EXCAVATIONS IN CHURCH STREET, SEAFORD, 1976

by *D. J. Freke*

INTRODUCTION

In 1976 the Sussex Archaeological Field Unit carried out a survey of Sussex medieval towns[1] as part of a five year programme of research into the origins of Sussex urbanisation. Seaford was singled out as one of eight towns suitable for archaeological investigation.[2] It is one of a number of coastal towns which rose to positions of some importance after the Norman Conquest, presumably as a result of the increased trade with the continent which followed. Although no town is typical, and results of research in one cannot necessarily be applied to others, still Seaford offers several advantages as a subject of research into towns stimulated by the new trade links. Chief among these advantages are: 1) no settlement existed on the site of medieval Seaford before the Conquest; 2) Seaford became a moderately important port, achieving the status of a Cinque Port as a limb of Hastings as early as 1229; 3) it declined rapidly in the 15th and 16th centuries, to the extent that only two medieval structures remain. This decline and Seaford's slow revival at the end of the 19th century means that there has not been a great deal of disturbance of the archaeological levels.

The two medieval structures, the parish church and a 13th century cellar, and the Tudor town hall are all within 150m. of one another to the west of the present town centre. A large site scheduled for redevelopment south-west of the church gave an opportunity to investigate the area between the two medieval survivals (Fig. 2). An excavation was carried out in July and August 1976 by the Sussex Archaeological Field Unit. Permission to excavate was kindly granted by the Post Office Corporation.

THE EXCAVATIONS

Trench A (Fig. 3)

It soon became clear that because of road widening in 1947 the trench was in the back gardens of cottages visible in pre-war photographs of Church Street.[3] After the removal of the existing car park surface by machine numerous post-medieval layers and features were recorded in the top 30 to 50cm. The majority of them related to occupation in the area in the last 250 years. There was little evidence of occupation on the site in the 16th and 17th centuries. The post-medieval evidence was recorded but it is not presented in detail here.

There was intense late medieval occupation in the area of the trench: thirty-two pits, a well and the corner of a timber framed building were excavated. The pits and the well produced

[1] F. Aldsworth and D. Freke, *Historic towns in Sussex, an archaeological survey*, Institute of Archaeology (1976).

[2] Ibid, 7, 54-56.

[3] I am grateful to Mrs. Joan Astell, Curator of Seaford Museum for drawing my attention to plans and photographs in her care; Mrs. Astell and Ken Astell advised me on many aspects of Seaford's history and topography.

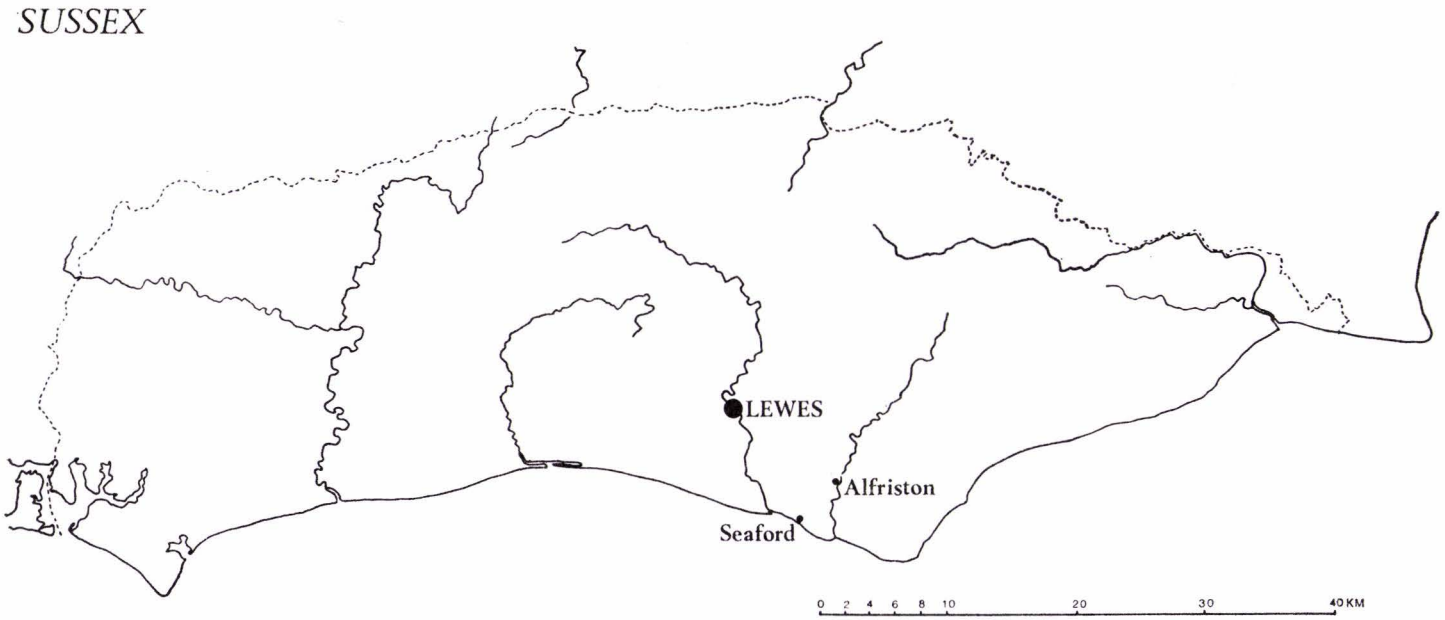


FIG. 1. Seaford, Church Street, 1976. Location map

pottery of the 13th to 14th centuries, with only a few stray earlier medieval sherds and a couple of Roman fragments.

Five of the pits (Features 7, 8, 44, 77, 101) were deep and approximately square in plan. They had near-vertical sides dug into the underlying chalk. Their contents could be considered in three groups (Table 1). The lowest layers consisted of fine crumbly soil varying in colour from green to brown, interpreted as decayed fecal matter. Overlying this were thick layers of Chalk rubble or clay, interpreted as the spoil from a fresh pit used to back-fill the old one. Finally there were jumbled layers of chalk, clay, sand and rubbish used to level up the pit as the contents settled. The finds from each of these groups reflects a different use of the pit, the lowest layers containing rubbish deposited when the pit was in use as a cess pit; the chalk or clay backfill containing few finds, as it was almost certainly dug out of one pit and shovelled straight into another; and the top layers containing any rubbish and hardcore handy. Accordingly, the finds have been analysed in relation to these groups.

The medieval well (F.12) was 8m. deep and even in the drought of 1976 the water rose to over a metre in depth when left to stand. The top metre of the shaft, where it was dug through unstable subsoils, was crudely lined with unmortared flint and chalk beach boulders with some large sandstone blocks. The construction trench for this steining (F.12 layer 62) contained 13th to 14th century pottery and the fragments of two stone mortaria (Fig. 12 nos. 2 and 3). The

TABLE 1

Feature no.	Identification	'Primary' layers	Backfill	'Topping-up' layers	Intrusive or other layers
7	cess pit	152	70, 81, 97, 151	7, 49, 125, 116	61
8	cess pit	139, 145	83, 84	46, 47, 53/57	8, 90
12	well	170, 166, 157, 165	130, 131, 141, 146, 147	12, 86, 98, 99, 100, 102, 103	62 (foundation trench)
44	cess pit	127	69, 126	44, 50, 58, 60	82, 113, 119 (earlier pit)
77	cess pit	169	137, 158, 159, 161, 163, 164, 167, 168	77, 88	
101	cess pit	153	144, 150	101, 132	59, 180

TABLE 1. Seaford Church Street, 1976. Groups of layers in the medieval cess pits and the medieval well

SEAFORD CHURCH STREET 1976

Location of sites

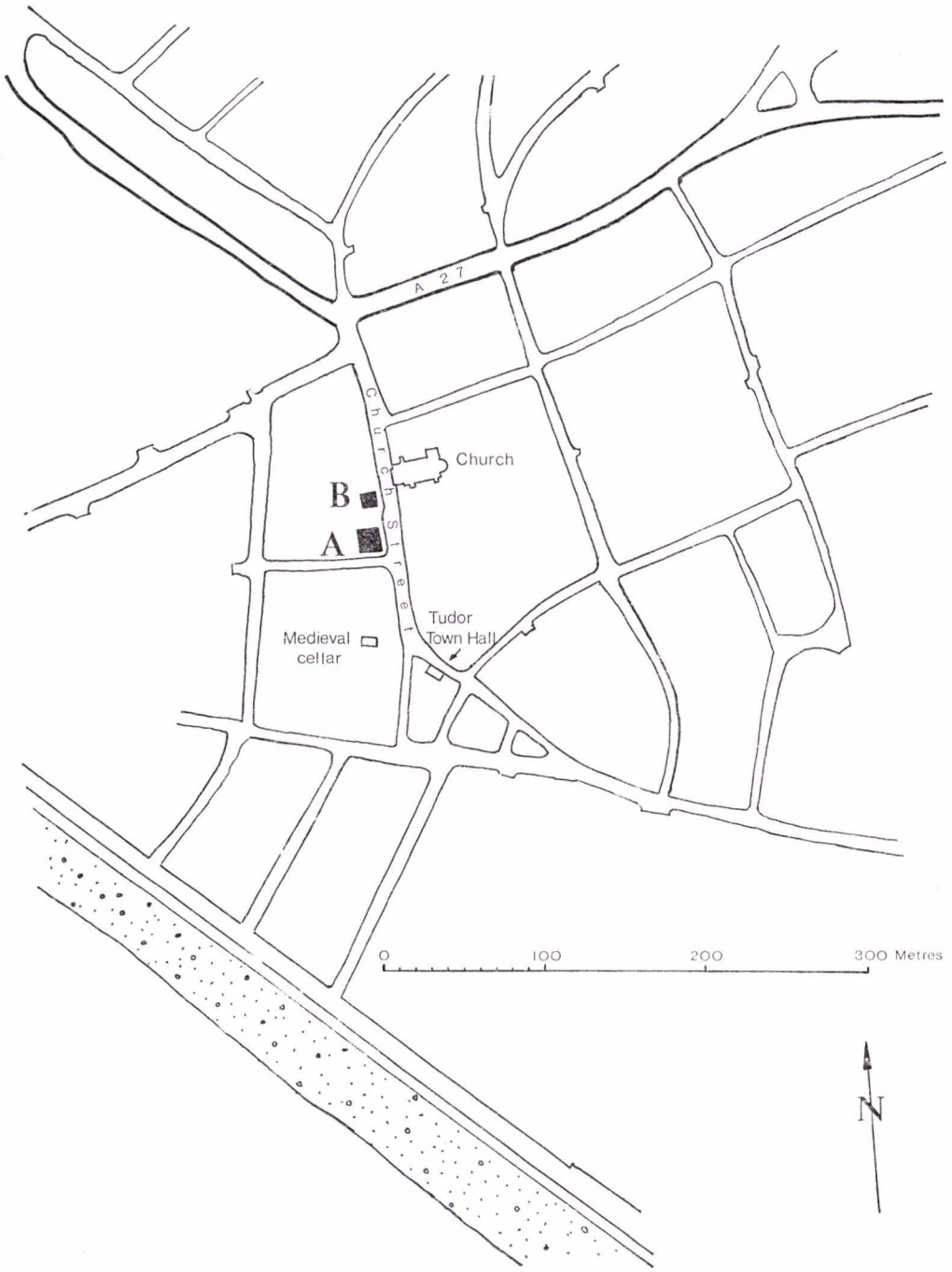


FIG. 2. Seaford, Church Street, 1976. Location of trenches

rest of the shaft was dug into solid chalk. The shaft showed distinct signs of water wear at a depth of approximately 4m. and it is probable that this was the maximum level of the water when it was in use. The bottom of the well had been deliberately widened by knocking holes into the sides of the shaft.

The filling of the well can be considered in the same way as the fillings of the cess pits: the lowest layers accumulating while the well was open (though probably not in use by the time layer 157 was deposited), followed by a great quantity of chalk rubble, topped up by mixed layers of hardcore and rubbish. From the bottom layers of the well many pots were recovered, some almost complete (Figs. 6 and 7) as well as the remains of an oak staved bucket (Fig. 13).

