

WATCHING BRIEF

AT

THE NEW DISTRIBUTION WARE HOUSE

RHONE-POULENC RORER

DAGENHAM

DA-RP 93

11/1/93 - 22/1/93

BY

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CONTENTS	Page
ABSTRACT	2
INTRODUCTION	2
PIER TRENCH DESCRIPTIONS	5
SITE PHASING	24
SUMMARY	25
THE FINDS	26
BIBLIOGRAPHY	26
ACKNOWLEDGEMENTS	26
LIST OF ILLUSTRATIONS	
Figure 1: Site Location Plan	3
Figure 2: Trench Location Plan	4
Figure 3: Sections, Pier Trenches A2 - A10	6
Figure 4: Sections, Pier Trenches A11 - K5	11
Figure 5: Sections, Pier Trenches K8 - U15	18
Figure 6: Inter-Pier Trench Matrix	23
Figure 7: Lower Palaeolithic Hand Axes	27

## ABSTRACT

The recording of twenty one pier trenches for Rhone-Poulenc Rorer's new distribution ware house, Dagenham, revealed four phases of natural and archaeological activity dating from the Pleistocene to the present day.

## INTRODUCTION

The Rhone Poulenc Rorer Pharmaceutical works, Dagenham, which is a large industrial complex to the East of Rainham Road North and to the North of the L.U.L. District Line. The Eastern part of the site is the location for the Medieval Stockdale Farm. Gravel was extracted from this area of the site in 1977 and during this process several Lower Palaeolithic hand axes and waste flakes were recovered (see Figure 7).

Largely because of these finds the Passmore Edwards Museum undertook a ten day archaeological watching brief from the 11/1/93 to 22/1/93 in advance of the construction of the new warehouse. The investigation was fully funded by the company. The watching brief examined twenty-nine of the footing trenches for the new building which were excavated by a mechanical digger under archaeological supervision. The site was negotiated for and directed by Mr Ken MacGowan. It was supervised by Chris Jarrett and Paul Thrale who made up the work force.

In response to the unknown contamination levels of the ground the Museums Health and Safety Officer formulated a Health and Safety Policy which avoided handling the soil or entering trenches. The method required the pier-trenches to be machine excavated after which the archaeologist recorded and photographed the layers of soil.

The Footing Trenches were numbered according to Costain Constructions "Foundation General Arrangement" plan and there position is shown on the Trench Location Plan (Figure 2).

PIER TRENCH DESCRIPTIONS

PIER TRENCH A2

1  
I  
10  
I  
16  
I  
19

Context

- 1 - layer, grey gravel
- 10 - layer, very dark grey clay
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel

The section of Pier Trench A2 comprised of a layer of gravel (1), laid for the current construction work. Underlying layer (1) was a layer of dark clay (10) which was contemporary with the present pharmaceutical works and had been partially removed prior to the present building project. Layer (10) possibly contained within it an earlier agricultural soil representing farm land before the works were built in 1934. The soil may have accumulated immediately after the underlying layer of brickearth, (16) had been deposited therefore the soil (10) may date from the warming of the climate after the last Ice Age. However this soil has probably been considerably altered since that time with changing agricultural land use and the construction of the chemical work complex. Layer (16), a deposit of brickearth was formed in the Pleistocene period and can not yet be assigned to a Glacial (cold) or Interglacial (warm) period until current research has updated the chronology of the local Geology. The brickearth (16) was formed either by means of fluvial ( river ) action carrying material from the melting ice sheets north of the area or by aeolian (wind) methods picking up silt and clay particles and transporting and depositing the material far from its source. The brickearth overlay gravel (19) which is part of the Thames River Terrace Gravels. During an unestablished glacial period when the ice sheets had stored sea water and lower sea levels resulted, the Thames eroded the river valley to create terraces. During the latter geomorphological process, the gravel (19) resulted from the deposition of material transported by the river and was the lowest deposit seen in the section for A2. Layer (19) was the most commonly occurring geological gravel context and was usually stratigraphically the latest and overlay other Thames River Terrace gravel deposits. These were separately contexted because they contained different proportions of sand to gravel, the result of different fluvial processes.

