

The Cropmark Site at Moor Hall Farm, Rainham, Essex

PAMELA GREENWOOD

RESCUE EXCAVATIONS by the Passmore Edwards Museum of the complex cropmark site at Moor Hall Farm, Launders Lane, Rainham, began in 1977, when trial trenches were opened and some immediately threatened areas were investigated. Total excavation in advance of gravel extraction took place from autumn 1979 to spring 1981. The site was discovered in the summer of 1976 by the National Monuments Air Photographs Unit. Earlier photographs of the adjacent field were taken by Dr. St. Joseph in 1959. As a result of these photographs and because the site was threatened by gravel extraction by Cawoods Aggregates Ltd.¹, it was decided to excavate the 17.5 ha (43.24 acre) site.

The Background

Rainham lies on the north bank of the Thames, about 20 km (12 miles) east of the City, in the London Borough of Havering, an area that was formerly part of the county of Essex (Fig. 1). The parish now forms part of the boundary between the borough and the county. Modern habitation is restricted to the Flood Plain Gravels; the southern part of the parish is still marshy and subject to flooding.

The site itself lies on a spur of better-drained, higher ground bounded by the 7.6 m (25 ft) contour and flanked to the west by the river Ingrebourne, to the north by a small stream called the Common Sewer, to the east by low-lying ground, and to the south by the Thames marshes. It is in fact on the

southern edge of the inhabited zone in this part of the Thames valley.

Finds of archaeological interest have been made in the area for many years. The earliest objects are Palaeolithic handaxes from local gravel pits as well as some Mesolithic tools². A tip of an Acheulean type axe was found in a Roman pit on the site. Neolithic scrapers also occurred in some disturbed layers. A major Neolithic site, a ring ditch and some pits, was excavated in the field next-door by D. D. A. Simpson and Dr. I. Smith in 1963³. The pottery has been dated to the Middle and Late Neolithic and the Beaker period. Bronze Age, Late Iron Age and Roman material have been found in the vicinity. A rich Anglo-Saxon cemetery, dated to the 6th and 7th centuries, was quarried at Gerpin's Farm, 1-2 km ($\frac{1}{2}$ -1 $\frac{1}{4}$ miles) to the north⁴. The modern village began in the Medieval period and lies 2 km to the south-west. Much archaeological evidence has been lost in this area to sand and gravel quarrying and so the opportunity to excavate such a large area before destruction was extremely important.

The Site

The cropmark (Fig. 2) represents several periods of use of the site. However, two major areas did not produce any cropmarks, the Late Bronze Age cremation cemetery (area E) and part of the Late Roman agricultural area (area B), where the gravel was poor and mixed with clayey sand. Rainham is

1. We would like to take the opportunity of thanking Cawoods Aggregates Ltd. for their kind co-operation throughout the excavations and for donating the finds, which are now housed in the Passmore Edwards Museum, Romford Road, Stratford, E15 4LZ.

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2. Passmore Edwards Museum Collections.
3. I. Smith, *Ministry of Public Buildings and Works Excavations, Annual Report (1963)*; and *pers. comm.*
4. W. T. Jones, 'Early Saxon Cemeteries in Essex' In *Archaeology in Essex to AD 1500* (ed. D. G. Buckley) C.B.A. Research Report No. 34 (1980) 87 - 95.

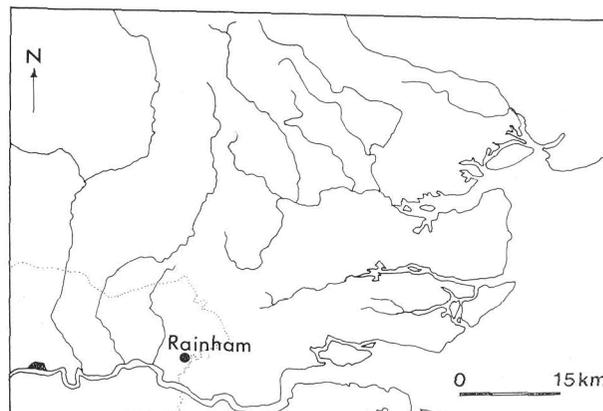


Fig. 1. Location map.