The remaining pits varied in depth from a few centimetres to a metre or more, but none were cut into the solid chalk. Feature 15 was notable in that it was filled with flint and chalk beach pebbles, some ironstone conglomerate boulders and 761 oyster shells. It also contained cooking pots and several fine glazed jugs of the type made at Rye in the 13th and 14th centuries (Fig. 9 nos. 21 and 22). Despite the fact that all the medieval features date from the period when Seaford was a port, only one object was found which was related to the fishing industry: a whale bone fishing net float (?) from F.15. This contrasts with similarly dated sites in Hastings.[1]

The robbed corner of a timber-framed building[2] was found at the north-east corner of the site (F.106 and 118). A zone several metres wide free of medieval pits surrounded the walls, implying that the walls and the pits were in use at the same period. No evidence for the date of the construction of the walls was found, but fragments of early German stoneware (Fig. 9 nos. 23 and 24) gave a date for the destruction of the building after 1400.

Trench B (Fig. 4)

This trench was excavated to check a suggestion that the church might have extended further west at one time[3] and to investigate further the extent of the medieval settlement.

The eastern half of the trench was occupied by the foundations of an 18th century house, whose subfloor space had removed about 50cm. of natural subsoil. However, there were stratified deposits in the western part of the trench. The earliest layers were dated to the 14th century. Two small pits under the walls of the 18th century house also contained pottery of a late medieval date.

No evidence of an extended church was found.

Conclusions

The lack of features and finds earlier than the 13th century, despite the 12th century work in the nearby church, suggests that the early town was further to the south and east, perhaps nearer the quay. The church would then have been on rising ground at the edge of the town out of reach of the floods (the last great flood in 1875 did not quite reach the church, while the lower town was inundated). The development of the land near the church for the first time in the late medieval period may reflect prosperity and a growing population or possibly a refocusing of activity away from the harbour. The historical record is equivocal, with events in the 13th century which imply growing status, for instance parliamentary representation in 1298, being followed by the depredations of the French who apparently left the town in ruins and deserted in 1357. In

[1] D. R. Rudling, "Excavations in Winding Street Hastings" *Sussex Archaeological Collections* (hereafter abbreviated to *S.A.C.*) vol. 114 (1976) pp. 164-175.

[2] D. Martin advised me that F. 106 was the sleeper wall of a timber framed building.

[3] M. A. Lower, "Memorials of the town parish and Cinque port of Seaford" *S.A.C.* vol. 7 (1854) pp. 73-150.

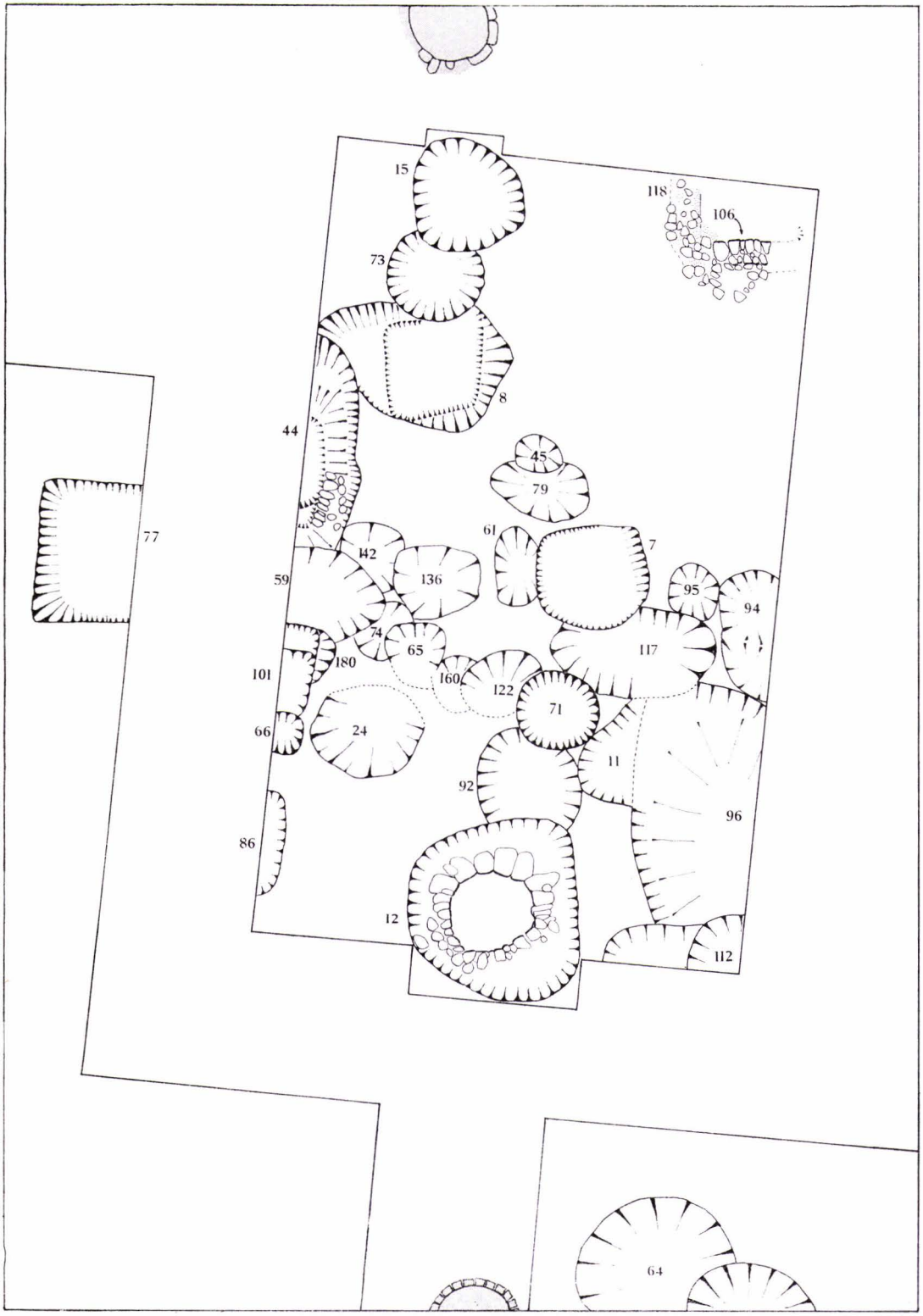


FIG. 3. Seaford, Church Street, 1976. Trench A, medieval features

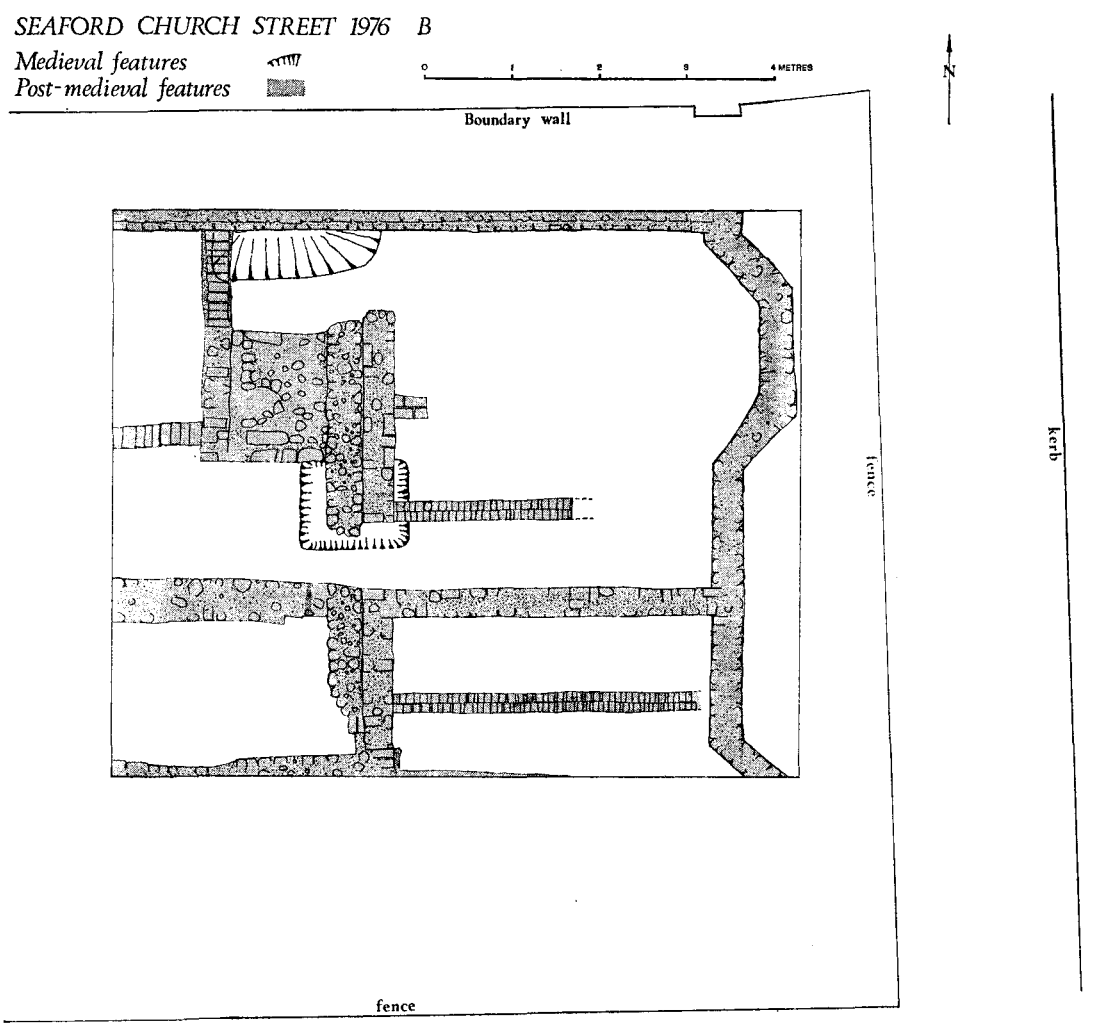


FIG. 4. Seaford, Church Street, 1976. Trench B

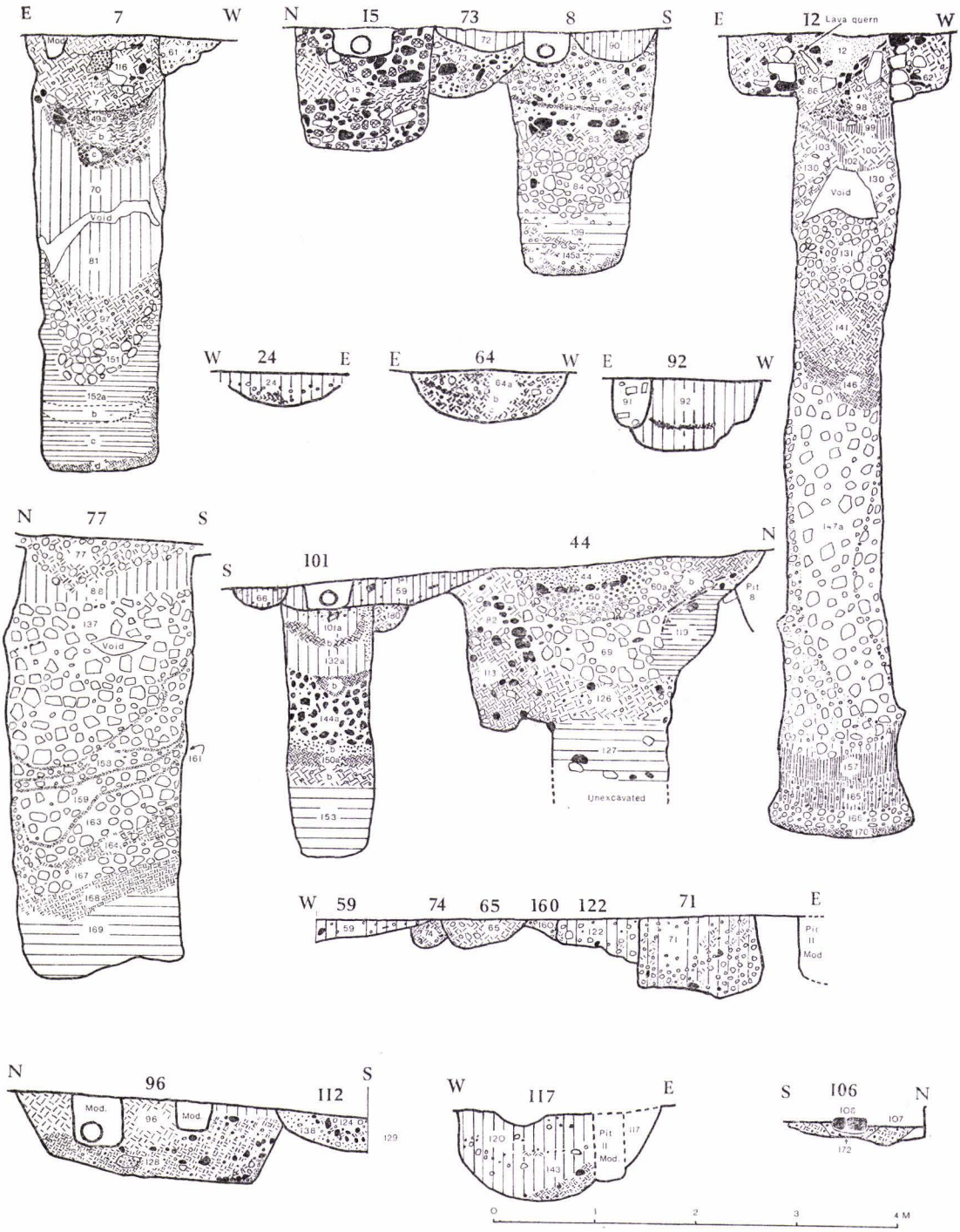


FIG. 5. Seaford, Church Street, 1976. Sections of pits. For key see pp. 222-224

1400 parliamentary representation ceased. Further observation and research would be necessary to check whether the development of the Church Street site was medieval expansion or a shift of focus.