PIER TRENCH A3

1  
I  
10

I  
16  
I  
19

Context

- 1 - layer, grey gravel
- 10 - layer, very dark grey clay
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel

The stratigraphy of this trench section followed the same pattern as in Pier Trench A2. Layer (1) consisting of a made surface of gravel for the current building work overlay layer (10), a probable agricultural soil changed by the building activity of the Pharmaceutical Works, which overlay a water lain or wind blown brickearth deposit (16) over the natural gravel of the river terrace, (19).

PIER TRENCH A4

1  
I  
11  
I  
12  
I  
16  
I  
19

Context

- 1 - layer, grey gravel
- 11 - layer, light brown sand with frequent gravel
- 12 - layer, dark grey sandy clay
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel

This pier trench showed six layers. The layer of gravel (1) laid as a working surface for the current construction overlaying (11), a modern building rubble from earlier buildings upon (12) a probable remnant of an agricultural soil incorporating modern material. The later context was similar to (10) in the two previous trenches. Layer (12) overlay the brickearth (16) which overlay the River gravel (19).

PIER TRENCH A5

1  
I  
10  
I  
16  
I

Context

- 1 - layer, grey gravel
- 10 - layer, very dark grey clay
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel

This section was similar to that of Pier Trenches A2 an A3. The layer of gravel building surface (1) overlay a past agricultural soil (10), which was altered by activity concerning the building of the chemical plant. Layer (10) overlay the brickearth (16) which in turn overlay the natural river gravel (19).

PIER TRENCH A6

Not recorded as the trench contained a leaking utility service pipe.

PIER TRENCH A7

- 1
- I
- 16
- I
- 18
- I
- 19

Context

- 1 - layer, grey gravel
- 16 - layer, orange brown silt
- 18 - layer, light greyish sand
- 19 - layer, orange brown gravel

In Trench A7, the surface had been recently graded down so that layer (1), the building surface, came directly on top the brickearth (16) which in turn was over a layer of sand (18). This layer of sand probably represents a water sorted deposit within the river terrace gravels.

PIER TRENCH A8

- 1
- I
- 16
- I
- 19

Context

- 1 - layer, grey gravel
- 16 - layer, orange brown clay silt

19 - layer, orange brown gravel

Trench A8 showed that layer (1), the gravel building surface was laid directly on to the brickearth (16) and that any deposits between the two layers were recently removed. The brickearth overlay the natural gravel (19).

#### PIER TRENCH A9

1  
I  
13  
I  
15  
I  
16  
I  
19

#### Context

1 - layer, grey gravel  
13 - layer, brown clay  
15 - layer, orange brown sandy gravel  
16 - layer, orange brown clay silt  
19 - orange brown gravel

The section in Pier Trench A9 showed the gravel construction surface (1) overlaying a modern make-up layer (13), probably representing a dump layer of builders material dating to the construction of the Rhone-Poulenc Rorer complex. Under layer (13) was a layer of sandy gravel (15). Underlying (15) was the brick earth (16) upon the Thames River Terrace gravel (19).

#### PIER TRENCH A10

1  
I  
16  
I  
19  
I  
26

#### Context

1 - layer, grey gravel  
16 - layer, orange brown clay silt  
19 - layer, orange brown gravel  
26 - layer, yellow brown sand

Pier Trench A10, showed gravel layer (1) laid as a contemporary building surface directly on to the brickearth, (16). Under (16) was the gravel layer (19) over a sandy layer (26). Both these sand and gravel layers are part of the river terrace gravels and represent different types of fluvial deposition activity.

PIER TRENCH A11

1  
I  
15  
I  
16  
I  
19

Context

- 1 - Layer, grey gravel
- 15 - Layer, orange brown sandy gravel
- 16 - Layer, orange brown clay silt
- 19 - Layer, orange brown gravel

In Pier Trench A11, layer (1) the construction surface overlay (15) a possible modern make-up or dump layer of builders gravel and sand. Beneath (15) was the brickearth (16) which in turn over lay the Thames River Terrace gravel (19).