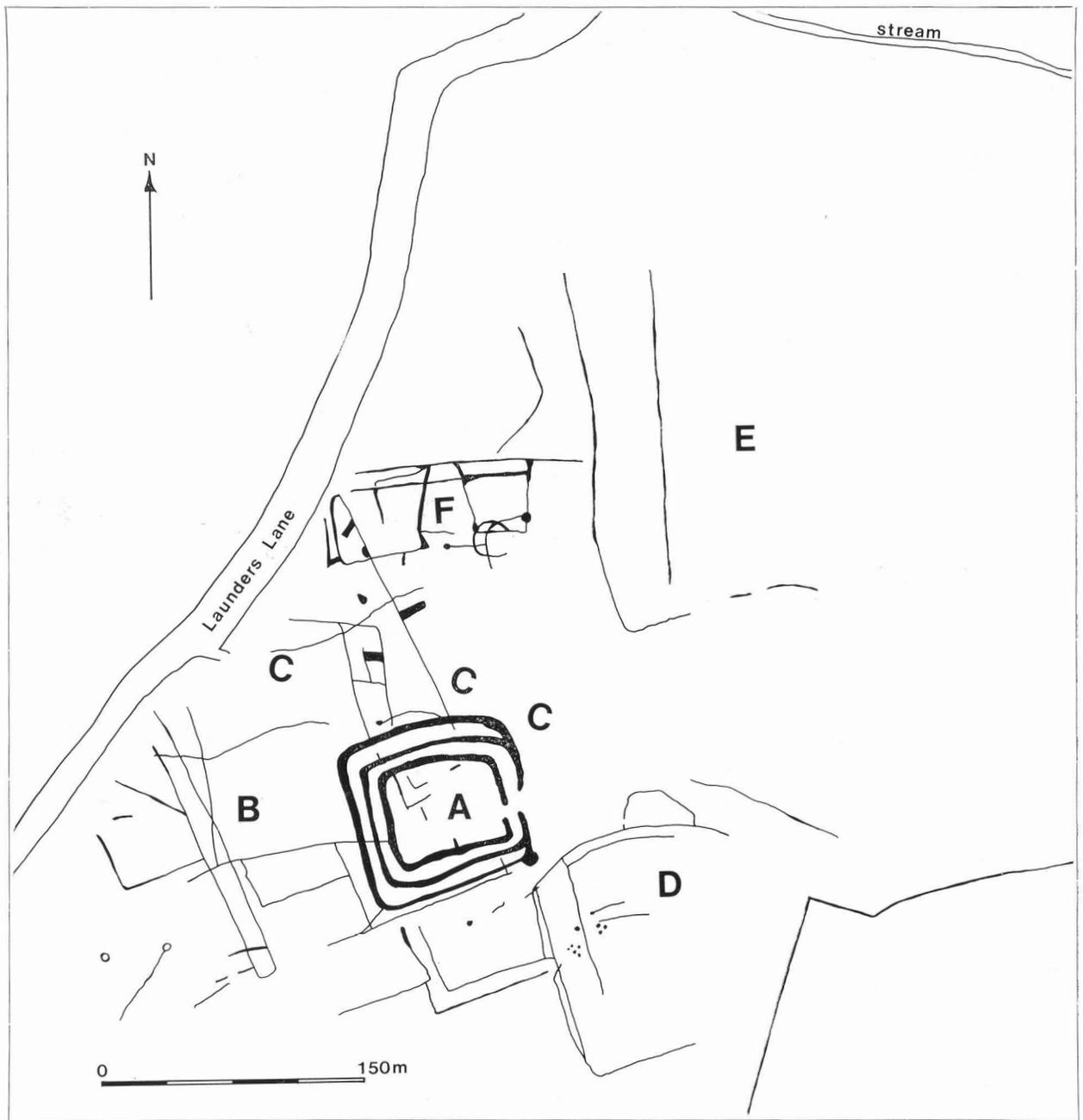


Fig. 2. Plan of the site showing the cropmarks.

therefore a good example of how a cropmark can help by pin-pointing areas of archaeological features, but at the same time is not an infallible guide. The main periods discovered at Rainham are the Late Bronze Age, the Earlier Iron Age, the Late Iron Age, the Early Roman period, the Late Roman

period and the 19th-20th centuries A.D.

The Late Bronze Age (c. 8-7th centuries B.C.)

A small cremation cemetery was excavated on the north side of the site (area E). These burials are one of the most important discoveries from Rainham

because such a find is unique to the area and few settlements or cemeteries of this period are known or have been excavated in the Lower Thames valley. The nearest material of this period to Rainham is the hoard with associated domestic rubbish from Aveley and a hoard from Hornchurch⁵. Further downstream are the recently excavated settlements of Mucking North and South Rings⁵.

The dating of the pottery is based on the recent re-classification of the Later Bronze Age by John Barrett⁷. Parallels can also be drawn with the pottery from Mucking⁶ and some sites in Surrey and Middlesex (Hawks Hill⁸, Brooklands⁹ and Heathrow¹⁰). At this stage in the processing, it is too early to date the finds precisely, but it would appear that they belong to the 7th or 8th centuries B.C.

At least ten cremations and some associated features were found in groups on the level ground forming the crest of the hill. It is most likely that more burials are to be found in the adjacent, unexcavated area.