THE FINDS

by D. J. Freke, M.A. unless otherwise indicated

Pottery

I am very grateful for the advice of J. G. Hurst, F.S.A., K. J. Barton, M.PHIL. and J. Dove all of whom have discussed samples of the pottery with me. They are of course, not responsible for any errors I may have made.

Large quantities of pottery were recovered, not all of which could or should be described in detail in this report. Table 2 sets out the distribution of the main ceramic forms from the features which yielded large quantities of pottery. The material from each of the cess pits and the well has been divided into three groups as described above (see Table 1). Table 2 lists the minimum number of vessels of each type, where identifiable.

An analysis of fabric types in relation to form shows that the finer fabrics were used for jugs, especially wine-jugs, while cooking pots, storage jars, skillets and so on of the same date are made in coarser fabrics. Table 3 lists the fabrics in relation to form for feature 8 to demonstrate this. Any attempt to date layers by pottery fabric analysis must obviously take this into account.

The lowest layers of the medieval well produced a good group of jugs which are illustrated in Figures 6 and 7.

1. Jug, fine sandy fabric, pale pink-orange right through, mottled green glaze, knife trimmed lower body, thumbed footring, stabbed handle, lines of stabbed decoration on body. Layer 166.
2. Jug, very fine sandy fabric, orange-pink interior and exterior surfaces, grey core, very patchy thin bib of green glaze on neck and shoulders, base lightly thumbed, incised wavy lines down body, handle slit by a thin blade, handle and rim roughly made. Layer 166.
3. Jug, very fine sandy fabric, pale orange-pink right through except in thicker portions near base where the core is grey, glossy green-brown glaze on exterior except on rim, thinning near base, white slip approximately 4cm. down inside neck. Layer 157.
4. Base of jug, very fine sandy fabric, buff-grey interior surface, pale grey core, thick glossy greyish green glaze on exterior, knife trimmed lower body, thumbed base, fleur-de-lys pattern pressed into mould from inside (originally 12?). Bottom has scars from the glazed base of another thumbed jug which stuck during firing. Layer 166.
5. Jug, very fine sandy fabric, pale orange-brown exterior (where unglazed) and interior surfaces, pale grey core, glossy spotted dark green glaze thicker at top and patchy and thin near base, closely thumbed base, stabbed handle. Bottom shows marks produced by other pots stacked in kiln. Layer 157.
6. Skillet with handle and lip at 90° to one another, sandy fabric, light brown interior and exterior surfaces, pale grey core, roughly shaped stabbed handle, spots of green-brown glaze on base externally and irregular patch internally. Layer 157.
7. Rim of pot, sand and fine flint filled fabric, grey internal and external surfaces, sandwich of brown and grey in break, stamped decoration of 8 squares on shoulders, rouletted (?) decoration on rim. Layer 166.
8. Jug, medium to fine flint filled fabric, brown-orange internal and external surfaces, mid grey core, thumbed base, stabbed handle, patchy pale yellow brown glaze on neck and shoulders. Layer 157.
9. Jug, sandy fabric with some fine flint and a little shell filler, orange-brown interior and exterior surfaces, grey core, patchy pale brown-yellow glaze on neck and shoulders, thumbed base, handle stabbed with slightly tapering cylindrical rod. Layer 157 (Retained by the Post Office Corporation for display in new building).
10. Jug, sandy fabric with some fine flint and a little shell filler, light brown internal and external surfaces, intermittent grey core, patchy clear glaze on neck and shoulders, widely thumbed base, stabbed handle. Layer 157.
11. Jug, sandy fabric with small amount of fine flint filler, orange interior and exterior surfaces, pale grey core, green-brown glaze on neck and shoulders, thumbed base, handle stabbed with slightly tapering cylindrical rod, rilling on neck. Layer 165.
12. Base of jug, sandy fabric, orange interior and exterior surfaces, pale grey core, olive green glaze thin and patchy towards base, closely thumbed base. Layer 165.
13. Jug, roughly made in a sandy fabric with a little fine flint filler, grey surfaces and pale grey core, three groups of triangular impressions on base made with a blunt edged object, double line of stabbings on handle. Layer 165.

Pots from feature 8 (Fig. 8).

14. Storage jar, hard coarse sandy fabric, orange interior and orange-brown exterior slightly sooted, pale grey core, thin transparent glaze on exterior, bung hole. Layer 47.
15. Bowl, medium flint and shell filled fabric, brown-grey surfaces, dark grey core. Layer 46.
16. Rim of skillet(?), medium flint and shell filled grey-brown sooted exterior surfaces, light brown interior surface, grey core, spots of glaze. Layer 46.
17. Skillet, medium flint filled fabric, orange-brown right through, sooted external surface, scar of broken-off handle. Layer 84.
18. Lid, hard fine sandy fabric, pale orange external surface, thick glossy mottled green-brown glaze internally. Layer 46.
19. Base of a large storage jar, coarse sandy fabric, dark grey surfaces, grey core, very roughly modelled footrim with slashed knife cuts on the bottom. Layer 46.

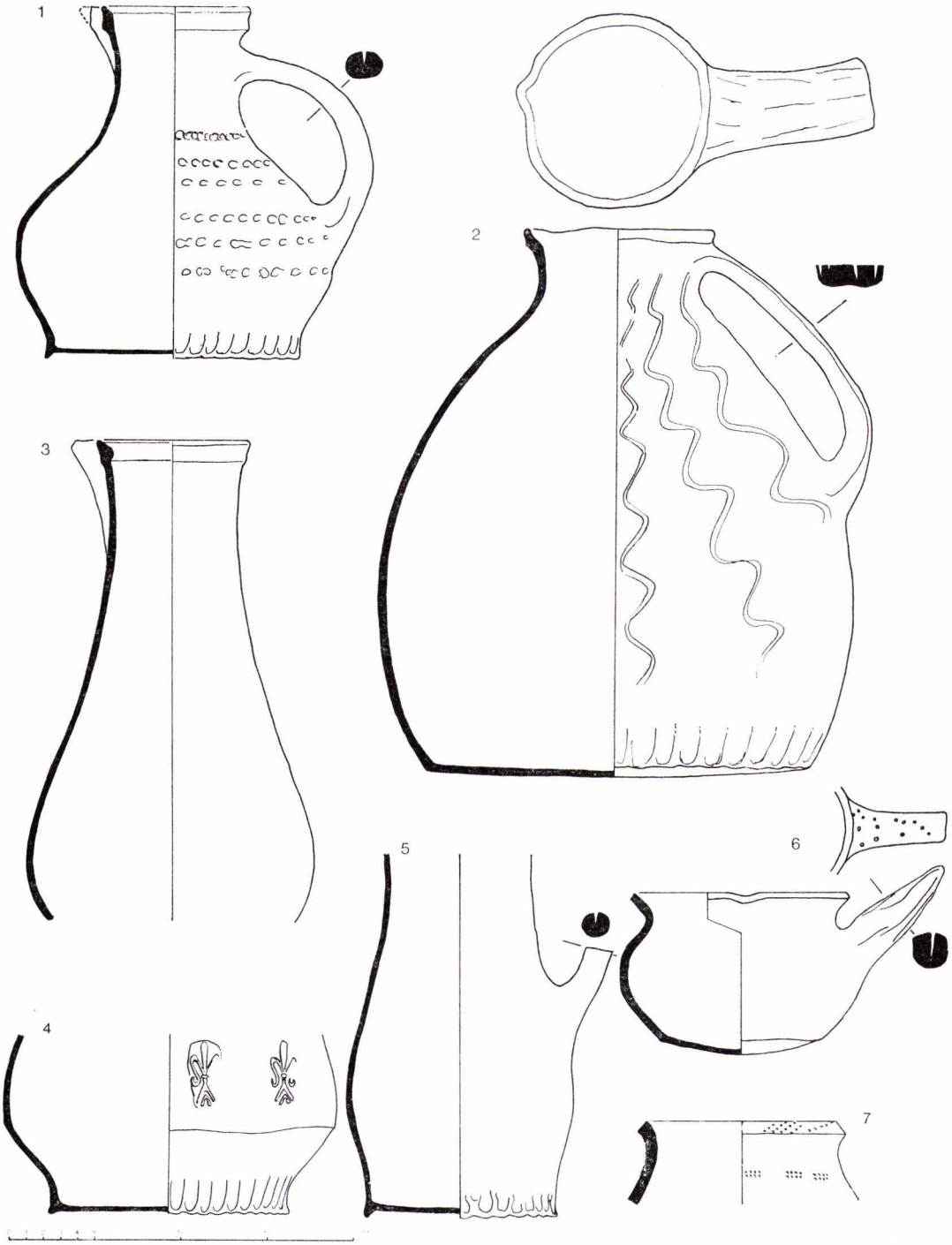


FIG. 6. Seaford, Church Street, 1976. Pottery from Feature 12 (well) (¼)

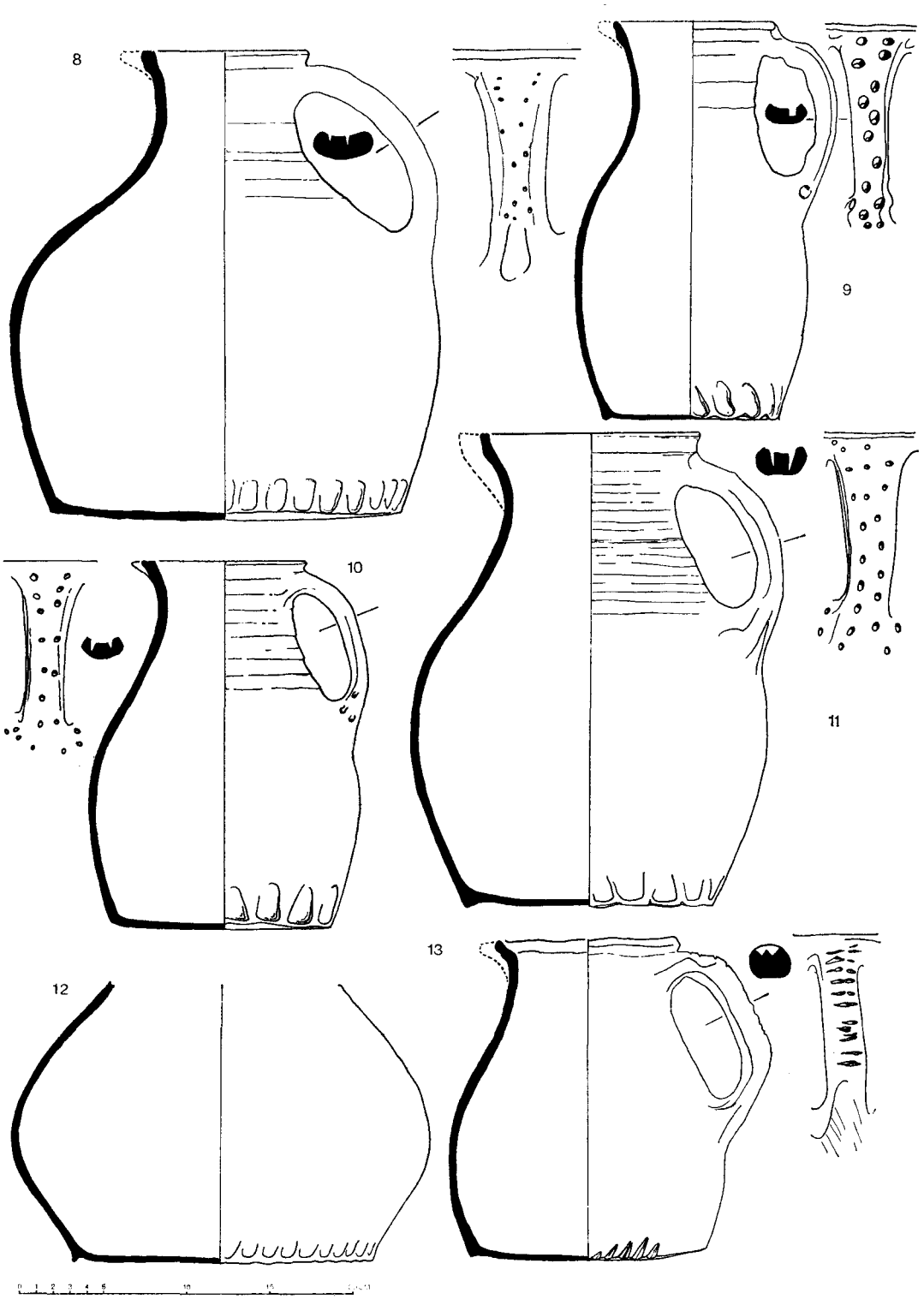


FIG. 7. Seaford, Church Street, 1976. Pottery from Feature 12 (well) ($\frac{1}{4}$)