PIER TRENCH A12

1  
I  
15  
I  
16  
I  
19

Context

- 1 - Layer, grey gravel
- 15 - Layer, orange brown sandy gravel
- 16 - Layer, orange brown clay silt
- 19 - layer, orange brown gravel

The stratigraphy in this Pier Trench was similar to Trench A11. The gravel laid for the present construction programme (1), overlay (15) a possible make-up or builders dump of material. The latter layer overlay (16) the brickearth which in turn overlay the river gravel (19).

PIER TRENCH A13

1  
I  
15  
I

16  
I  
19

Context

- 1 - Layer, grey gravel
- 15 - Layer, orange brown sandy gravel
- 16 - Layer, orange brown clay silt
- 19 - Layer, orange brown gravel

This Trench section again followed the same sequence of deposits as seen in Trenches A11 and A12. Layer (1) consisted of a gravel surface laid as part of the current building project. Layer (1) overlay (15) a deposit of sand probably the result of previous building activity. Layer (15) sealed (16) a deposit of brickearth, formed from wind blown or water laid material. Under (16) was the earliest deposit in this pier trench the river gravel (19).

PIER TRENCH B1

1  
I  
27  
I  
16  
I  
19

Context

- 1 - Layer, grey gravel
- 27 - Layer, dark grey silty clay
- 16 - Layer, orange brown clay silt
- 19 - Layer, orange brown gravel

In Pier Trench B1 the contemporary gravel working surface (1) overlay (27) a silty clay which contained evidence of human activity. This consisted of flecks of brick and charcoal, which may have accumulated recently within the soil matrix. Layer (27) probably represents an agricultural soil pre-dating the present site use and originated in the Flandrian ( the post Ice Age period ). (27) overlay the brickearth (16) which had been deposited in the last glaciation. The brickearth (16) sealed a layer of river terrace gravel (19).

PIER TRENCH B2

1  
I  
27  
I  
16

I  
19

Context

- 1 - Layer, grey gravel
- 27 - Layer, dark grey silty clay
- 16 - Layer, orange brown clay silt
- 19 - Layer, orange brown gravel

The sequence of deposits in this pier trench was similar to pier trench B1. Layer (1), a contemporary gravel working surface sealed (27), described above. Layer (27) probably began to form at the end of the last glaciation and sealed the deposit of brickearth (16), which in turn overlay the river gravel (19).

PIER TRENCH D1

1  
I  
27  
I  
16  
I  
19

Context

- 1 - layer, grey gravel
- 27 - layer, dark grey silty clay
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel

Pier Trench D1 had similar stratigraphy as Pier Trenches B1 and B2. The gravel hard core surface (1) overlay (27) which was subsequently ploughed but now also incorporating modern building materials probably from the previous building on the site. Layer (27) sealed the brickearth (16) which overlay the river gravel (19).

PIER TRENCH K2

14  
I  
16  
I  
19

Context

- 14 - layer, orange brown clay
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel

The stratigraphy of this pier trench section consisted of a layer of orange brown clay (14) which was probably a recent

dumped layer to level up the land prior to the construction of the previous building on the site. The absence of any soils in this Pier Trench suggested that the land here had been graded down. Layer (14) overlay the water lain or wind blown deposited brickearth (16) which probably formed in the last Ice Age. This (16) overlay the Thames River Gravel (19) which was also deposited earlier in the same Ice Age.

#### PIER TRENCH K3

14  
I  
16  
I  
19

#### Context

14 - Layer, orange brown clay  
16 - Layer, orange brown clay silt  
19 - Layer, orange brown gravel

Pier Trench K3 had similar stratigraphy as Pier Trenches K2 above and K4 below. Layer (14) a modern make-up layer of clay which was used to level the land for the previous building on the site overlay the brickearth (16). Any soils overlaying the brick earth had probably been graded away by modern mechanical activity. This is suggested by the conspicuous absence of soils which were seen in the pier trenches in the Northern area of the site. Underlying (14) was the brickearth (16) which overlay the Thames River Gravel (19).

