Deephams Sewage Treatment Works, Ardra Road, Edmonton, London Borough of Enfield, Phase 2

An Archaeological Evaluation
for Kennet Properties Ltd

by Graham Hull
Thames Valley Archaeological Services Ltd

Site Code PLK01

July 2001
Summary

Site name: Deephams Sewage Treatment Works, Ardra Road, Edmonton, London Borough of Enfield (Phase 2)

Grid reference: TQ 3580 9300

Site activity: Evaluation

Date and duration of project: 9th-19th July 2001

Project manager: Steve Ford

Site supervisor: Graham Hull

Site code: PLK01

Area of site: 3.4 ha

Summary of results: No archaeological remains were recorded in this secondary phase of evaluation. The evaluation has encountered palaeoenvironmental deposits in the form of peaty material, waterlogged organic remains and has located the courses of ancient water channels.

Monuments identified: None

Location and reference of archive: The site archive is presently held by Thames Valley Archaeological Services Ltd, 47–49 De Beauvoir Road, Reading, Berkshire, RG1 5NR. It is anticipated that the archive will be deposited with the Museum of London in due course.

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Report edited/checked by: Steve Ford
Steve Preston/
Melanie Hall-Torrance
Introduction

This report documents the results of an archaeological field evaluation carried out at Deephams Sewage Treatment Works, Ardra Road, Edmonton, London Borough of Enfield (TQ 3580 9300) (Fig. 1). The work was commissioned by Robert Grist of Ridge Management, Beaumont House, 59 High Street, Theale, Reading, RG7, on behalf of Kennet Properties. Outline planning permission has been granted (TP/93/0244) for the construction of commercial units although the final layout has not yet been decided. In accordance with the Department of the Environment’s Policy and Planning Guidance Note, *Archaeology and Planning* (PPG 16 1990), a first phase of field investigation was requested to provide preliminary information about the broad distribution of relevant archaeological and palaeoenvironmental deposits across the site and to locate areas of the site which will require further detailed examination. This was requested, and the project specification recommended for approval, by Mr R Whytehead, of Greater London Archaeology Advisory Service, Archaeological Advisor to the London Borough of Enfield. The Phase 1 fieldwork was carried out by Thames Valley Archaeological Services Ltd between 29th May and 8th July 2001 and has been recently reported (Pine 2001). The Phase 2 fieldwork was supervised by Graham Hull and was assisted by Clare Challis between the 9th and 19th of July 2001. The site code is PLK01.

Location, topography and geology

The site is located on a 3.4ha parcel of land within the Deephams Sewage Treatment Works, off Ardra Road, Edmonton, to the south of the main sewage works complex (Fig. 1). The site is now disused, but consists of two emptied sludge lagoons (referred to here as A and B- Fig. 2). At the time of the evaluation the surface of the emptied lagoons were at a height of between 9.5m and 10m above Ordnance Datum. The site lies on the floor of the valley of the river Lea, which is a major tributary of the Thames. The British Geological Survey shows the underlying geology comprising Kempton Park Gravels, which are buried beneath alluvium (silt and clays) (BGS 1994).

Archaeological background
A desktop study for the environs of the site was carried out in 1995 (Lewis 1995). This study concluded that the site of Deephams lies in an area of high archaeological and palaeoenvironmental potential.

For the earlier prehistoric periods, relatively few finds are recorded for the environs of the site. Finds of Palaeolithic, Mesolithic and Neolithic date only comprise sporadic flint and stone tools, though other parts of the Lea valley have produced more, and better-provenanced, finds and occupation sites.

Bronze Age finds are more frequent with the most distinctive finds comprising bronze metalwork. One of these pieces (a palstave) may be a utilitarian tool lost by accident, but finds of a rapier, spearhead and shield may reflect ceremonial or ritual deposition in a ‘watery place’. Occupation deposits are not recorded but a cremation burial and a wooden pile structure probably reflect some form of occupation. Recent and on-going fieldwork in the valley several kilometres to the north of the site, at Rammey Marsh has revealed evidence for a complex of occupation and land division of Bronze Age date (WA 1997).