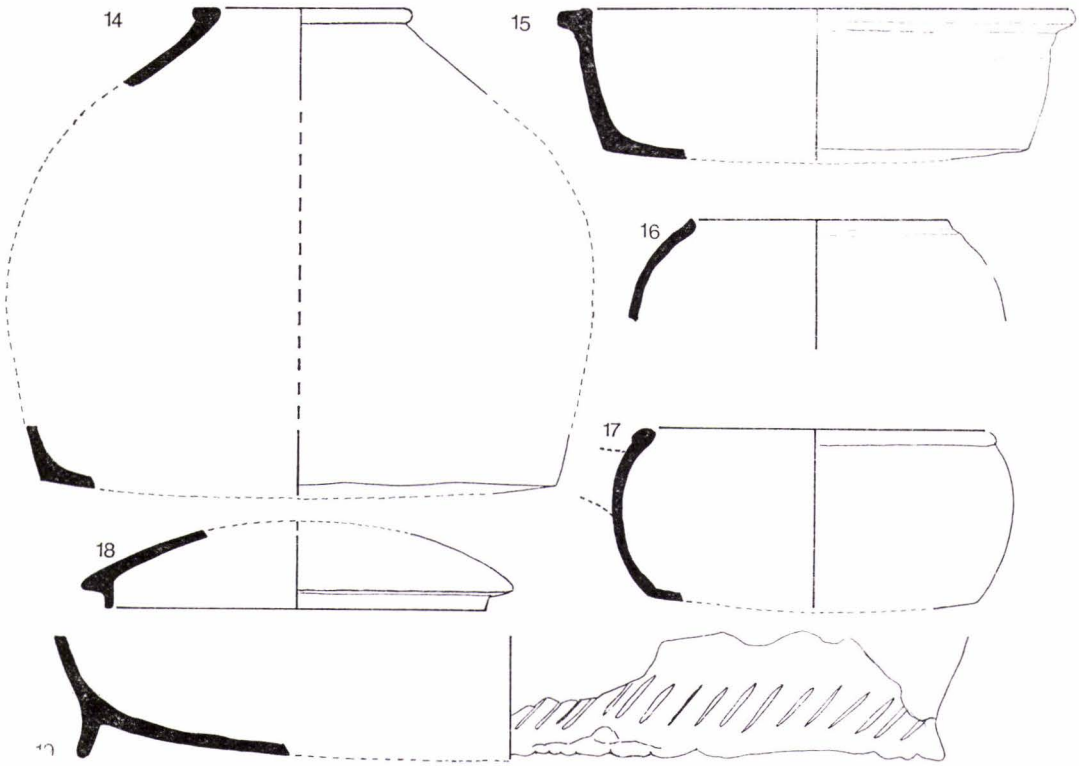


FIG. 8. Seaford, Church Street, 1976. Pottery from Feature 8 (cess pit) (¼)

Pots from other features (Fig. 9).
20. Cooking pot, medium flint filled fabric, orange-buff surfaces, sooted externally, grey core. Layer 128.
21. Cooking pot, coarse sand filled fabric, brown-buff external surface, grey internal surface, grey core. Feature 15.
22. Jug, fine sandy fabric, light brown surfaces, light grey core, glazed all over externally with thick glossy speckled dark green glaze, 5cm. of white slip inside neck, stabbed handle, thumbed base, decorated with small stabs around outside of rim, slightly wavy vertical combing and four incised horizontal bands on lower part of body, rilling on neck. Feature 15.
23. Rim of shallow drinking bowl from Siegburg period 4[1] dating from after 1300. Layer 118.
24. Base of stoneware jug from Langerwehe, late 15th to early 16th century. Layer 118.

Small Finds (Fig. 10).
1. Iron object with silver mount or ferrule. Layer 165.
2. Bronze buckle. Layer 125.
3. Bronze washer. Layer 73.
4. Red glass vessel, decorated with crimped strip. Layer 130.
5. Polished bone with rivet hole, knife handle? Layer 128.
6 - 8. Not illustrated or described.

Chimney Pots (Fig. 11 nos. 9 and 10).
9. Pot with two opposed holes in body and one in top, coarse sand and fine flint filled fabric, mottled grey surfaces and core, stabbed body and top some penetrating the pot, decorated with thumbed vertical strips, originally five or six. Feature 15.
10. Pot with at least one hole in the body probably originally two, central hole in top, coarse sand filled fabric, mottled grey surfaces and core, stabbed body and core, decorated with thumbed strips. Layer 49.

For distribution of other chimney pots see Table 4.

Clay Tobacco Pipes (Fig. 11 nos. 11-14).
11. Two examples with the initials H.A. Date 1700-1740. Unidentified maker.[2] Layer 1.
12. Three examples with the initials I.H. Date 1680-1710. There were two John Holcoms working in Lewes at this time.[3] Layer 4.
13. Bowl 1700-1740. No initials. Layer 55.
14. Five examples of this bowl shape (1730-80) were found, one with the initials I.H. Possibly John Harman of Lewes.[4]

Stone Objects (Fig. 12).
Petrological analysis by C. R. Cartwright, M.A.
1. Caen stone mortaria. Tooled in a zig-zag pattern externally, crudely pock-marked inside, perhaps to rejuvenate a very worn mortaria. Feature 15.
2. Soft, creamy fine grained limestone, Caen type. Mortaria, externally tooled with a 6 toothed 10mm. wide claw chisel. Very worn. Feature 12, layer 62 (construction trench for well).
3. Paludina limestone (Purbeck Marble type) mortaria. Facetted externally and tooled with a 4 toothed 13mm. wide claw chisel. Very polished inside. Layer 62 (see no. 2).
4. Compact beige to cream slightly calcareous and micaceous sandstone whetstone. Smoothed on two faces. Layer 128.
5. Fine grained buff to grey micaceous siltstone whetstone. Smoothed on four faces. Feature 64.
6. Blue-grey schist whetstone. Smoothed on three faces and grooved (by knife grinding?). Feature 7, layer 7.

Most of the Niedermendig/Mayen lava quern stones were one of two types: a flat slab roughly tooled on the back and varying from 2 to 5cm. thick, or a thicker bevelled edged more carefully finished stone. One of each type is illustrated, the rest are listed in Table 4.
7. Niedermendig/Mayen lava quernstone fragment, bevelled smooth edge. Surface not very worn. Mortar adhering to one end. Layer 62 (see no. 2 above).
8. Large slab of Neidermendig/Mayen lava quernstone, increasing in thickness from 2cm. at the centre to 4.5cm. at the circumference. Radius 26-28cm. Smooth hole at centre, very roughly tooled back. At least one side cut, possibly two. Feature 12, layer 141 (well).

Several blocks of worked building stone were found but only one had a moulding cut on it (illustrated). The others are listed in Table 4.
9. Section of sandstone moulding. Layer 118, robber trench of Feature 106 (wall).

Wooden Bucket (Fig. 13).

I am grateful for discussions with M. Rhodes of the Museum of London, Department of Urban Archaeology, and to C. R. Cartwright who identified samples of the wood.

1 B. Beckmann 'The main types of the first four production periods of Siegberg Pottery' in V. I. Evison, H. Hodges, and J. G. Hurst eds. *Medieval pottery from excavations* (1974) p. 220 no. 164.

2 A. Oswald, *Clay pipes for the archaeologist* (1975) pp. 195-7.

3 *Ibid.* 195.

4 P. Smith, *Early trades and industries* (1974) pl. 24.

Layer 165 in Feature 12 (well) contained 9 staves of an oak bucket (nos. 1-9), 2 bucket bottoms (nos. 12 and 13), a strip of oak with pegs in it (no. 10), several strips of oak which do not belong to the oak staved bucket (only one illustrated, no. 11) and a section of beech (not illustrated). The staves are either parallel sided (nos. 1 and 8) or tapering towards the top, which would produce a bucket with a smaller diameter at the top than at the bottom. One stave is longer and is pierced by a hole (no. 3), presumably to take the hauling rope. There may have been a pair of these longer staves, although there is a 19th century illustration which shows a stave bucket with only one.[1]

All the staves except two (nos. 10 and 11) are internally grooved approximately 2.5cm. from the bottom and the edges are carefully chamfered. The long axis of each stave is parallel to the grain of the wood, and the width of each of the staves is cut along the radius of the tree trunk so that when a stave is viewed end-on the annual rings are visible as lines across its thickness. The better preserved staves show that the top was internally bevelled. There are chafing marks caused by some form of binding on the outer surfaces approximately 1cm. above the internal groove. This binding was not iron and may have been straps of birch or ash as in the London example.

TABLE 2

Feature no.	Forms / Layers	Cooking Pots	Jugs	Storage Jars	Bowls	Skillets	Unidentified	Total	No. and source of non-local pots
7	7, 49, 116, 125	24	46	3			43	116	
cess pit	70, 81, 97, 151	20	52		1	1	49	122	2 Rouen 2 N. French
	152	14	8				8	30	3 Saintonge
8	46, 47, 53/7	82	53	17	4	1	67	226	1 Yorkshire
cess pit	83, 84	37	31	4	1		36	107	
	139, 145	28	11	2			30	88	
44	44, 50, 58, 60	11	9				18	38	1 French
cess pit	69, 126	8	5				2	15	
	127						2	2	
77	77, 88	15	6	1			21	43	1 Rouen, 1 Beauvais, 1 Saintonge
cess pit	137, 158, 159, 161, 163, 164, 167, 168 169	10	10				33	53	1 Beauvais, 1 Saintonge, 1 Siegburg?
101	101, 132	17	25	2			6	50	
cess pit	144, 150	2	4	1			4	11	
	153	3	1	1			6	11	
12	12, 86, 98, 99, 100, 102, 103	11	10	2			19	36	2 Yorkshire
well	13, 131, 141, 146, 147	4	10	2	1		5	22	3 Yorkshire
	157, 165, 166, 170		47	1			27	75	
Foundation trench	62	9	10	1			19	39	3 N. French

TABLE 2. Seaford Church Street, 1976. Distribution of ceramic forms in the medieval cess pits and the medieval well. Minimum number of vessels

1 M. Rhodes. Personal communication (1977).

However, no wood of these species was identified. Number 11 is pegged in a manner similar to the pegs in the London straps but it is oak and so not suitable for the purpose. It is possible that the straps were rope or leather. There would have been at least two.

Either of the two incomplete bottoms (nos. 12 and 13) could have been the bottom of this bucket. If it was number 13, diameter 20cm., then all the staves are present (discounting no. 10) and the bucket had only one longer pierced stave for attaching a hauling rope. If number 12, diameter 28.5cm., belongs to these staves then three or four are missing.

The reason for making a bucket which tapers toward the top may be to prevent the staves attached to the hauling rope being pulled out under load.

Lead Tokens by D. R. Rudling.

1. Diameter 19mm. Weight 3.53 grams. Condition: Very worn/corroded. Layer 8.
2. Diameter 23mm. Weight 7.14 grams. Condition: Very corroded. Layer 128.