Each burial consisted of a roughly circular pit, usually between 10 and 35 cm (4 and 14 ins) deep, cut into the natural sand and gravel. The length and width varied from the largest of 100 x 68 cm (3ft 3in x 2ft 3in) to the smallest 44 x 32 cm (1ft 5in x 1ft 1in). Most contained pieces of charcoal and many had obvious fragments of burnt bone. Apart from the urn, probably used to contain the ashes of the dead person, there were other pots in some of the pits. This pottery is a mixture of coarse and fine wares (Fig. 3), the former mostly calcined flint-gritted with some sand; the proportions and amounts vary. The relatively high number of rims and the near absence of bases suggests that some pots were placed in the pits upside down. The pots, together with a very basic collection of crudely worked flint flakes and blades, and, in one case, a worked pebble, seem to have been the only grave goods. Many of the flint implements and other pieces of flint had also been heated or burnt. The amount of grave goods varied from pit to pit, ranging from a few scraps of pottery and flint to abundant collections, particularly of pottery, in two of the burials. This might reflect differences in importance, age, or sex, of those buried. It is also caused by variable damage

from ploughing and earth-moving equipment.

There is slight evidence from one pit that, after the burial, the gravel and earth from it was heaped up over it to form a small mound. This was the only pit found in complete section.

So far, there is no evidence from the site for a Late Bronze Age settlement, the nearest known being at Aveley, about 20 minutes' walk away. It is very probable that there was a nearby settlement, perhaps in the field to the west. Further north and east the ground becomes increasingly water-logged.

The Earlier Iron Age (c. 6th - 3rd centuries B.C.)

The earlier part of the Iron Age, probably the Middle Iron Age, is represented by a settlement with a number of features scattered over the site, but with concentrations in areas C and F. The main features consist of penannular or semi-circular gullies, sometimes associated with pits, stakeholes and possible storage pits, and one well.

In areas D and B/C there were two semi-circular gullies or ditches. In area D the feature was narrow and shallow, but in B/C it was wide and deep and contained much pottery. In area F one penannular gully enclosed a number of pits and post holes. A similar gully adjacent to it and possible others in the area were damaged during quarrying. These gullies and ditches were probably the drip and drainage gullies for earlier Iron Age round houses or perhaps sheltered working areas. Most of the structures had entrances or open sides facing south or south-east away from the cold north winds and the prevailing south-west winds. Straighter ditches and isolated pits also belong to this period. The rich finds of pottery from areas F and B/C as well as burnt daub from walling suggest that there may have been a group of houses or possibly one house and some out-buildings.

The well, very badly damaged in the modern quarry, contained much vegetation, some bone, a pointed wooden stake, and a few sherds. It was apparently unlined and was dug into the natural gravel and sand; it appears to have been about 2m (6½ft) deep, the 'standard' depth for wells on the site.

5. C. Couchman, 'The Bronze Age in Essex' In *Archaeology in Essex to 1500* (ed. D. G. Buckley) C.B.A. Research Report No. 34 (1980) 40 - 46.

S. Needham and C. Burgess, 'The Later Bronze Age in the Lower Thames Valley' In *Brit Archaeol Repts* 83 (1980) 437 - 69.

6. M. U. Jones and D. Bond, 'Later Bronze Age Settlement at Mucking, Essex' In *Brit Archaeol Repts* 83 (1980) 471 - 82.

7. J. Barrett, 'The Pottery of the Later Bronze Age in

lowland England' *Proc Prehistoric Soc* 46 (1980) 297 - 319.

8. B. Cunliffe, 'The Pottery' In F. A. Hastings, 'Excavation of an Iron Age farmstead at Hawk's Hill, Leatherhead' *Surrey Archaeol Collect* 62 (1965) 13-37 (1-43).

