

**Archaeological and palaeo-environmental
assessment of land proposed for a new
conservation lake
at Dairy House Farm, Mistley, Essex**

June 2010



**report prepared by
Ben Holloway and Howard Brooks**
on behalf of Miles Waterscapes Ltd

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Colchester & Ipswich Museums accession code: COLIM 2010.47
NGR: TM 1156 3105



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Contents

| | | |
|----|--|---|
| 1 | Summary | 1 |
| 2 | Introduction | 1 |
| 3 | Site location and description | 1 |
| 4 | Archaeological background | 1 |
| 5 | Planning background | 1 |
| 6 | Aims and requirement of work | 2 |
| 7 | Results | 3 |
| 8 | Finds: assessment of plant macrofossils <i>by Val Fryer</i> | 5 |
| 9 | Discussion | 7 |
| 10 | Archive deposition | 7 |
| 11 | Acknowledgements | 7 |
| 12 | References | 7 |
| 13 | Glossary | 8 |

Figures after p 8

EHER summary sheet

List of plates

Front cover: View SE towards evaluation site

Plate 1: Trench 2, section showing fill of palaeo-channel

Plate 2: Trench 4, view SE

Plate 3: Trench 4, section showing typical site stratigraphy

List of figures

Fig 1 Site location.

Fig 2 Plan of evaluation trenches in relation to proposed lake. Showing location of palaeo-channel, and position of auger holes with heights of top of natural sand (L4).

Fig 3 Sections

1 Summary

In advance of the construction of a conservation lake, a 4% evaluation by six trial trenches located no archaeological features. However, an undated palaeo-channel was identified in one of the trenches. Its fills, which contained a low density of charcoal fragments, almost certainly indicate that little or no human activity was occurring within the immediate area as the channel was filling up.

2 Introduction (Fig 1)

This is the archive report on the archaeological and palaeoenvironmental assessment carried out by the Colchester Archaeological Trust (CAT) on behalf of Miles Waterscapes on the site of a proposed conservation lake land at Dairy house Farm, Mistley, Essex in June 2010.

3 Site location and description

The site is located within former historic parkland (east of Dairy house Farm, and west of Furze Hills), and lies in the valley between two small tributary streams draining into the Stour. Site centre is NGR TM 1156 3105.

4 Archaeological Background

The following archaeological background utilises the Essex Historic Environment Record (HER) held at Essex County Council, County Hall, Chelmsford.

The proposed conservation lake lies within an area of 18th century parkland (EHER 7478). Parks contain a wide range of associated features which may allow for the preservation of artefactual, ecofactual and environmental evidence. Due to the less intensive land use that took place within the enclosures of parks, they also have the potential to preserve earlier features, the presence of which may be indicated by cropmarks of ring ditches (probably prehistoric burial mounds) and other features to the south and east of the development site. The stream valley location of the proposed lake is also likely to increase the preservation of environmental data; archaeological investigations of colluvial/alluvial sequences elsewhere in Essex have revealed the archaeological potential of similar locations (Brown and Germany, 2002).

5 Planning Background

5.1 A planning application was submitted to Tendring District in April 2010 for the construction of a new conservation lake (10/00404/FUL). On the basis that the proposed development site potentially lies within a sensitive archaeological area, a recommendation was made by HEM for an archaeological excavation ahead of the proposed development. Archaeological remains are both fragile and irreplaceable, and the proposed development would damage or destroy those present on the site.

5.2 As the development lies in an area of archaeological potential, the Historic Environment Branch of Essex County Council made the following recommendation to the LPA in line with advice given in *Planning Policy Guidance Note 16: Archaeology and Planning (DoE 1990)*:

Recommendation: Full condition

'No development or preliminary groundworks of any kind shall take place until the applicant has secured the implementation of a programme of

archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the planning authority'.

Further Recommendations:

A professional team of archaeologists should undertake the archaeological work. This will comprise excavation of archaeological evaluation trenches followed by open area excavation if any deposits are identified.

- 5.3 A brief detailing the required archaeological work (4% trial-trenching, with a further 1% trenching held in reserve, then hand augering and collection of samples) was written by the HEM officer (Adrian Gascoyne: HEM 2010). All archaeological work was carried out in accordance with a WSI (Written Scheme of Investigation) produced by CAT in response to the HEM team brief and agreed with the HEM team (CAT 2010).
- 5.4 Apart from the WSI (above) all work was carried out according to standards and practices contained in the Institute for Archaeologists' *Standard and guidance for archaeological field evaluation* (IfA 2008a) and *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (IfA 2008b), *Management of research projects in the historic environment* (MoRPHE) and *Standards for field archaeology in the East of England* (EAA 14).