Note on the Roofing Slates (Fig. 11, nos. 1-8) *by E. W. Holden F.S.A.*

Twenty-four pieces of roofing slate, some whole, others broken, of varying shape, size and colour, were provided for examination. They came from the medieval cess pits, rubbish pits and the well.

Visually, they resemble many of the slates recovered from medieval contexts in Sussex, described in 1965[1] and subsequently confirmed by as many finds again from excavations.[2] The colours range from grey, or grey black (both of which may have olive-green patches and/or rust coloured stains) to a distinctive lilac colour, occasionally with a fleck of grey on the surface. Similarly coloured slaty rocks have been seen by the writer and others in certain cliffs and ancient slate quarries along the south coasts of Devon and Cornwall. Green slate also is known from those areas and has been found in Sussex, but is not represented in the Seaford sample. Sufficient evidence has accrued to suggest with some confidence that the coastal fringe of south Devon and south Cornwall is the source of supply for the extensive medieval seaborne trade in roofing slate, not only to Sussex, but along the whole of the south and south-east coasts, at least as far as Canterbury.[3]

In general the slates have a rough surface texture, but there are some with smooth faces, or are intermediate between the two. Cleavage is not always perfectly flat, rare specimens having a slight curvature at one end. The roofing ' slates ' found in Sussex are not true slates, but phyllites, which have the same mineralogical composition as slates, but are notably coarser.[4]

The slates tend to be rectangular in shape, often a little wider at the tail than at the head. Lengths and widths vary considerably and would today be described as of random sizes. Two slates (nos. 2 and 3) are exceptionally

TABLE 3

Layers	46, 47, 53/7					83, 84					139, 145				
Forms / Fabrics	Cooking pots	Jugs	Storage jars	Bowls	Skillets	Cooking pots	Jugs	Storage jars	Bowls	Skillets	Cooking pots	Jugs	Storage jars	Bowls	Skillets
Shell and Flint	3			1		1					3				
Coarse Flint					1										
Medium Flint	12	3	2	2		8		1	1		10		1		
Fine Flint	13	4	7			15		2			6	8	1		
Flint and Sand	27	7	4	1		7	1	1							
Fine Sand No Filler	18	26	4			6	30				9	2			

TABLE 3. Seaford Church Street, 1976. Distribution of fabric types in relation to form from Feature 8. Minimum number of vessels

1 E. W. Holden, ' Slate roofing in medieval Sussex ' *S.A.C.* Vol. 103 (1965) pp. 67-78.

2 E.g. D. Martin ' Hastings Augustinian priory ' *Hastings Area Archaeological Papers* Vol. 2 (1973) pp. 38-40.

3 E. M. Jope and G. C. Dunning ' The use of Blue Slate for roofing in medieval England ' *Antiquaries Journal* vol. 34 (1954) pp. 209-17. J. W. Murray ' The origin of some medieval roofing slates from Sussex ' *S.A.C.* Vol. 103 (1965) pp. 79-82.

4 Dr. J. Murray pers. comm. Cf. J. F. Kirkaldy, *Minerals and rocks* (1963) p. 163.

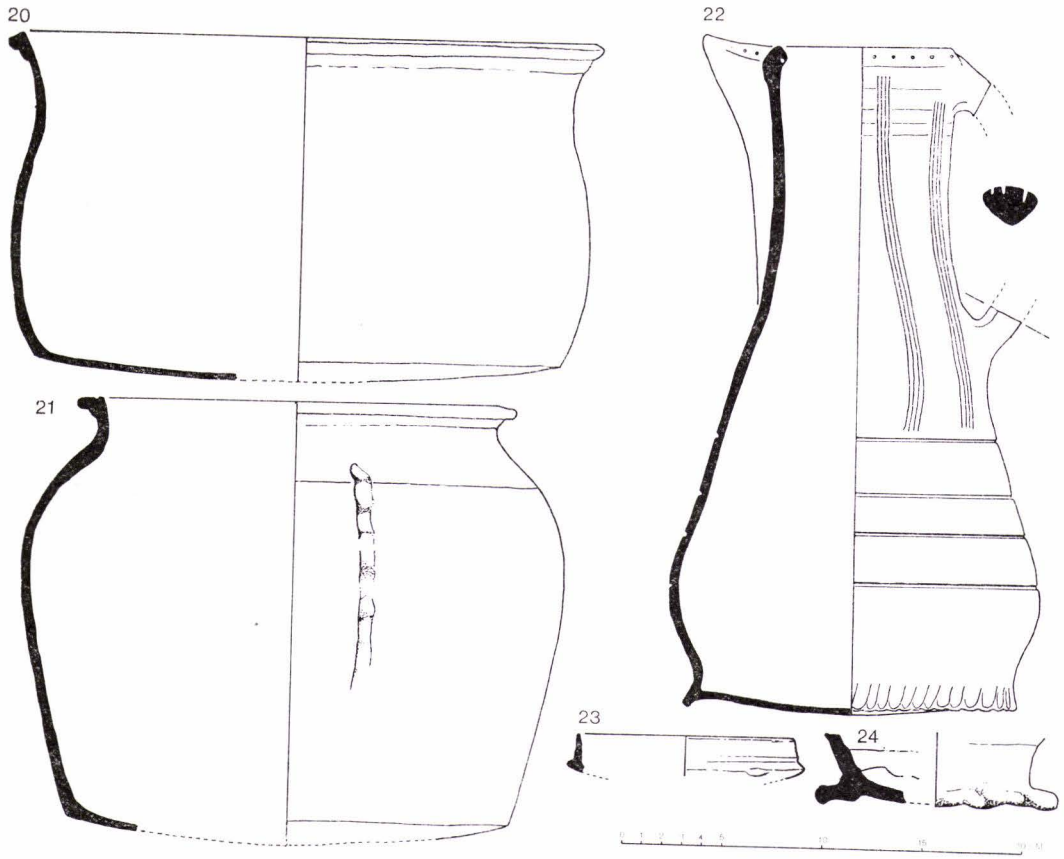


FIG. 9. Seaford, Church Street, 1976. Pottery from features 96, 15 (rubbish pits) and 118 (robber trench of wall 106) ($\frac{1}{4}$)

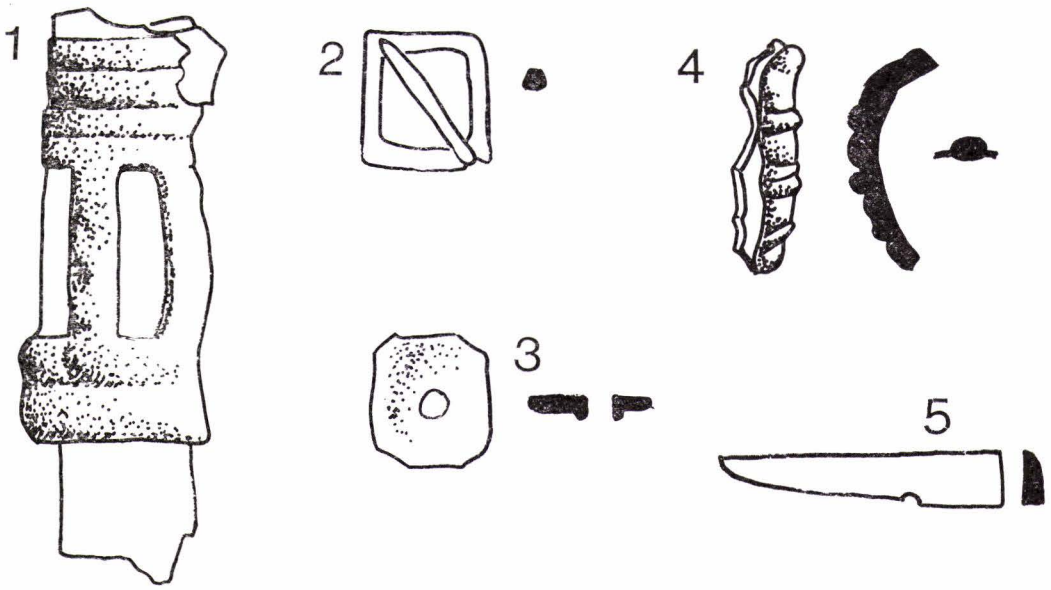


FIG. 10. Seaford, Church Street, 1976. Small finds. 1-4, 5 ($\frac{1}{2}$) (1/1)

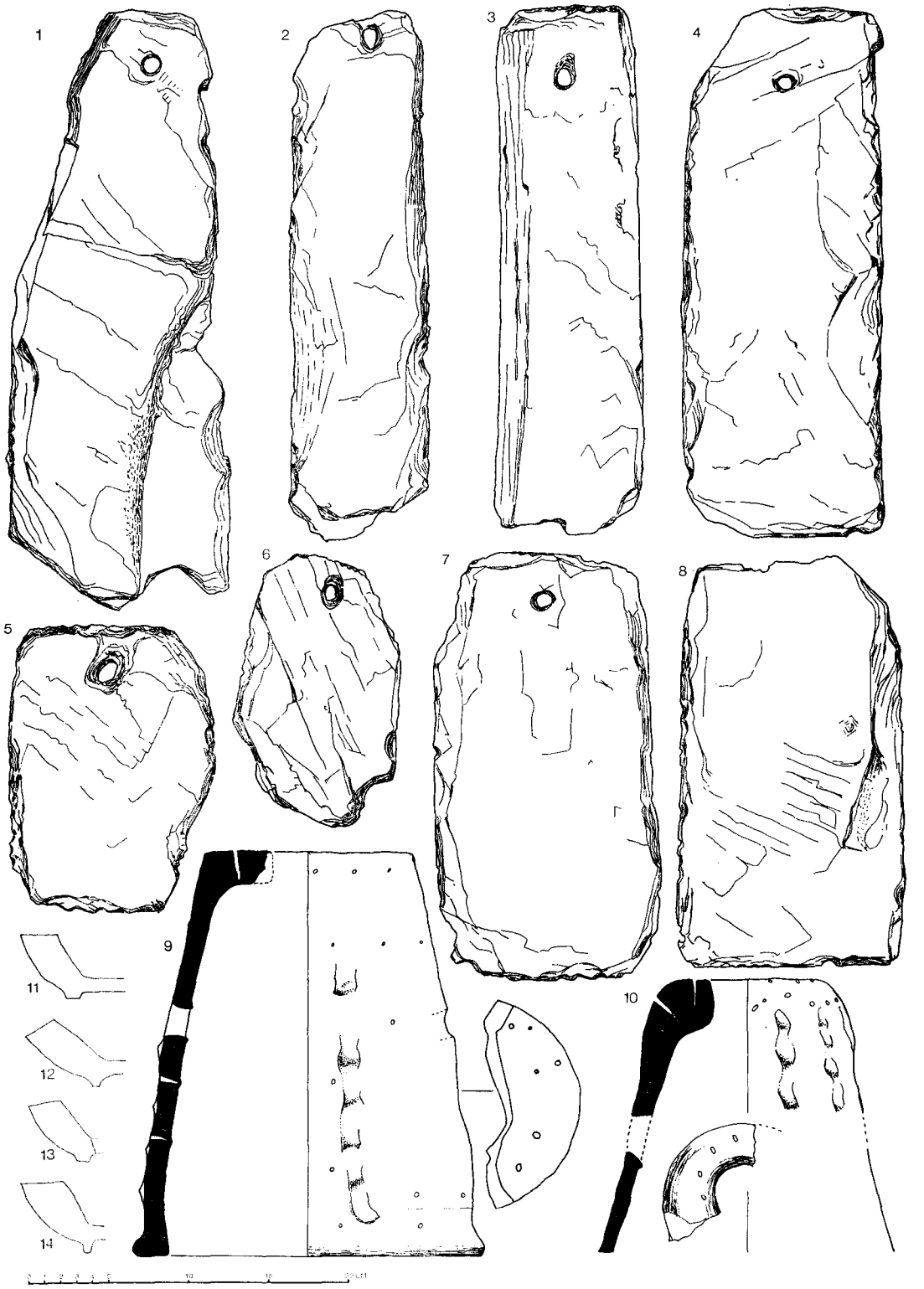


FIG. 11. Seaford, Church Street, 1976. Slate, chimney pots and clay tobacco pipes, (¼)