9. R. Hanworth and D. J. Tomalin, 'Brooklands, Weybridge' *Surrey Archaeol Soc Res Vol. No. 4* (1977)

10. R. Canham, 'Excavations at London (Heathrow) Airport 1969' *Trans London Middlesex Archaeol Soc* 29 (1978) 1 - 44.

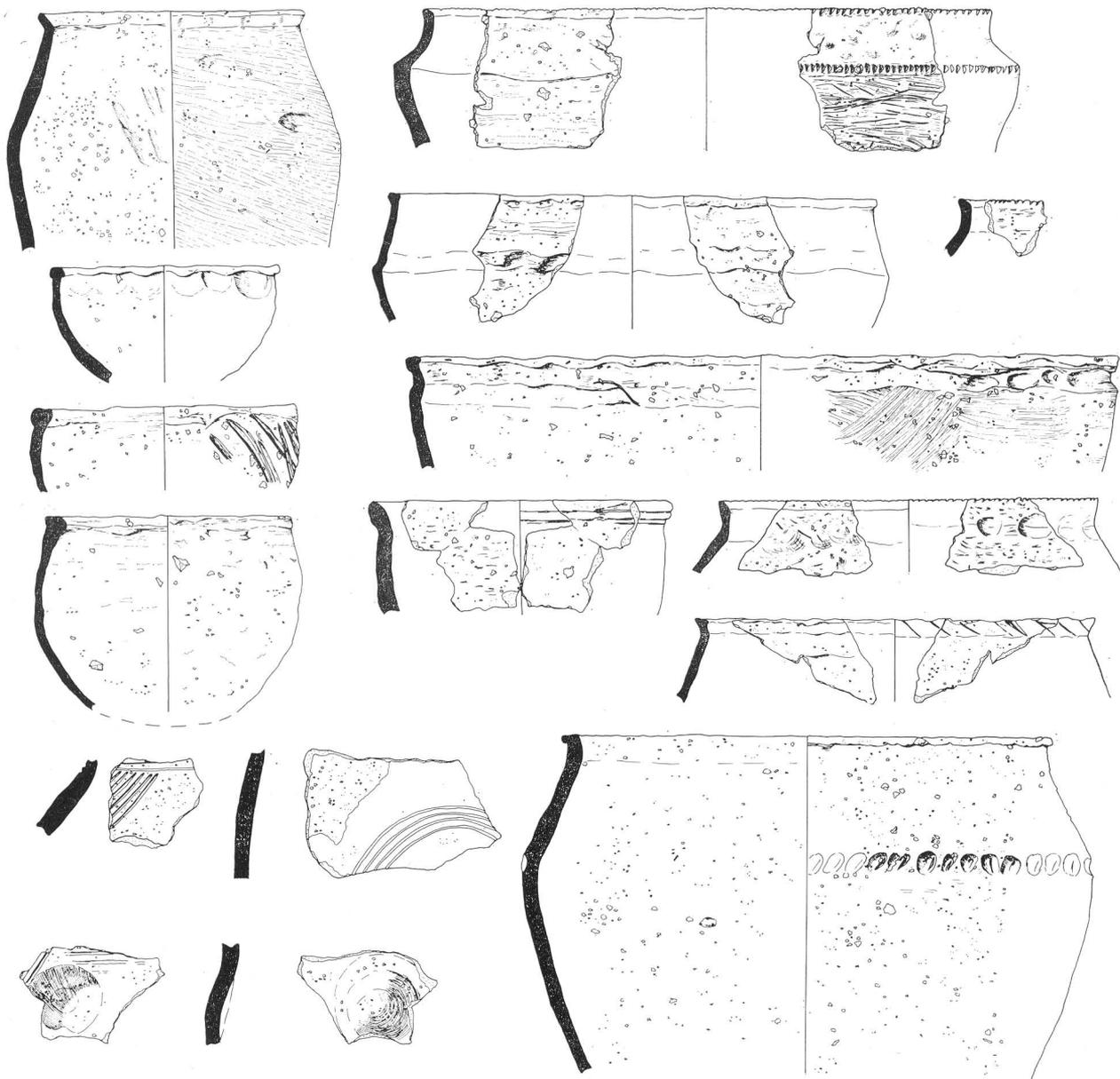


Fig. Late Bronze Age pottery (4).

At this stage, it is not possible to give a precise date for these finds. Some pottery forms (Fig. 4) show some similarity to those from Mucking (J. Catton, *pers. comm.*) and Little Waltham¹¹ and Gun Hill¹². Other types have yet to be identified and

there may be more than one phase of this period at Rainham. Certainly some of the material appears to belong to the Middle Iron Age. The nearest sites of the earlier Iron Age are Mucking, Linford, and Orsett nearby in Essex¹³; there are none known in

11. P. J. Drury, 'Excavations at Little Waltham 1970 - 1971' C.B.A. Research Report No. 26 (1978).
 12. P. J. Drury and W. J. Rodwell, 'Excavations at Gun Hill, West Tilbury' *Essex Archaeol and Hist* 5 (1973) 48 - 112.

13. P. J. Drury, 'The Early and Middle phases of the Iron Age in Essex In *Archaeology in Essex to AD 1500* (ed. D. G. Buckley) C.B.A. Research Report No 34 (1980) 47 - 54