For the Iron Age, several finds of prestigious metalwork are again likely to reflect ritual deposition in sacred watery places, but finds of pottery and late Iron Age coins represent some occupation in the area.

The Roman period is well represented within the study area with an emphasis along the corridor of the Roman road from London to Lincoln, which lies to the west of the site. Finds of pottery, coins and metalwork are present elsewhere, indicating widespread use of the landscape at this time.

For the Saxon period, finds from the environs of the site are not well represented but there are settlements at Edmonton and Lower Hall Lane. This pattern contrasts with the medieval period when a large number of finds and sites are known. The site of Deephams Manor house lay just to the north of proposal site beneath the retained area of the sewage works.

The desktop study included an examination of the large number of boreholes both on the site and in neighbouring areas which allowed the topography underlying the made ground to be mapped and assessed. This study revealed the presence of probable gravel ‘islands’ in the area, including the proposal site here, with deeper areas of alluvium and peat. The gravel ‘islands’ are a significant topographic feature of low-lying land as they are relatively dry when adjacent areas are flooded. In the fenlands of eastern England, large ‘gravel islands’ occupying tens of hectares have been preferentially occupied in both prehistoric and historic times (Hall 1987). For the Lea Valley, smaller areas of gravel islands, perhaps even gravel ‘bars’ would be anticipated. Low-lying, riparian locations were preferentially settled and utilized in Mesolithic and earlier Neolithic times (e.g., Clark 1976) and on a local basis, areas of slightly higher ground would be selected for occupation and task-specific activities such as butchery.
The borehole study also indicated that alluvium above the gravel bedrock was present over most areas of the site. Much alluvium deposited during episodes of overbank flooding within the Thames basin is relatively late in date (Iron Age and later) and relates to various factors affecting drainage such as a rising sea level and increased run off due to deforestation (Lambrick and Robinson 1984). As such, most deposits of archaeological interest lie beneath such alluvium. However, the early deposition of alluvium is attested at many sites (e.g., Lewis 1989; Lewis et al. 1992) with archaeological deposits both beneath, within, and on top of this alluvium.

Watching brief

A watching brief took place between January and March 2001 during the process of emptying the sludge lagoons on the southern third of the site. During this watching brief no finds earlier than the 19th century were noted, with 20th-century pottery, clay pipe and glass fragments being observed. Apart from one small area in the eastern lagoon, which had been disturbed, the remainder of the gravel had retained its cover of alluvium.

Phase 1 evaluation

A first phase field evaluation took place across the southern portion of the sewage works and included the sludge lagoons examined here. The detailed results of this intrusive work may be consulted in Pine 2001. The conclusion of that evaluation is reproduced here:

No archaeological features or finds were recovered during this first phase of evaluation. It has to be highlighted that the extent of the site area examined (c. 0.43%) and the small number of points sampled (due to the use of large, wide trenches) would not normally be sufficient to state with reasonable confidence that no deposits of archaeological significance were present. The deposition of the alluvium and peat growth for the lowest levels of the site are likely to have taken place early in the post-glacial period. Our knowledge of prehistoric sites for that period, limited though it is, shows that they are most often represented by dense clusters of struck flints which are of restricted spatial extent. This type of site is difficult to locate with a low sample fraction especially if it also consists of a small number of sample points.

However, the evaluation has achieved one important objective, which was to provide information on the nature, depth and survival and distribution of deposits of archaeological and palaeoenvironmental potential on the site. The evaluation has shown that, although the site has been heavily developed, the relevant archaeological and
palaeoenvironmental strata have, by and large, survived over large parts of the site. Alluvial coverage of the gravel
appears to be present across the whole site and at least for the former slurry lagoon areas the initial watching brief
indicated the presence of such alluvium in situ across the whole area. Peat deposits were encountered in Trenches 2,
5, 6, 7, 8 and 11 and these deposits have high potential for palaeoenvironmental reconstruction, primarily using
pollen analysis. There is a strong probability that this peat formed in the Boreal conditions of the Mesolithic period.