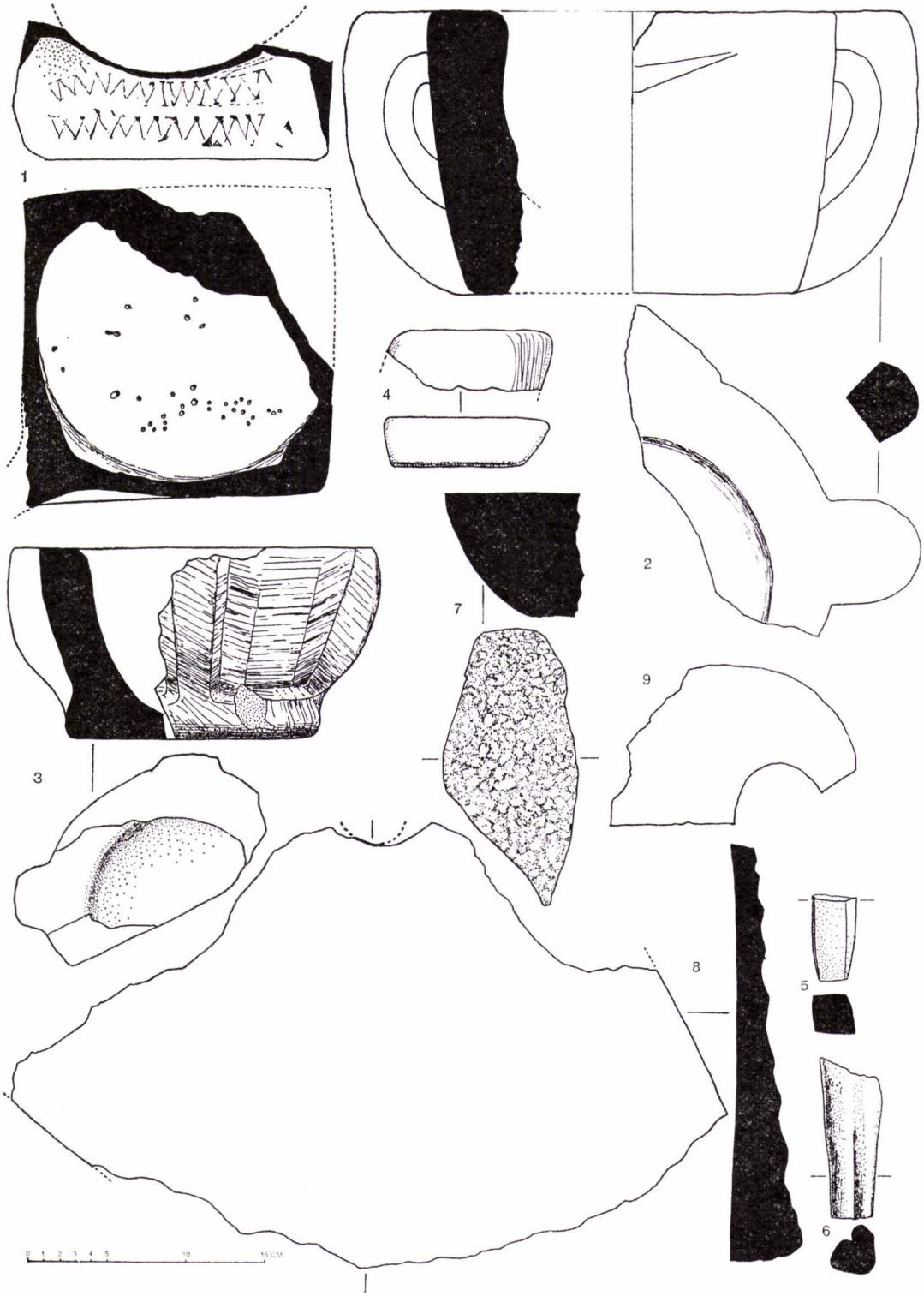


FIG. 12. Seaford, Church Street, 1976. Stone artifacts, (¼)

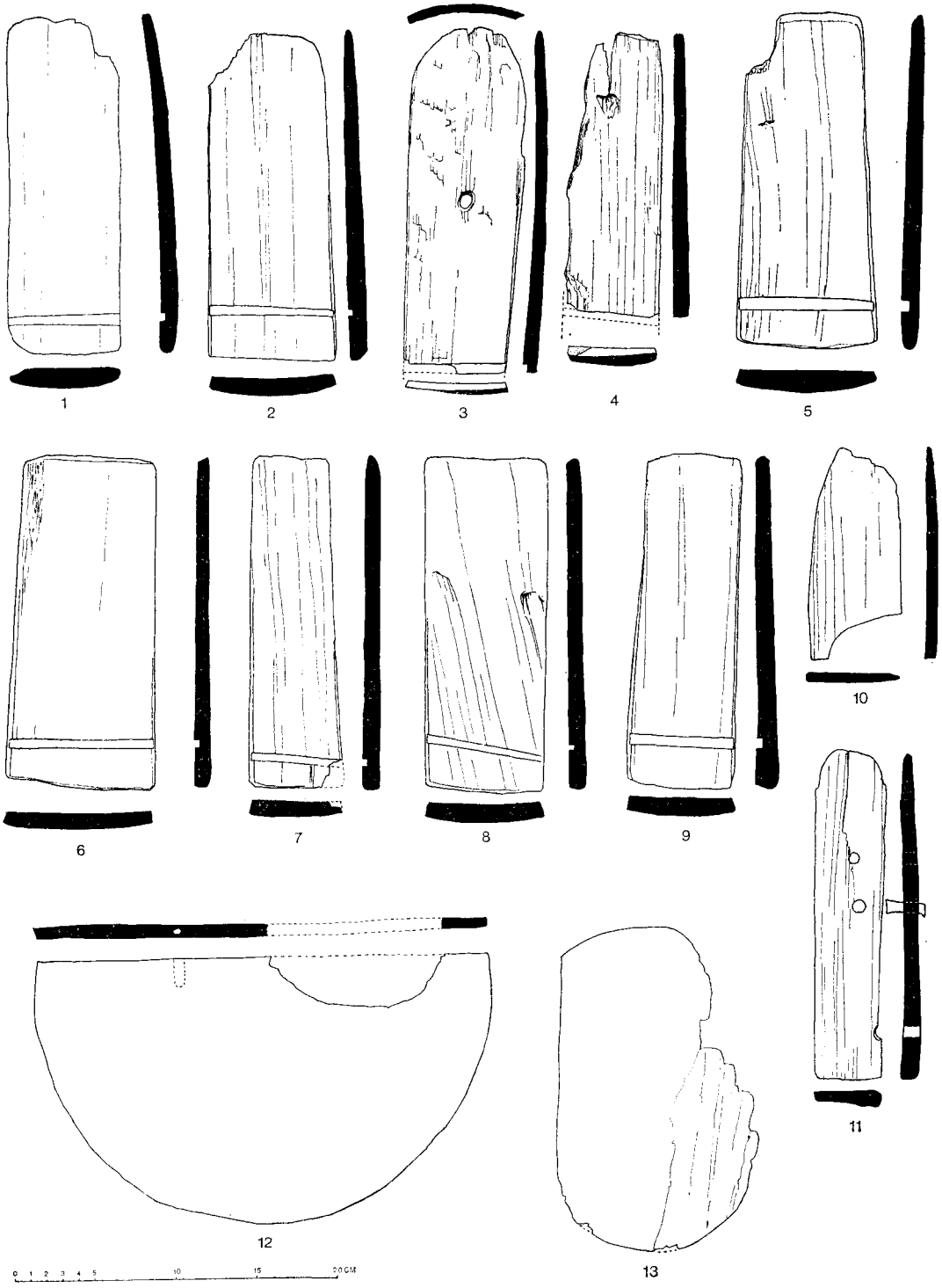


FIG. 13. Seaford, Church Street, 1976. Oak staved bucket from well ($\frac{1}{4}$)

narrow for their length, the latter being greater than normal. One possible explanation is that very long narrow slates were the last ones to be fixed in a course and selecting or cutting to a narrow width was therefore necessary.

Most of the slates are ' battered,' i.e., reduced in thickness at the head, a feature which helps to prevent one slate ' riding ' on another. One or two are naturally thinner at the head and so did not require treatment, but two slates appear to have been trimmed into shape the wrong way up, as their tails are thicker than their heads. Another traditional method to assist in making a snug fit is for slates to be ' shouldered ' by removing the corners at the head, thereby reducing the weight. There is also displayed the common practice for the sharp corners at the tail to be clipped off. The preparation of slates ready for fixing would be done at the quarry, but the fixers would also need to be skilled so as to cut slates to special shapes on site as required.

The uppermost surface of a slate (confusingly known as the ' back ') may be identified by the spalled edges (in Cornwall, known as ' spelched ') which look like rough bevels. They are the result of cutting the slate from the ' bed ' side (i.e., the side facing downwards to the roof timbers). Each whole slate has a perforation near the head to receive either a wooden peg or nail for securing it to battens on the roof rafters. There are no indications as to which form of fixing was adopted at Seaford, although nails are known to have been used at other Sussex sites, but the evidence is too slight to say to what extent. Wooden pegs, if used, have not survived. The holes have been punched from the bed side with a pointed tool, thus leaving a roughly countersunk recess on the back which, in the case of nails, would accommodate the head. The holes are roughly circular, or irregular in shape, the majority being 7-9mm. across.

Despite the small number of slates in the sample there are considerable variations in size. The shortest slate is 173mm. long and 72mm. wide, whereas the longest is 375mm. by 139mm. As expected with random slates, widths are not constant, being from 72mm. to 165mm. The smaller slates tend to be thinner than the larger ones, though not in every case; just over half of all slates are between 7mm. and 11mm. (average 9mm.), while the remainder fall between 12mm. and 18mm. (av. 15mm.).

The part of each slate visible on a roof is known as the ' margin ', which is the distance from the tail of one slate to the tail of the next slate above. Traces of adhering lime mortar on nine slates indicate margin dimensions of 50, 52, 80, two at 88, 95, 100, 105 and 120mm. There are, likewise, variations in the distance from tail to the fixing hole, which is the effective length of a slate rather than the overall length. The margin distance is on average about one-third of the tail-hole length, thus the greater part of each slate would be hidden from view, providing good resistance to rain penetration. The differences in both margins and effective lengths testify that the slates were laid in diminishing courses, the standard practice during the last few centuries being for the heavier and larger slates with the widest margins to be at, and close to, the eaves, gradually reducing slate lengths and margins as they are fixed up the slope until the ridge is reached. There is no reason to suggest that medieval practice was any different. The large slates (nos. 1 and 4) would be for use at or near the eaves, and the upper courses could be represented by nos. 5 and 6. It is plain, however (assuming that the sample is not too small in number), from margin sizes which range between 120mm. (eaves) to 50mm. (ridge), that the amount of reduction from bottom to top would be only 70mm. If the roof slope measured, say, only 3 metres (which would be for a very modest building) there would be about 35 courses. This gives an average reduction of only 2mm. for each course, which is minimal, but as the visible tails of slates usually vary in shape and colour, the visual effect would still be pleasing.