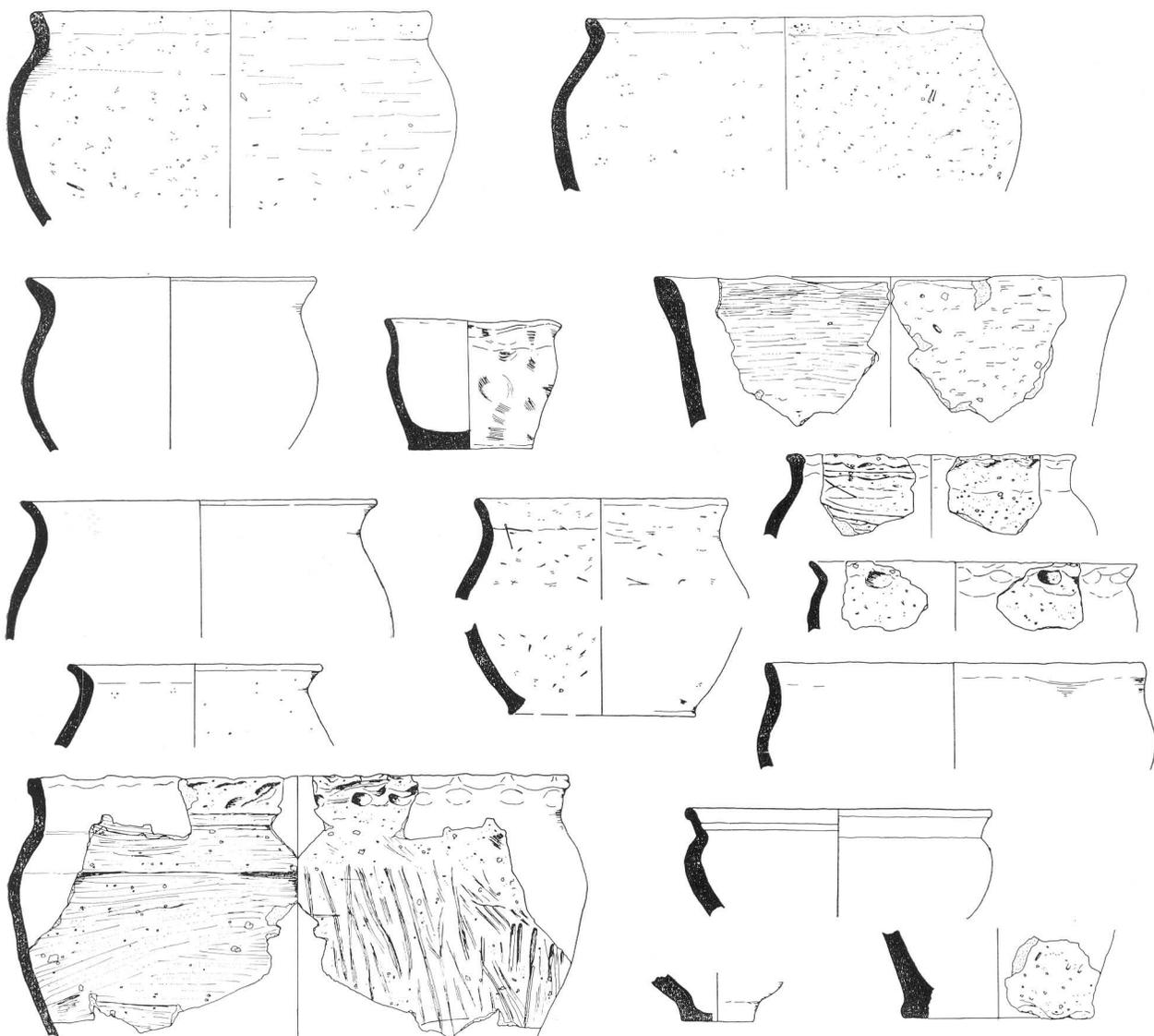


Fig. 3. Late Bronze Age pottery (4).

the adjacent part of the London area.

The Late Iron Age (c. 1st century B.C. - 1st century A.D.)

The main reason for digging the site was to investigate the triple-ditched enclosure that dominates the cropmark. It was a unique opportunity in this area to investigate a complete enclosure virtually undamaged by modern activity.

The enclosure has been dated to the Late Iron Age probably the Roman Conquest period (c. 1st century B.C. to mid 1st century A.D.) on the basis

14. I. Thompson *pers. comm.*

of pottery found in the ditches themselves. More detailed work on the pottery from a well inside the enclosure has given a date of 40 - 50 A.D.¹⁴ to this feature and therefore most probably to the enclosure. The enclosure also cuts a number of small, earlier features, but these have either few finds or ones that are not closely datable. Most of the material, apart from that from the well, came from the Inner and Outer enclosure ditches, the two that would have been the most accessible for the dumping of rubbish.

