967(5), 10815, 10988,  
11002(10), 11000(2), 10189(2), 10967(6), 10199(2), 10168, 10849(2).

All the above material is in the form of bodysherds.

Gallic

10171, 10181(6), 10173, 10902, 10949(6), 10440(8), 10980(5), 10945, 10967(9),  
11001, 10960(3), 10927(11), 11002(2), 11000, 10962(2), 10189(2), 10967(4),  
10199(2), 10850(4), 10168(5), 10982(4), 10849(3).

Three Pélichet 47 part rims (10980, 10945, 10982) and two handles (10980, 10967),  
the rest are bodysherds with the majority probably belonging to this form.

Dressel 2-4

One single 'black sand' rod from a handle (10982) and a bodysherd (10849).

North African

Two bodysherds (10168, 10849).

Southern Spanish

One bodysherd (10982).

Unassigned

10199(2), 10171, 11002(4), 10961, 10982, 10849(4).

All bodysherds.

TABLE 6

Skeldergate

% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	7,977gms	74.8%	33	49.3%
Gallic	1,448gms	13.6%	22	32.8%
'Black Sand' b/s	250gms	2.3%	2	3.0%
Camulodunum 185A	50gms	0.5%	1	1.5%
Unassigned	935gms	8.8%	9	13.4%
Total weight of amphorae		10,660gms		
Total number of amphorae sherds		67		

Skeldergate (1973/4, site 14)

Dressel 20

2062, 2065, 2398, 2049, 2401, 2413, 2397(3), 2096(2), 2415(6), 2404, 2429(2),  
2351(2), 2349(8), 2350(2), 2343,

All bodysherds except for three rims. Two of these (2351, 2349) can be paralleled with a mid second century example illustrated by Martin-Kilcher (1983, no. 29) in her scheme for the development of the Dressel 20 rim at Augst, and the third is close to her no. 36 example, dated second half of the second century A.D. and early third century.

Gallic

2397(11), 2096(2), 2415(2), 2351(6), 2349,

One Pélichet 47 rim (2096) and base (2415), the rest are bodysherds probably belonging to this form.

'Black Sand' Bodysherds

2096, 2343.

Camulodunum 185A

One bodysherd (2049) which may belong to this form, though it is possible that it may instead be a thin-walled Dressel 20, as there are close similarities in the fabric of both forms.

Unassigned

2397, 2068, 2429(6), 2343.

All bodysherds except a small part of a handle (2429).

TABLE 7

Rougier Street

% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	29,028gms	71.2%	137	47.2%
Gallic	9,134gms	22.5%	114	39.1%
North African	312gms	0.8%	2	0.7%
Southern Spanish	30gms	0.1%	1	0.3%
Carrot type	120gms	0.3%	7	2.4%
Unassigned	2,101gms	5.1%	30	10.3%

Total weight of amphorae 40,725gms

Total number of amphorae sherds 291

Rougier Street (1981, site 12)

Dressel 20

1379, 1239, 1334(2), 1304, 1307, 1382, 1264(2), 1385(6), 1232(3), 1329(3),  
1244, 1194, 1230(3), 1243(7), 1156, 1288, 1269(3), 1157, 1149, 1222(8),  
1106(2), 1241(2), 1128, 1174(9), 1186(4), 1194(12), 922, 1190(2), 1198,  
1220(3), 1205(32), 1163, 1183, 1212(3), 1170, 1195(4), 1196(2), 1160, 1180(2),  
1199, 1206(4).

All the above are bodysherds except for a basal wart (1288), six handles and six rims. Of the six handles (1244, 1194, 1222, 1174, 1186, 1198), two of them are stamped:

1244 is stamped AA . . . It is difficult to be certain with this incomplete stamp but it may be MCC (M.C(aecilii) C(ubicularii) ?) noted by Callender (1965, no. 1041), which he tentatively suggests may be second century A.D.

1194 is a stamped handle with attached rim. The stamp CCC ?0 is not in Callender. The rim of this sherd, and of the five others, can be paralleled by Martin-Kilcher (1983) at Augst as follows:

1244 is similar to nos. 36 or 39, dated mid second century A.D. to Mid third century.

1379 is similar to no. 30, dated mid first century A.D. to mid second century.

1230 is similar to nos. 34/35, dated mid second century A.D. to early third century.

1205 is similar to no. 15, dated c. A.D. 50-75.

1205 is similar to no. 18, dated c. A.D. 60-110.

1212 is similar to no. 32, dated first half of the second century A.D.

Gallic

1334(9), 1291, 1397, 1381,(2), 1232(3), 1329(6), 1314(9), 1386, 1156, 1230,  
1263(5), 1250, 1269(3), 1104(2), 1143, 1233, 1222(6), 1239(3), 1106(5),  
1241(5), 1128(6), 1174, 1186(3), 1190, 1220(10), 1205(10), 1212(4), 1162,



1197, 1185(2), 1180(2), 1209(2), 1206(2), 1116, 1113(2).

Two Pélichet 47 rims (1222, 1128), one foot (1232) and five handles (1314, 1222(3), 1220). One likely Gallic handle (1174). The remainder are bodysherds, the majority of which are probably Pélichet 47.

North African

One handle (1116) and one bodysherd (1113).

Southern Spanish

One bodysherd (1195).

Carrot type

Seven bodysherds (1234, 1164(6)).

Unassigned

1397, 1264, 1329, 1159, 1263, 1128(3), 1174(3), 1133(12), 922(2), 1162, 1196(2), 1180(2).

All bodysherds.