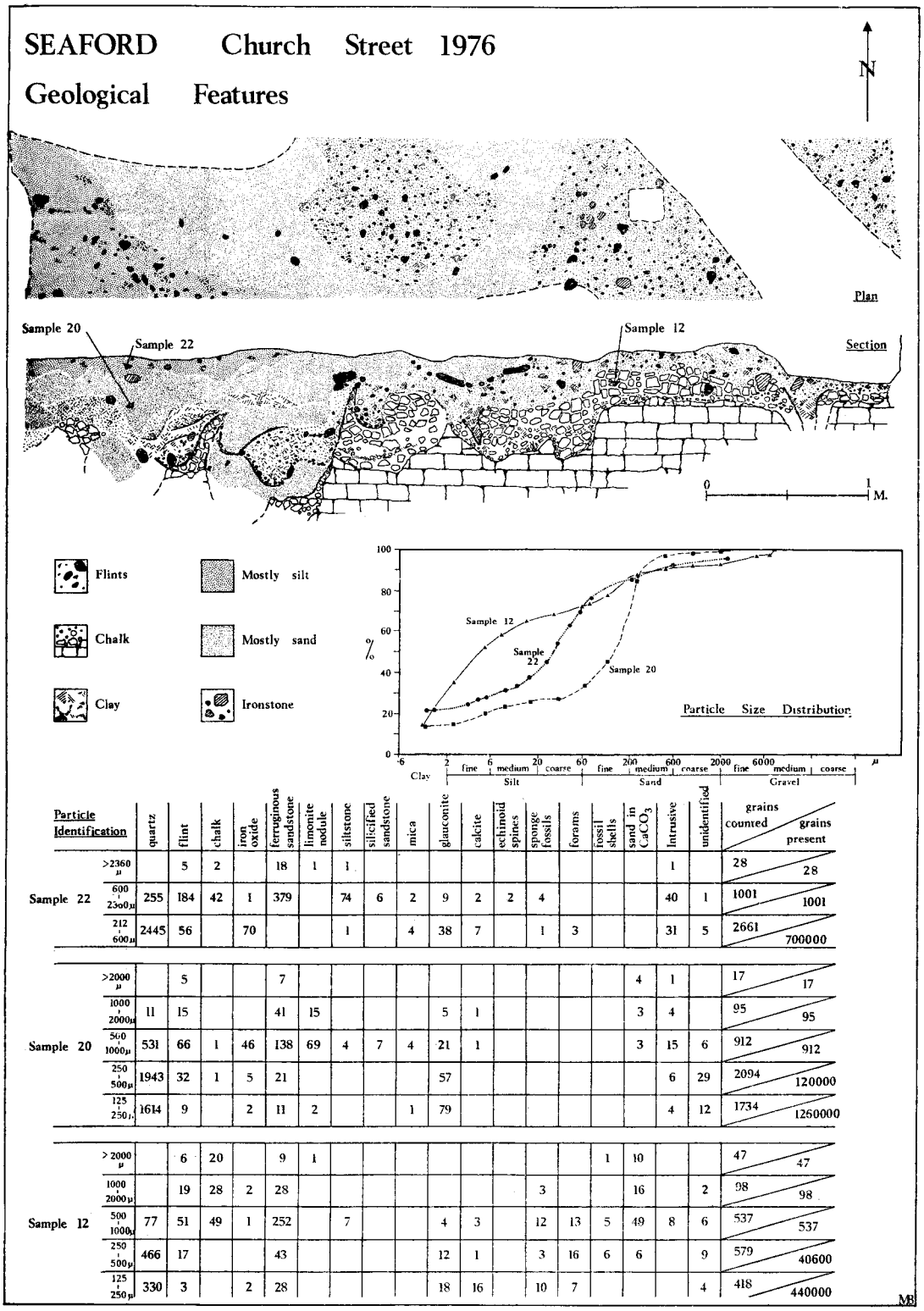
Traditional Cornish roof slating uses smallish slates in random sizes, laid in diminishing courses, each slate hanging on laths by means of hardwood pegs, and the lower part of each slate is bedded in mortar.[1] Between one-quarter and one-third of every slate is covered by others; thus every part of the roof is overlaid by a minimum of three thicknesses of slate. Extra courses of short slates are fixed at eaves and ridge to achieve this. Fixing methods would appear to be virtually the same in Sussex, in the Middle Ages.

One of the advantages of bedding slates in mortar is to prevent rattling by the wind and to exclude driving rain and snow. Side winds, especially, are hazards with small and narrow slates, if unmortared, owing to water ' creep ' between the slates by capillary attraction, though rough slates are better in this respect. Another benefit of mortaring is to reduce the need for a steep pitch to the roof, because of the qualities of rain exclusion when visible joints are sealed. Yet another benefit of mortar bedding is that it is not necessary to sort the slates into ' thicks ' and ' thins ', which should be done when slates are left unmortared, so that individual courses may be more or less of the same thickness, again to prevent ' riding ' and rattling. Only three slates from Seaford have no mortar on them, others have faint traces, while some have thicker deposits on part of one or both faces. The mortar uses lime mixed with fine sand. There is no certainty that slates were always bedded in lime mortar, as moss is known to have been used in medieval times for placing between courses of slates, so as to prevent rattling and, no doubt, intended (though with what success is not known) to impede the ingress of water, wind or snow.[2]

The evidence provided by roofing slates from Seaford is an addition to our knowledge of the considerable trade in this commodity along the south coast during medieval times. The evidence that the slates were of random sizes, laid in diminishing courses, and mostly, if not all, bedded in mortar, confirms what has been suspected or noted previously on other Sussex sites. This follows the traditional form of roof covering for exposed situations in the south-western peninsula, as practised until the present day. It also presupposes that slaters from Devon and/or Cornwall travelled eastwards, when slates first began to be traded along the Channel, to introduce their own fixing methods which, eventually, could have been assimilated by local craftsmen.

1 The Old Delabole Slate Company Limited, Information Sheet No. 2/6/1 (1954).

2 L. F. Salzman, *Building in England down to 1540* (1952) pp. 233-4.



Particle Identification		quartz	flint	chalk	iron oxide	ferruginous sandstone	limonite nodule	siltstone	silicified sandstone	mica	glauconite	calcite	echinoid spines	sponge fossils	forams	fossil shells	sand in $CaCO_3$	Intrusive	unidentified	grains counted / grains present
Sample 22	>2360 μ		5	2		18	1	1										1		28 / 28
	600 ↑ 2360 μ	255	184	42	1	379		74	6	2	9	2	2	4				40	1	1001 / 1001
	212 ↑ 600 μ	2445	56		70			1		4	38	7		1	3			31	5	2661 / 700000
Sample 20	>2000 μ		5			7											4	1		17 / 17
	1000 ↑ 2000 μ	11	15			41	15				5	1					3	4		95 / 95
	500 ↑ 1000 μ	531	66	1	46	138	69	4	7	4	21	1					3	15	6	912 / 912
	250 ↑ 500 μ	1943	32	1	5	21					57							6	29	2094 / 120000
	125 ↑ 250 μ	1614	9		2	11	2			1	79							4	12	1734 / 1260000
Sample 12	> 2000 μ		6	20		9	1									1	10			47 / 47
	1000 ↑ 2000 μ		19	28	2	28								3			16		2	98 / 98
	500 ↑ 1000 μ	77	51	49	1	252		7			4	3		12	13	5	49	8	6	537 / 537
	250 ↑ 500 μ	466	17			43					12	1		3	16	6	6		9	579 / 40600
	125 ↑ 250 μ	330	3		2	28					18	16		10	7				4	418 / 440000

MB

FIG. 14. Seaford, Church Street, 1976. Plan and section of part of the site showing the geological features. The cumulative graph shows the particle size distribution of three samples and identification of the sand grade and larger particles are given on the table

The slates illustrated (Fig. 11, nos. 1-8) come from several of the pits, as follows:
1. Feature 7 (cess-pit) layer 7. Lilac coloured.
2. Feature 12 (well) layer 130. Lilac coloured.
3. Feature 12 (well) layer 157. Lilac coloured.
4. Feature 12 (well) layer 130. Grey with olive green.
5. Feature 12 (well) layer 12. Grey with olive green.
6. Feature 12 (well) layer 130. Grey with rust stains.
7. Feature 15 (rubbish pit) layer 15. Grey with olive green.
8. Feature 15 (rubbish pit) layer 15. Grey-black with olive green.

Table 4 shows the distribution of slate in the medieval features.

The Geological Features and Soils (Fig. 14) *by M. Bell.*

Removal of the archaeological layers revealed a bedrock patterned by a complicated series of geological features. They are of interest to the archaeologist partly because of the necessity to distinguish them from archaeological features but also because they provide information about the Pleistocene environment of the area and the post-glacial soil. The solid geology is Upper Chalk capped, in the vicinity of Seaford, by a thin mantle of sandy clay which the Geological Survey, sheet 334, identifies as Woolwich Beds of Eocene date. The site of the excavations lies just west of this Eocene outcrop and *in situ* Eocene strata were absent. Traces of a former Eocene cover were however preserved as areas of very sandy material which had become involuted with the underlying chalk. The folding and contorting of the boundary between the two deposits would have taken place at a time of permafrost conditions during the Pleistocene period. Similar periglacial landforms have recently been uncovered by archaeological excavations at Newhaven[1] and Lewes;[2] sites which, like the present one, are just above the river cliff which forms the edge of the Flandrian Flood plain of the Ouse. At Newhaven and Lewes the involutions created a pattern of stripes orientated downslope, whereas at Seaford they appeared to form roughly circular areas of material which had risen up through the overlying sandy layer. Circular or polygonal patterns are generally considered to be the result of involution on level ground whilst stripes occur on sloping ground.[3] Following the period when these involutions were formed a thin layer of silty material was deposited on top of the profile. This appeared to represent the very base of the pre-occupation soil profile, being richer in humic material than other layers. During the post-glacial period the pattern of involutions was modified by solution. Slightly acidic percolating water took calcareous material into solution and gave rise to the elluviation of clay grade material which was deposited on the edges of involutions and in funnels that run down into the underlying strata. Solution pipes of this kind, filled with clay and sand of Eocene origin, are frequently uncovered during archaeological excavations on the South Downs even in areas where there is no other surviving trace of the Eocene layers.

Twenty-two samples from the illustrated section were taken for laboratory analysis. The colour of each was described with a Munsell chart and the pH was determined, the range being 5.9-7.7 increasing with depth. Particle size analyses were made of seven samples. These tests showed that the sediments were divisible into three main groups represented by the three samples shown on the cumulative graph. The particles of sand and larger grades in these three samples were identified using a binocular microscope and the results are presented in the table (Fig. 14). The lowest of the analysed sediments, sample 12, was pale yellow (2.5Y 8/4) and produced a convex cumulative graph similar to that obtained for coombe deposits. It appears to comprise chalk shattered and intimately mixed with the overlying Eocene strata by periglacial processes. Among the sand grade the Cretaceous strata contributed chalk, sponge fossils, forams and fossil shells whilst the Eocene component was ferruginous sandstone, quartz and probably glauconite. The mixing of the two deposits also produced aggregate grains of quartz in calcium carbonate. Overlying the chalky deposits, and occupying involutions within them, were sandy sediments of which sample 20 is an example. This was yellow (10YR 7/8) and contained a large proportion of fine grade quartz sand among which were pieces of iron oxide, ferruginous sandstone and limonite nodules which frequently occur among the residue of local Eocene deposits. Mixing with the underlying chalk is evidenced by the presence of flint and a few calcareous particles; this material is however largely decalcified. Sample 22 appeared to represent the base of the pre-occupation soil profile; it was brownish/yellow (10YR 6/6) and contained 47% silt, much of it coarse. A high silt component is a recurrent feature of downland soils and studies of the mineralogy of the coarse silt on other sites, including nearby Newhaven, have shown convincingly that this originates from a thin late Devensian cover of loess.[4] The sample is not however purely silt grade material and has been mixed, either during subsequent transport or by involution, with larger particles from the underlying strata. The latter include medium sand grade quartz, flint, iron oxide, ferruginous sandstone and siltstone.

Another group of particles, found in all three samples, is of some archaeological interest. It comprises grains of anthropogenic origin, i.e. tiny iron platelets from forging, slag, slate, charcoal and fired clay. The proportions of these are nowhere large and they do not indicate that the deposits have been disturbed by man. They arrived in these geological strata down earthworm burrows which were visible in many of the soil samples having a fill of dark brown soil from the overlying occupation levels. The presence of these grains in undisturbed strata emphasizes the role of the fauna in soil mixing, something of which the archaeologist is not sufficiently aware despite an extensive literature on the subject going back to Charles Darwin who published archaeological examples in 1881.[5]

1 M. Bell, 'The excavation of an early Romano-British site and Pleistocene landforms at Newhaven, Sussex' *S.A.C.* vol. 114 (1976) pp. 218-305

2 D. Freke, 'Excavations at North Street, Lewes,' *S.A.C.* vol. 114 (1976) pp. 176-193

3 R. B. G. Williams, 'Frost and the works of man,' *Antiquity* vol. 47 (1973), pp. 19-31.

4 J. M. Hodgson et al., 'The origin and development of Clay-with-flints and associated soil horizons on the South Downs,' *Journal of Soil Science* vol. 18 (1967) pp. 85-102; and M. Bell, 1976, op. cit.