The evaluation trenches have revealed variations in the absolute heights of the gravel and sand across the site,
which may indicate the presence of gravel islands. Gravel in the north-western portion of the site (Trench 1) was
recorded at 10.06m AOD, whereas for Trench 3, about 100m to the south, gravel was recorded at about 7.3m AOD.
A height of about 9.6m AOD was recorded in Trench 4. However, the height variations are, for most of the area, not
marked and there is height variation within some trenches which is greater than that found between adjacent trenches.
For example, in Trench 6 the height varied between 8.1m and 8.7m AOD, which is about the same range as that
between Trenches 7 and 11 where gravel was recorded at 8.3m and 8.8m AOD respectively. This suggests that the
height differences observed have revealed either gravel islands of small vertical and spatial extent, or that the gravel
on the site should be regarded as one undulating gravel surface rather than more marked areas of high gravel adjacent
to low-lying channels. Yet the presence of some areas containing peat deposits or organic muds does indicate some
areas where lower, wetter land is present with, presumably, higher, drier land nearby.

The deposits of peat and alluvium revealed in the first phase of evaluation here are clearly an area where an
early, buried riparian landscape is present, and one which could very well have been exploited in early post-glacial
times. A recent review of archaeology in Greater London (MoLAS 2000, 56) has again highlighted our lack of
knowledge of the period spanning the Upper Palaeolithic and Early Mesolithic transition, but has pointed out the high
potential for the buried landscapes of this general period within the valley of the Thames and its tributaries such as
the Lea. The location and excavation of deposits representing occupation or task-specific sites of these early periods,
combined with potential organic preservation and sources for palaeoenvironmental reconstruction, are important
national research objectives (EH 1991; 1997, 46).

Objectives and methodology

The purpose of the Phase 2 evaluation was to provide

To achieve the spatial distribution discussed above, 150 trenches were proposed. In the event, due to flooding and the
presence of vehicle ramps into the two lagoons, 124 trenches were excavated. The distribution of the trenching did
not, it is felt, significantly alter the results of the evaluation. The trenches were excavated using a 360° machine fitted with a toothless ditching bucket. The alluvial deposits were removed in spits not exceeding 0.30m and the surface of each spit was examined for finds and cut features. This work was conducted under direct and continuous archaeological supervision and the spoilheaps were monitored for finds. Potential archaeological deposits were hand cleaned.

**Results**

A complete list of trenches giving lengths, breadths, depths and a description of sections and geology is given in Appendix 1.

**Finds**

No artefacts pre-dating the late 19th century were observed. These modern artefacts (mostly glass and plastic bottles) were observed either on the surface of the emptied sludge lagoon or pressed into the upper few centimeters of the alluvium.

*Animal bone* by Sian Anthony

**Palaeoenvironmental assessment**

A sample column was taken from Trench 5 through the strata that included both peat and alluvial deposits. The sediments have been briefly examined by Dr Michael Keith-Lucas of Reading University Department of Plant Science, who has provided provisional comments pending more detailed examination (Table 1).

**Table 1**: Provisional examination of column from Trench 5

<table>
<thead>
<tr>
<th>Measurement from 8.09m above OD to 9.13m above OD</th>
<th>Description</th>
<th>Pollen zones and climatic periods</th>
<th>Approximate date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top of gravels 8.09m OD 0.23m</td>
<td>Brown sandy silt</td>
<td>Pre-Boreal</td>
<td>9000BC</td>
</tr>
<tr>
<td>0.23m–0.43m</td>
<td>Black peat with wood</td>
<td>Boreal</td>
<td>8000BC</td>
</tr>
<tr>
<td>0.42–0.85m</td>
<td>Orange brown sand with black sand streaks</td>
<td>0.42–0.63 Atlantic</td>
<td>7000BC</td>
</tr>
<tr>
<td>0.63–0.85 Atlantic</td>
<td></td>
<td>6000BC</td>
<td></td>
</tr>
<tr>
<td>0.85m–1.04m</td>
<td>Grey brown silty clay/alluvium</td>
<td>Sub Boreal</td>
<td>5000BC</td>
</tr>
<tr>
<td>1.04m+</td>
<td>Alluvium (truncated)</td>
<td></td>
<td>4000BC+</td>
</tr>
</tbody>
</table>
Sample of root from tree hole in Trench 11

A sample of tree trunk taken from the tree hole found on the surface of the gravels in Trench 11 was examined microscopically. It was identified as Birch (*Betula* sp.) due to the presence of diffuse porous, scalariform end plates, uniseriate and biseriate rays and homogeneous rays.