At present, it seems that the Inner ditch was the earliest because it contained no Early Roman

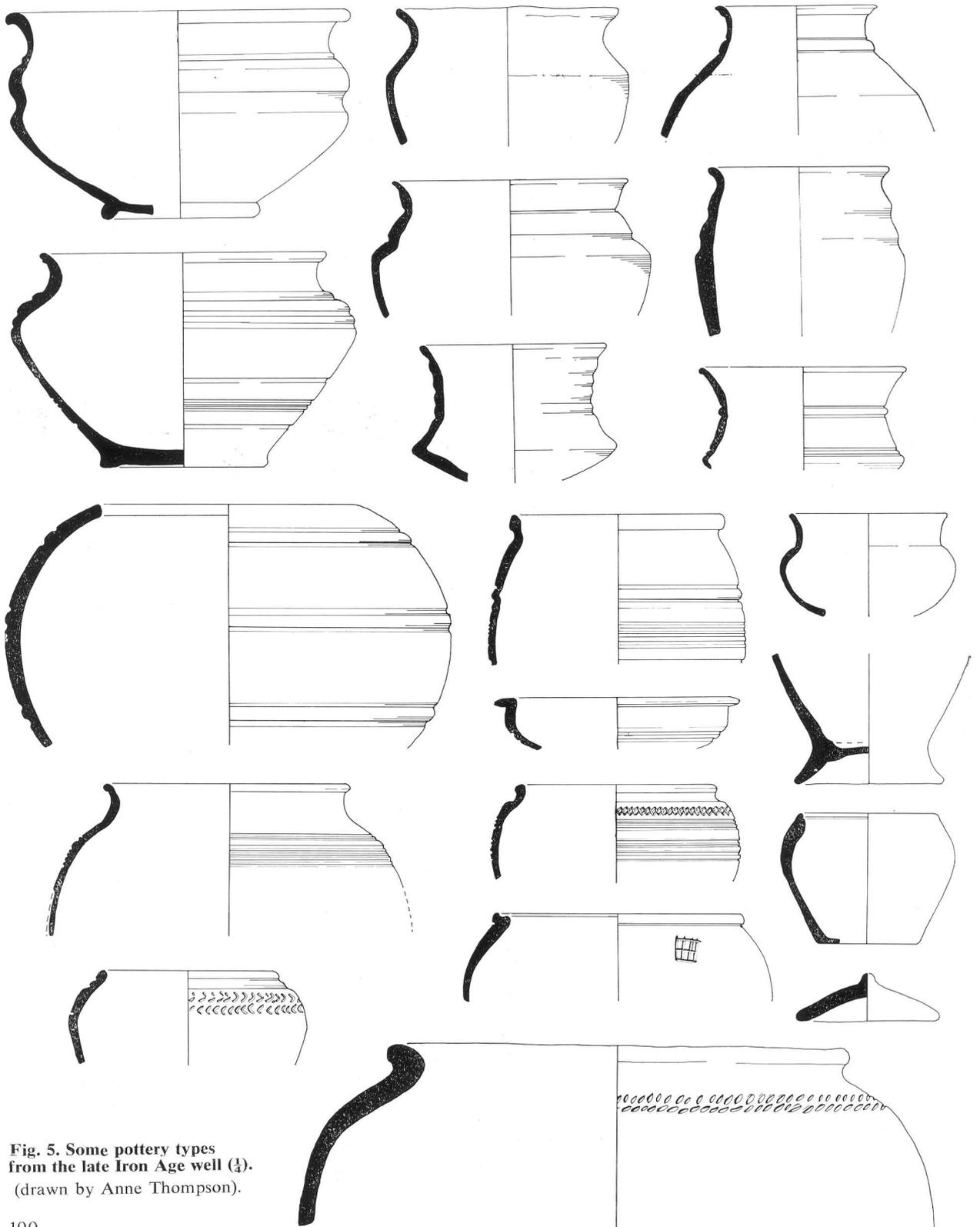


Fig. 5. Some pottery types from the late Iron Age well (4).
 (drawn by Anne Thompson).

material. The Middle ditch appears to have been cut by the Outer ditch on the north-east corner and perhaps also on the south-east one. It is also rather unlikely that it was the last to be dug because it would have been awkward to excavate it between already existing Inner and Outer ditches. There are some Early Roman sherds and Roman tiles from the Outer ditch or at least from some of its re-cuts.

The enclosure measures 78m (256ft) from east to west and 84m (275ft) from north to south. A modern lane ditch badly damaged the entrance which faces east. The enclosure lay on the highest part of the gravel spur and avoided the clays on the east side of the site. There are intervals of roughly 2.5 - 4m (8 - 13ft) between the ditches, which enclose an interior of slightly under 1,360 sq m (14,600 sq ft). This is an extremely small space for normal settlement and the scale of the defences shows that the enclosure is most unlikely to have been simply a defended farmstead. A more probable function was that of a temporary refuge.

Each ditch was an average of 3m (10ft) wide and 0.8m (2ft 6in) deep (measured from the top of the gravel). The original depth was probably at least 1.2m (4ft). The profile ranges from a wide, rounded V-shape normally to a sharper one in a few instances. A narrow slot, roughly one spade wide, was traced in several sections of the Middle ditch. This may have been simply a re-cut or could have been a deliberate ankle-breaker.