5 C. Darwin, *The formation of vegetable mold through the action of worms with observations of their habits* (1881).

TABLE 4

Feature No.	Layers contained in pits	Building Material	Slate	Daub	Chimney Pot	Oven tile	Iron	Bronze	Mortaria	Whetstone	Lava quern	Slag	Other stone quern	Other objects
7	7, 49, 116, 125	●	●		●	●	●			●*		●		Bronze buckle*
	70, 81, 97, 151	●	●	●	●		●							
	152				●									
8	46, 47, 53/7	●	●		●		●	●					●	Lead token
	83, 84	●		●			●							
	139, 145	●	●				●	●			●			
12	12, 86, 98, 99, 100, 102, 103	●	●	●			●	●			●	●		
	130, 131, 141, 146, 147	●	●	●			●				●*	●		Red glass vessel*
	157, 165, 166, 170	●	●	●			●	●						Silver mounted object* Wooden bucket*
	62 (foundation trench)	●	●	●	●				●*		●*	●		
15			●	●	●		●	●	●*		●			
24			●				●							
44	44, 50, 58, 60	●	●		●									
	69, 126	●	●									●		
	127	●	●											
82	82, 113, 119	●	●		●							●		
59			●					●						
61			●					●						
64		●	●				●	●	●	●*	●			
65		●	●				●					●		
66		●	●				●							
71		●	●											
77	77, 88	●	●				●					●		
	137, 158, 159, 161, 163, 164 167, 168	●	●		●		●				●			
	169													
79		●	●	●			●	●						
86		●	●	●										
92		●	●				●	●			●			Glass bead
94		●												
96	96, 128		●	●						●*	●			Bone knife handle* Lead token
101	101, 132, 144, 150	●	●	●			●							
	144, 150	●									●			
	153		●											
106	106, 118, 172	●												Sandstone moulding*
112	112, 123, 129, 138	●					●					●		
117	117, 120	●		●										
122		●	●				●							
136							●					●		
160			●				●							

TABLE 4. Seaford Church Street, 1976. Distribution of finds, excluding pottery and bone, from the medieval features. Simple presence is indicated, asterisks denote illustrated objects. ' Building Material ' includes roof tile, stone and mortar. The layers in Features 7, 8, 12, 44, 77 and 101 are grouped together as explained in the text

Charcoal by C. R. Cartwright, M.A.

The species represented in the features sampled are set out below, grouped as explained in the text.

Feature 7 (cess pit)
a) Layer 152 (the cess pit material): No sample.
b) Layers 70, 81, 97 (the back-fill): Betula *sp.* (Birch), Castanea *sativa* (Sweet Chestnut), Cornus *sp.* (Dogwood), Corylus *sp.* (Hazel), Crateagus *sp.* (Hawthorn), Fagus *sp.* (Beech), Fraxinus *sp.* (Ash), Quercus *sp.* (Oak).
c) Layers 7, 49 (the topping-up): Betula *sp.*, Castanea *sp.*, Crateagus *sp.*, Fagus *sp.*
Feature 8 (cess pit)
a) Layers 139, 145. No samples.
b) Layers 83, 84; Betula *sp.*, Castanea *sativa*, Corylus *sp.*, Crataegus *sp.*, Fagus *sp.*
c) Layers 46, 47: Coal, Betula *sp.*, Castanea *sativa*, Crataegus *sp.*, Fagus *sp.*, Fraxinus *sp.*
Feature 12 (well)
a) No samples
b) No samples
c) Layers 86, 100: Betula *sp.*, Castanea *sativa*, Corylus *sp.*, Crataegus *sp.*, Fagus *sp.*, Fraxinus *sp.*
d) Layer 62 (foundation trench): Castanea *sativa*, Fagus *sp.*
Feature 15 (rubbish pit)
Layer 15: Coal, Betula *sp.*, Crataegus *sp.*, Quercus *sp.*

Animal Skeletal Material by D. Brothwell et. al. A report will be published in Volume 117 of the *Collections.*

The Fish Bones by O. Bedwin, Ph.D.

The fish bones were identified at the Natural History Museum in London, using the reference collections there.[1] Five marine species are represented: cod (*Gadus morrhuea, or G. callarias*), whiting (*Gadus merlangus*), ling (*Molva molva*), haddock (*Gadus aeglefinus*), and plaice (*Pleuronectes platessa*). These were distributed as follows:

Feature 15	Cod 2 fragments of dentary	Ling 2 vertebrae
Feature 46	Cod 1 operculum fragment	Flatfish (probably plaice) 6 vertebrae
Feature 70	Cod 2 vertebrae	Plaice 1 vertebrae
Feature 96	Cod 7 dentaries, 6 premaxillae, 3 maxillae, 2 fragments of vomer, 4 fragments of parasphenoid, 4 articulars, 1 pre-operculum, 2 sub-operculum fragments, and 15 vertebrae.	
	Ling 2 dentaries	Haddock 1 dentary
Feature 100	1 unidentifiable rib fragment	
Feature 103	Cod 1 dentary	
Feature 122	Whiting 21 dentaries (12 left, 9 right), 12 premaxillae (5 left, 7 right), 8 vomers, 8 articulars, and 6 parasphenoids.	
Feature 128	Cod 5 premaxillae, 1 dentary, 4 articulars, 7 parasphenoid fragments, 1 parietal fragment, 2 fragments of pre-operculum, and 9 vertebrae	
	Ling 1 vertebrae	
Feature 138	Cod 3 fragments of dentary	Ling 1 vertebrae
Feature 151	Cod 1 dentary and 1 vertebrae	
Feature 157	Cod 1 pre-operculum and 2 vertebrae	Whiting 6 dentaries and 1 vomer
	Plaice 11 vertebrae	
Feature 166	Cod 1 fragment of dentary	Whiting 1 dentary and 3 vertebrae

Discussion. Cod and whiting are numerically the most important fish. The bones of whiting from Feature 122 are all parts of the head, from a minimum number of 12 individuals; this is almost certainly a deposit of discarded fish heads.

It is interesting to contrast this sample with that obtained from the Lewes 1975 excavations;[2] in particular, the fact that only vertebrae and ribs were found at Lewes, whereas at Seaford, bones of the head predominate (except in the case of plaice, represented only by its vertebrae). The reason for this may be that in inland towns, such as Lewes, there is a greater consumption of salted or smoked fish, from which heads have been removed.

SEAFORD CHURCH STREET, 1976

Description of layers fig. 5, p. 206
Feature 7 (cess-pit)

7 Light brown clay and chalk
49b Oyster shells
61 Sandy gravel and clay
81 Dark brown clay and chalk, soft
116 Yellow clay and mortar
151 Chalk rubble
152d Brown clay and chalk
49a Brown clay and chalk
49c Clay and small flints
70 Dark brown clay and chalk, soft
97 Chalk rubble and clay
125 Patch of charcoal
152a, b, c Layers of crumbly brown-green earth

1 I am very grateful to Mr. A. Wheeler for his help.

2 D. Freke, 'Excavations In Lewes 1975' *S.A.C.* vol. 114 (1976) pp. 190.

Feature 8 (cess-pit)
8 Brown clay, chalk and flint pebbles
46 Brown clay, chalk rubble and flints
47 Brown clay, large flint and chalk lumps
83 Light brown clay, with much chalk rubble
84 Chalk rubble
90 Dark grey earth with flint and chalk fragments
139 Loose chalk and green-brown soft earth
145a Brown clay
145b Grey-brown with fine chalk

Feature 12 (well)
12 Grey, ashy earth with flint, chalk, slate, charcoal, and clay
62 Clay with flint, beach pebbles and chalk
86 Brown clay with flint and chalk lumps
98 Light brown clay with small nodules of flint and chalk
99 Burnt clay and charcoal
100 Yellow clay
102 Burnt clay and charcoal
103 Light brown clay
130 Chalk and gritty clay
131 Loose chalk rubble
141 Chalk and clay
146 Brown clay with flecks of chalk
147a Loose chalk rubble
147b Dirty loose chalk rubble
157 Dark brown fine silt and clay, with many bones
165 Dark brown silty clay with chalk
166 Chalky dark brown clay
170 Clean chalk and clay

Feature 15 (rubbish pit)
15 Large beach pebbles of flint, chalk and ferruginous conglomerate, with lenses of clay and oyster shells.

Feature 24 (rubbish pit)
24 Sandy yellow clay with small chalk fragments

Feature 44 (cess pit)
44 Dark grey clayey earth
50 Small chalk rubble
58 Dark brown earth
60a Chalk rubble
60b Dark brown clay
69 Chalk and flints
82 Yellow-brown clay with pebbles
113 Yellow clay with flint and chalk
119 Light sandy brown earth (cess-pit material)
126 Brown clay with chalk and flint
127 Grey brown sandy earth (cess-pit material)

Feature 59 (pit)
59 Dark brown sandy clay with chalk and flint fragments

Feature 64 (pit)
64a Yellow clay with small flints
64b Bright orange clay
64c Light brown clay with small flints

Feature 65 (pit)
65 Brown clay with small chalk lumps

Feature 71 (pit)
71 Brown sandy clay with chalk lumps

Feature 73 (pit)
72 Mixed sands and clays with flint and chalk
73 Mixed layers of clay and large flint lumps and small chalk fragments

Feature 74 (pit)
74 Brown clay with chalk and flint

Feature 77 (cess-pit)
77 Chalk and brown clay
88 Brown clay
137 Loose chalk rubble
158 Loose chalk rubble
159 Chalk lumps
161 Brown earth, clay and charcoal
163 Chalk rubble
164 Brown clay with some chalk
167 Clayey chalk lumps
168 Brown clay with charcoal flecks
169 Grey-brown crumbly earth (cess-pit material)

Feature 92 (pit)
91 Modern post hole
92 Orange sandy clay with lens of brown clay

Feature 96 (pit)
96 Brown clay with large amounts of burnt clay
128 Brown clay with chalk lumps, flint and charcoal

Feature 101 (pit)
66 Brown clay with small flint fragments
101a Grey earth with sandy clay
101b Yellow clay
132a Grey earth with chalk lumps
132b Red clay
144a Flints in a little clay
144b Mortar
150a Red clay and burnt clay
150b Chalky brown clay
153 Green-grey crumbly earth (cess-pit material)
154 Brown clay

Feature 106 (wall)
106 Flint and chalk wall. No mortar
107 Orange sand and clay, with flecks of daub
172 Brown sand and clay

PLATE 1. Aerial view of Harting Beacon from the east, April, 1976

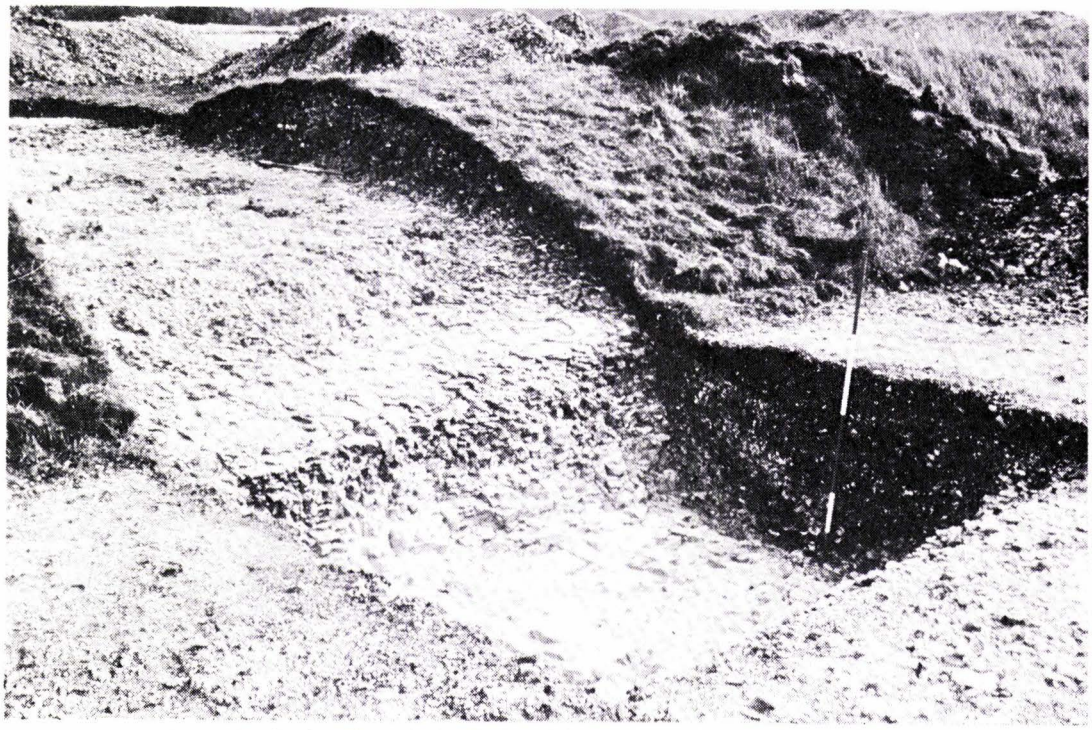


PLATE 2. Section through the ditch and bank; Area II, east side. Scale 2m.