Conclusion

References

Hall, D, 1987, *Fenland Project 2, Cambridgeshire Survey, Peterborough to March*, E Anglian Archaeol 35
Pine, J, 2001, Deephams Sewage Treatment Works, Arda Road, Edmonton, London Borough of Enfield, an archaeological evaluation (Phase 1), Thames Valley Archaeological Services report 00/43a, Reading
APPENDIX 1: Trench details
APPENDIX 2: GLSMR/RCHME NAR Archaeological Report Form

1. TYPE OF RECORDING
Evaluation phase 2

2. LOCATION

Borough: Enfield

Address: Deephams Sewage Treatment Works, Ardra Road, Edmonton

Name: Deephams Sewage Treatment Works, Ardra Road, Edmonton

Site Code: PLK01

National Grid Refs: TQ 3580 9300  Centre of site: TQ 3580 9300

3. ORGANISATION

Name of archaeological unit: Thames Valley Archaeological Services

Address: 47-49 De Beauvoir Road, Reading, Berkshire, RG1 5NR

Site director/supervisor: Graham Hull

Project manager: S Ford

Funded by: Kennet Properties

4. DURATION

Date fieldwork started: 09/07/2001

Date finished: 19/07/2001

Fieldwork previously notified? y/n: Yes

Fieldwork will continue? y/n/ not known: not known

5. PERIODS REPRESENTED

Palaeolithic: - Possible Landscape  Roman: -

Mesolithic: - Possible Landscape  Saxon (pre-AD 1066): -

Neolithic:  Medieval(1066-1485): -

Bronze Age:  Post-Medieval: - Yes

Iron Age: -  Unknown: -

6. PERIOD SUMMARIES (use headings for each period (ROMAN;MEDIEVAL; ETC.) and additional sheets if necessary).

Gravel Surfaces sealed by probable Mesolithic peat. Palaeochannels and animal bone
7. NATURAL -
Type: Kempton Park Gravel

Height above Ordnance Datum: 8.5m-10.5m

8. LOCATION OF ARCHIVES

a) Please tick those categories still in your possession:

- Notes Yes  
- Plans Yes  
- Photos Yes  
- Negatives Yes  
- Slides Yes  
- Correspondence Yes  
- Manuscripts (unpublished reports, etc.) All

b) All records will be deposited in the following museum, record office, etc. Museum of London

c) Approximate year of transfer: unknown

d) Location of any copies: Microfiche copy to be deposited with RCHME, and one to be kept by TVAS

e) Has a security copy of the archive been made? y/n: No, but will be microfiched in due course

If not, do you wish RCHME to consider microfilming? y/n: no

9. LOCATION OF FINDS:

a) In your possession (All/Some/None): all

b) All finds will be deposited with the following museum: Museum of London

c) Approximate year of transfer: unknown

10. BIBLIOGRAPHY:

Pine, J, 2001, Deephams Sewage Treatment Works, Ardra Road, Edmonton, London Borough of Enfield, an archaeological evaluation (Phase 1), Thames Valley Archaeological Services report 00/43a, Reading

Hull, G, 2001, Deephams Sewage Treatment Works, Ardra Road, Edmonton, London Borough of Enfield, an archaeological evaluation (Phase 2), Thames Valley Archaeological Services report 00/43b, Reading

SIGNED: DATE: 27th July 2001

Graham Hull
Deephams Sewage Treatment Works, Ardra Road, Edmonton, London Borough of Enfield, 2002

Figure 1. Location of development site areas.
Deephams Sewage Treatment Works, Ardra Road, Edmonton, London Borough of Enfield, 2001

Phase 2

Figure 2. Location of site showing Phase 1 trenches.