#### PIER TRENCH K4

14  
I  
16  
I  
19

#### Context

14 - Layer, orange brown clay  
16 - Layer, orange brown clay silt  
19 - Layer, orange brown gravel

Pier Trench K4 had the same stratigraphic sequence as Pier Trenches K2 and K3 above. The origin of layer (14) is explained above and sealed layer (16) the brickearth. The latter was deposited by aeolian or fluvial activity in the last glaciation period. The brick earth sealed the gravel deposited by the River Thames at an earlier time in the same period of cold climate as that of the brickearth.

PIER TRENCH K5

8  
I  
9  
I  
16  
I  
19

Context

- 8 - fill, orange brown clay
- 9 - cut, linear, concave sides, rounded base  
2.00m (N-S) x 1.50m (E-W) x 0.70m deep
- 16 - Layer, orange brown clay silt
- 19 - layer orange brown gravel

The section in this Pier Trench showed that the ground surface had been levelled to the brickearth (16) so removing any previous soil layers that had probably previously existed. Excavated into the brickearth was a cut, (9) and its fill (8). The shape of the cut gave no indication of its function. The brickearth overlay the Thames River Terrace gravel (19).

PIER TRENCH K8

1  
I  
11  
I  
16  
I  
19  
I  
23  
I  
24  
I  
26

Context

- 1 - layer, grey gravel
- 11 - layer, light brown sand and gravel
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel
- 23 - layer, dark orange sandy gravel
- 24 - layer, white sand
- 26 - layer, yellow sand gravel

In Pier Trench K8 the layer of gravel (1) laid as a working

surface for the current building activity overlay a layer of sand (11) which was probably a make-up layer laid during previous building activity. This layer of sand overlay the brickearth (16). The brickearth overlay the river gravel (19). Below (19) a number of different variants of the river gravels were recorded which were distinguished by the gradation of different particle sizes. Layer (23) was a layer of iron panned gravel underlying (19) probably caused by minerals leaching down through the overlying gravel and aggregating together at this point. Underlying (23) was a layer of white sand (24) which probably represents a different fluvial sorting process where a current within a river carried along a sand sediment which was deposited when the water velocity of the river current slowed. Underlying layer (24) was a deposit of sand and gravel showing a further difference in fluvial deposition but with a similar deposition mechanism as layer (24).

PIER TRENCH K9

1  
I  
11  
I  
16  
I  
19

Context

- 1 - layer, grey gravel
- 11 - layer, light brown sand gravel
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel

The stratigraphy of the deposits shown in this pier trench section consisted of layer (1), the gravel hard-core surface laid for the present construction work overlaying a sand layer (11). This was probably a make-up layer resulting from previous building activity on the chemical plant complex. Layer (16), the brickearth was sealed by layer (11) and the river terrace gravel 19 underlay the brickearth.

PIER TRENCH K10

1  
I  
11  
I  
16  
I  
19

Context

- 1 - layer, grey gravel
- 11 - layer, light brown sand gravel
- 16 - layer, orange brown clay silt
- 19 - layer, orange brown gravel
- 26 - layer, yellow brown sand gravel

This pier trench stratigraphy consisted of the gravel hard-core working surface (1) upon a layer of sand, (11) that probably resulted from previous building activity. Layer 11 overlay (16) the brickearth which in turn overlay (19) the river gravel which overlay another gravel layer. Gravel layer (19) was distinguished by being more compacted compared to the underlying gravel which contained more sand than gravel. This probably represents a different form of fluvial process of deposition compared to the overlying gravel (19) above.

PIER TRENCH N14

- 11
- I
- 19
- I
- 26

Context

- 11 - layer, light brown sand gravel
- 19 - layer, orange brown gravel
- 26 - layer, yellow brown sand gravel

The stratigraphy of this Pier Trench section consisted of a layer of Modern make-up (11) containing modern building materials. This in turn overlay (19) the Thames River Terrace Gravel which overlay a layer of sand (26), a variant on the gravel showing a different form of river deposition.