TABLE 8

Bedern

% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	13,035gms	86.6%	38	60.3%
Gallic	842gms	5.6%	16	25.5%
Dressel 2-4	325gms	2.2%	1	1.6%
Southern Spanish	418gms	2.8%	4	6.3%
Unassigned	406gms	2.8%	4	6.3%

Total weight of amphorae 15,026gms

Total number of amphorae sherds 63

Bedern (1974, site 13 and 1976, site 14)

Dressel 20

1687, 1700, 3105, 1703(2), 1125(2), 1672, 1172, 3026, 3007(2), 1706, 1663, 1216(2), 1662(6), 3011, 3021, 3014, 3006, 1675(4), 1708(6), 1131(2).

All the above material consists of bodysherds except for part of a handle (1706), and a rim (3006) which can be paralleled with a mid second century A.D. example illustrated by Martin-Kilcher (1983, no. 29) in her scheme for the development of the Dressel 20 rim at Augst.

Gallic

1228, 1683, 1706(3), 3045, 1174, 3011(3), 3014(2), 1675(3), 1131.

All the above material consists of bodysherds except for a complete foot (1228) and probably belongs to the Pélichet 47 form.

Dressel 2-4

One spike in the 'black sand' fabric (1176).

Southern Spanish

Four bodysherds (1187, 3011, 1675, 1714).

Unassigned

1701, 1675(small handle), 1714, 1131(rim).

Coppergate (1982 site 22)

An almost complete Pélichet 47 amphora.

8,300gms.

TABLE 9

Interval Tower SW5/Museum Chambers% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	1,128gms	48%	6	25%
Gallic	395gms	16.8%	10	41.6%
Dressel 2-4	135gms	5.8%	1	4.2%
North African	220gms	9.4%	3	12.5%
Southern Spanish	245gms	10.4%	2	8.3%
Camulodunum 185A	185gms	7.9%	1	4.2%
Unassigned	40gms	1.7%	1	4.2%
Total weight of amphorae			2,348gms	
Total number of amphorae sherds			24	

Interval Tower SW5/Museum Chambers (1974, site 4)

Dressel 20

215, 400, 410, 416, 564, 621.

Four bodysherds, a basal wart (416) and a rim (564) which can be paralleled with a mid second century A.D. example illustrated by Martin-Kilcher in her scheme for the development of the Dressel 20 rim at Augst (1983, no. 29).

Gallic

34, 46, 67(2), 124, 157, 206(2), 400, 566.

All bodysherds, probably belonging to the Pélichet 47 form.

Dressel 2-4

One bodysherd (405), probably Italian.

North African

Three bodysherds (419(2), 421).

Southern Spanish

Two bodysherds (53, 404).

Camulodunum 185A

One spike (105).

Unassigned

190.

TABLE 10

Lendal

% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	1,325gms	64.5%	7	31.8%
Gallic	410gms	20%	10	45.5%
Arthur '82	128gms	6.2%	1	4.5%
North African	136gms	6.6%	2	9.1%
Unassigned	55gms	2.7%	2	9.1%

Total weight of amphorae 2,054gms

Total number of amphorae sherds 22

Lendal (1972)

Dressel 20

Six bodysherds (131), and a rim (121) which can be paralleled with a second half of second century A.D. early third century example illustrated by Martin-Kilcher (1983, no. 36) in her scheme for the development of the Dressel 20 rim at Augst.

Gallic

126/129 (4), 131(6).

All bodysherds, probably belonging to the Pélichet 47 form.

Arthur '82

One thickened upright rim in the 'black sand' fabric (131).

North African

Two bodysherds (101, 126/129).

Unassigned

Two bodysherds (126/129, 131).



TABLE 11

Coney Street/W.H. Smiths

% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	2,277gms	67.4%	12	46.2%
Gallic	327gms	9.7%	6	23.1%
Arthur '82	34gms	1%	1	3.8%
'black sand' b/s	240gms	7.1%	2	7.7%
Southern Spanish	255gms	7.4%	2	7.7%
Unassigned	250gms	7.4%	3	11.5%

Total weight of amphorae 3,383gms

Total number of amphorae sherds 26

Coney Street/W.H. Smiths (1974, site 18)

Dressel 20

1005, 1007, 1041, 1042, 2054(2), 2076(3), 2087, 2104, 3127.

All bodysherds except for two rims. Both (2104, 1005) can be paralleled with mid second century examples illustrated by Martin-Kilcher (1983, nos. 27 and 29 respectively) in her scheme for the development of the Dressel 20 rim at Augst.

Gallic

1012, 2063(2), 2066, 2073, 2091.

All bodysherds, probably belonging to the Pélichet 47 form.

Arthur '82

One thickened upright rim in the 'black sand' fabric (2054).

'Black Sand' Bodysherds

2083(2).

Southern Spanish

Two bodysherds (2066, 2073).

Unassigned

Three bodysherds (2076(2), 2083).

TABLE 12

Clementhorpe

% Total of each type

	<u>% By Weight</u>		<u>% By Count</u>	
Dressel 20	1,485gms	68%	5	50%
Gallic	95gms	4.3%	2	20%
Arthur '82	162gms	7.4%	1	10%
Camulodunum 186sp	200gms	9.2%	1	10%
Unassigned	242gms	11.1%	1	10%

Total weight of amphorae 2,184gms

Total number of amphorae sherds 10

Clementhorpe (1977, site 3)

Dressel 20

23, 123, 158, 166(2).

Three bodysherds, one handle (166) and a rim (23) which can be paralleled with a mid second century A.D. example illustrated by Martin-Kilcher (1983, no. 29) in her scheme for the development of the Dressel 20 rim at Augst.

Gallic

Two Pélichet 47 bodysherds (166, 182).

Arthur '82

One slightly oval-shaped handle in the 'black sand' fabric (167).

Camulodunum 186sp

One flattened handle (158) typical of the Camulodunum 186 form.

Unassigned

One handle (152).

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