Evidence for the ramparts is variable. Bands of gravel were visible after the topsoil had been removed, alongside the ditches. There were clear signs of mixed-up gravels and sands in the few sections on the north-east side where the ditches were archaeologically excavated from the subsoil rather than from the top of the gravel. Stumps of ramparts, rising directly from the ditch edge, showed up in these sections. In the absence of such evidence as post holes and pits, and because of the late dating of the enclosure, it is presumed that the fortification was of the "Glacis" type with heaped up ramparts and counterscarps. This may be a sign that the builders lacked the time and resources to construct more elaborate box type ramparts. Glacis type defences, however, are very effective because they present the attacker with both height (that of the ramparts combined with the depth of the ditches) and steep slopes without footholds. A palisade along the top of the ramparts would have further improved their effectiveness.

In addition, evidence of gravel layers and tip lines in the ditch sections suggests that there were ramparts between the Inner and the Middle, the Middle and the Outer, and outside the Outer enclosure ditch. If there had been a rampart all the

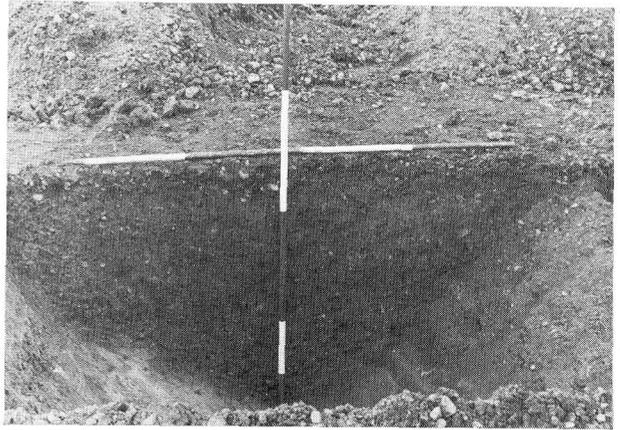


Fig. 6. Section across the Outer ditch of the Late Iron Age triple-ditched enclosure.

way around the inside of the Inner ditch, there would have been even less space internally and the Late Iron Age well would have been buried. This well was not only an important feature for the inhabitants of the enclosure, but also had no gravels in its upper fills which showed signs of still forming a depression in the later Roman period. It is feasible that there was some sort of bank or rampart reinforcing the internal side of the Inner ditch closer to the entrance and some of the Inner ditch fills in this zone have signs of gravels slipping in on both sides. Unfortunately the modern lane ditch crossed the enclosure at this point obliterating much valuable evidence.

There are few features in the interior and even fewer can be securely attributed to the enclosure. Gullies, ditches, pits, and post holes seem to indicate temporary and make-shift structures and enclosures rather than organised and properly laid-out sets of buildings. Plough damage over part of the area and the necessity to strip the topsoil and subsoil off the surface of the gravel by machine may mean that traces of flimsy structures were missed during the excavation. Shallow sleeper beam slots for wooden buildings may not have left any traces. Small quantities of burnt daub were found in the ditch fills and some of the internal features. The most notable interior features were a gully crammed with triangular clay weights and 'Belgic Bricks' and a well.

The well, in the southern corner of the enclosure, appears to have been contemporary with the enclosure both because it respected or was respected by the Inner ditch and because the pottery and other finds have many similarities. Apart from some stake holes, still with traces of wood, there were no signs of any superstructure or lining. The pit was roughly pear-shaped with the main shape forming the larger



Fig. 7. General view of the site with area D and its Late Iron Age and Early Roman features

end. It was 7.6m (25ft) long and from 2 - 4m (6ft 6in-13ft) wide. The main shaft was 2m deep from the surface of the gravel, the usual depth for wells on the site. Owing to adverse circumstances, only the lower 1.1m (3ft 6in) of the fill were excavated in a normal manner.

Most of the pottery (Fig. 5) and other finds came from the upper layers, indicating that the well was filled in with much rubbish after the major part of it had silted up. A few late Roman objects were found in the top layer. These were probably stray items that had fallen into the sunken surface. Organic remains, such as bone and twigs, were well preserved in the lower layers.

On current evidence and progress with the processing, the triple-ditched enclosure appears to have been a cramped, highly defended position on the edge of the marshes, with a clear view (particularly from the ramparts) of the Thames and the surrounding part of the valley. It seems to have been most suitable as a place of refuge, datable to the Roman

conquest period and perhaps slightly earlier.

There is scant evidence of Late Iron Age occupation elsewhere on the site. Most of the features appear to have been enclosure and field ditches. The few rubbish pits are concentrated in the triple-ditched enclosure area. Perhaps the main settlement or settlements should be looked for elsewhere in the neighbourhood, such as in the region of the Jewish Cemetery¹⁵ or further eastwards around the Moor Hall farmhouse¹⁶. Both these areas have produced Late Iron Age pottery and settlement debris.