PIER TRENCH R14

- 11
- I
- 19
- I
- 26

Context

- 11 - layer, light brown sand gravel
- 19 - layer, orange brown gravel
- 26 - layer, yellow brown sand gravel

The Stratigraphic sequence in this Pier Trench section was

exactly the same as Pier Trench N14 above. A layer of building material (11) formed a modern make-up layer at the surface which overlay the Thames River Terrace Gravel (19) which in turn overlay a layer of river deposited sand (26).

#### PIER TRENCH S14

11  
I  
17  
I  
18  
I  
19

#### Context

11 - layer, light brown sand gravel  
17 - layer, light yellow gravel  
18 - layer, light greyish brown sand  
19 - layer, orange brown gravel

In Pier Trench S14 the make-up layer (11) containing modern building material overlay (17) which was a deposit of pea gravel. Layer (17) was either a modern make-up layer or a river sorted sediment and therefore part of the Thames River Terrace Gravel. Underlying (17) was a layer of sand (18), which was also probably a fluvially sorted deposit overlaying (19) the main gravel layer seen across the whole site.

#### PIER TRENCH T14

1  
I  
11  
I  
18  
I  
19

#### Context

1 - layer, grey gravel  
11 - layer, light brown sand gravel  
18 - layer, light greyish brown sand  
19 - layer, orange brown gravel

The stratigraphical sequence of layers in Pier Trench T14 consisted of the layer of gravel (1), laid down for the current building programme as a working surface. Underlying (1) was a make-up layer (11) containing modern building materials. Underlying (11) was a deposit of sand (18), which was part of

the river gravel sequence.

PIER TRENCH T15

2  
I  
3  
I  
4  
I  
5  
I  
6  
I  
7  
I  
19  
I  
20  
I  
22  
I  
25

Context

- 2 - layer, dark grey tarmac
- 3 - layer, dark red broken bricks
- 4 - fill, mid grey brown silt clay
- 5 - fill, metal pipe
  
- 6 - cut, abrupt edges, flat base  
1.50m (N-S) x 0.60m (E-W) x 0.55m deep
- 7 - layer, dark grey clay
- 19 - layer, orange brown gravel
- 20 - layer, dark orange brown gravel
- 22 - layer, black gravel
- 25 - layer, orange brown gravel

The sequence of deposits in this Pier Trench consisted of a layer of tarmac for road surface running along the Southern boundary of the site. The layer of tarmac (2) was laid on a hard core layer of broken bricks (3) sealing context (4) a fill for a cut, (6) containing a metal utility service pipe (5). The pipe trench (6) truncated layer (7), a modern make-up layer, which overlay the Thames River Terrace Gravel (19). Beneath (19) a layer of iron panned gravel (20) formed by minerals leaching down through the gravel and aggregating at this level. Underlying (20) was a layer of stained gravel (22) which had probably been caused either by the construction of the drain pipe trench (6) or leakage from pipe (5). Underlying (22) was another layer of river gravel, (25).

PIER TRENCH U15

2  
I  
3

I  
7  
I  
19  
I  
20  
I  
21  
I  
25  
I  
26

#### Context

- 2 - layer, dark grey tarmac
- 3 - layer, dark red broken bricks
- 7 - layer, dark grey clay
- 19 - layer, dark orange gravel
- 20 - layer, dark orange gravel
- 21 - layer, white sand
- 25 - layer, orange brown gravel
- 26 - layer, yellow brown sand gravel

This Pier Trench section had a stratigraphic sequence consisting of a layer of tarmac (2) laid on top of hard core over (3). A modern make-up layer (7) sealing a layer of Thames River Terrace Gravel, (19). Below (19) the sequence of deposits that are part of the gravel lithology continued with a layer of iron panned gravel, (20) sealing a layer of sand and gravel (21), showing a variation of sorting of sediments by fluvial mechanics. The latter layer overlay (25), a deposit consisting largely of gravel over the final and earliest layer of gravel in the sequence a deposit of sandy gravel (26).