The Roman Period

There were two phases of Roman occupation at Rainham, both of which covered extensive areas of the site (mainly areas D and F and later B; some ditches ran into area A). The earliest finds are of wares, not produced locally, appearing in Late Iron

15. Passmore Edwards Museum Collections.

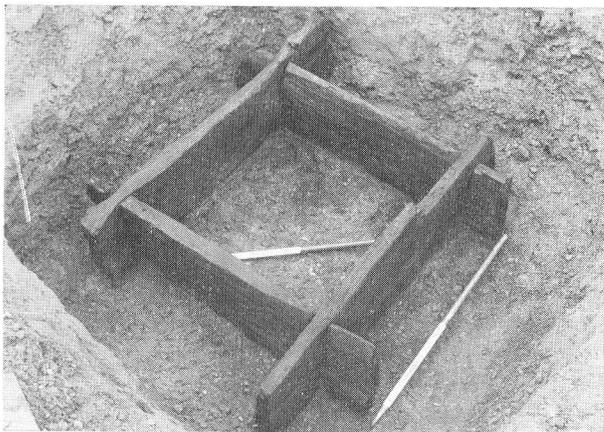
16. K. J. Barton, 'Report of an Excavation at Aveley, Essex' *Thurrock Historical Society Publication* (1959).

Age features. The bulk of the early material can be dated to the 1st and early 2nd centuries A.D. Most of the early features were ditches, probably field boundaries and enclosures, and some of these followed the line and alignment of their late Iron Age predecessors. There were also a few pits. The eastern part of the site (area D) appears to have been used for fields, but there also seem to be small working areas and small-scale gravel and sand quarrying (Fig. 7). There are no signs of any houses or huts. This area might reflect some re-organisation of fields and working areas after the local people had recovered from the conquest. The lack of settlement evidence suggests that they were living elsewhere.

Part of area B included a Roman field system, mainly attributable to the 2nd-4th centuries A.D. This ran into area A and over part of the Late Iron Age triple-ditched enclosure. When these ditches and a Roman well are precisely dated, they may give valuable dating evidence for the end of the enclosure and when the ramparts ceased to exist to a noticeable height.

There are signs of more intensive activity for the Late Roman period, the later 3rd, 4th and early 5th centuries A.D. Area B, to the west of the enclosure, contained a ditch system and an agricultural area, probably a farmyard. Judging from the different alignments, area B was occupied in several different phases, but their chronology and finds have not yet been fully studied.

Features within this area included a circular flint-lined well, a square timber-lined well (Fig. 8), several very large pits, some probably unsuccessful wells, at least one oven with clay, chalk-block and flint



**Fig. 8. Late Roman timber-lined well:
the lowest row of timbers.**

walls, an open-ended barn-like structure, several small enclosures with curving gullies and rows of post holes, and a very few rubbish pits. A quantity of roof tiles and flint blocks indicates that there may have been a substantial building in the vicinity. Air photographs of the field across the road (Lauders Lane) show that the area B complex had continued for some distance to the west. The most probable settlement area would be in this adjacent field or further inland towards the Jewish Cemetery¹⁵, which has over the years produced much Roman pottery including complete vessels.

Some of the pottery types from area B are those that can be dated as late as the early 5th century A.D. The Moor Hall Farm site is the latest known Roman site in this part of London and has provided much interesting study material for the period.

Later Periods

There were no signs from the site of Saxon or Medieval material or features. A medieval rectangular enclosure was excavated in the neighbouring field by Smith and Simpson³. A building identified as Launders Barn, was marked alongside the lane on Chapman and André's map of 1777. The slight remains recovered during the excavation were uninformative. The barn fell down in the 1950s. There may have been a house in the vicinity indicated by a well, now blocked up, and garden shrubs at the western end of the remaining part of the lane. This lane, leading from Moor Hall farmhouse, was grubbed up recently, but it shows very clearly as a strong cropmark on the air photograph and it cut through the triple-ditched enclosure.

Conclusions

The Moor Hall Farm site has provided much new evidence for the area, and indeed for the eastern part of London. Both the period range and the quantity of material and features are greater than normally found. It also gave an opportunity to study a large area and to gain some insight into the layout of the Earlier Iron Age settlement, of the Late Iron Age enclosure, and of the Late Iron Age and Roman agricultural areas. Common aspects of the layout and boundaries could also be seen. Such an opportunity is only available on such sites as large scale gravel quarries and it is to be hoped the importance of these sites is realised and the resources made available before they are totally destroyed. With the thorough investigation of the threatened sites in this part of London, the Museum hopes to be able to gain a clearer picture of the nature of settlement and of man's past activities here.