6 Aims and requirements of work

- As defined by the Brief (HEM 2010) the required work was as follows:
- An initial programme of trial trenches, comprising a 4% sample of the area of ground works (i.e., a total trench length of 110m)
- a further 1% trenching held in reserve in order to examine areas in more detail if necessary.
- trench layout designed to provide systematic coverage, ensuring that any surviving deposits/features across the development area were sampled.
- At least two of the trenches to be positioned and excavated to a depth appropriate to ensure adequate assessment of alluvial/colluvial sequences on the site.
- hand augering of each trench to determine potential for buried peat deposits, following which at least one trench to be deepened to determine presence or absence of surviving peat deposits and to enable adequate sampling.
- If important archaeological deposits were identified, then a further stage of work may be required, and a new brief would be issued by HEM.

7 Results (Figs 2, 3)

Summary of archaeological fieldwork

The trenches were excavated under archaeological supervision using a 360° excavator. Two layers were mechanically removed in all trenches: a thick humic topsoil (L1), and a slightly silty clay accumulation deposit (L2). This revealed a fine manganese-rich silty clay (L3).

A series of auger samples identified that L3 sealed natural glacial sand (L4) at between 43.73m at the NE end of the proposed lake, and 44.69m at the SW end.

No archaeological features or contexts were identified by this evaluation, but palaeoenvironmental alluvial deposits (L5) were identified in T2. These are reported on by Val Fryer (below p 5). No other palaeoenvironmental material was found, indicating that L5 was a localised deposit.

Trench 1: summary

T1, located on the northern edge of the proposed lake, contained no archaeological features. Augering at three points on the trench bottom identified L4 at 43.73m, 43.89m, and 44.12m AOD.

Trench 2: summary (Fig 3, Plate 1)

T2, located towards the northern edge of the proposed lake, contained no archaeological features. Augering of the trench bottom identified L4 at 44.31m AOD.

Subsequently, the central part of the trench was excavated to a greater depth to establish a stratigraphical sequence. This led to the discovery of a deposit of fine dark silt containing organic material (L5). L5 was sealed by L3 and sealed glacial sand (L4).

The trench was expanded to the west (after consultation with the HEM officer). This allowed the plotting of the edges of a palaeo-channel which appears to run roughly parallel to the existing stream (4m to the south of T2).



Plate 1: T2 section, showing fill of palaeo-channel (L5)

Trench 3: summary

Located in the north-west side of the proposed lake bed, T3 contained no archaeological features. Augering at two points on the trench bottom identified L4 at 44.36m and 44.61m AOD.

Trench 4: summary (Fig 3, Plates 2, 3)

T4, located on the south-western edge of proposed lake, contained no archaeological features. Auger investigation identified L4 at 44.69m AOD.

Subsequently, the central part of the trench was excavated to a greater depth to establish a stratigraphical sequence. This confirmed the conclusion from the augering that silty clay L3 sealed glacial sand (L4), but revealed no other strata (such as the palaeo-deposits in T2).



Plate 2: T4, view SE



Plate 3: T4, section showing typical site stratigraphy (L1-L4)

Trench 5: summary

Located on the south edge of the proposed lake, T5 contained no archaeological features. Augering at two points on the trench bottom revealed L4 at 44.34m and 44.35m AOD.

Trench 6: summary

Located in the centre of the proposed lake, T6 contained no archaeological features. Augering of the trench bottom identified L4 at 44.07m AOD.

Subsequently, the central part of the trench was excavated to a greater depth to establish a stratigraphical sequence. This confirmed the conclusion from the augering that silty clay L3 sealed glacial sand (L4), but revealed no other strata (such as the palaeo-deposits in T2).

8 An assessment of the plant macrofossils and other remains

by Val Fryer (Loddon)

Introduction and method statement

The CAT evaluation at Mistley recorded a localised deposit of organic material (L5) in Trench 2, which possibly constituted an alluvial layer within a palaeo-channel. A sample for the retrieval of the plant macrofossil assemblage was taken and submitted for assessment.

The sample was processed by manual water flotation/washover and the flot was collected in a 300 micron mesh sieve. Although the retent was seen to contain a high density of waterlogged/de-watered plant remains, twig and root fragments were predominant and the flot was consequently slowly air-dried to facilitate sorting, the latter taking place under a binocular microscope at magnifications up to x 16. Plant macrofossils and other remains noted during sorting are listed in Table 1 (below), with nomenclature following Stace (1997). With the exception of rare fragments of charcoal/charred wood, all plant remains were preserved in a waterlogged/de-watered state. The non-floating residue was collected in a 1mm mesh sieve and sorted when dry. Artefacts/ecofacts were not present.

Results

The large (circa 0.5 litre) flot was principally composed of comminuted root/stem fragments, twigs and very poorly preserved pieces of wood. A low to moderate density of seeds/fruits of dry land herbs and wetland plants were also noted along with tree/shrub macrofossils and a limited range of other plant remains. The dry land herb seeds were predominantly of rough grassland species including musk thistle (*Carduus* sp.), meadow/creeping/bulbous buttercup (*Ranunculus acris/repens/bulbosus*), nightshade (*Solanum* sp.) and pansy (*Viola* sp.). The limited wetland plant assemblage was dominated by seeds of water pepper (*Persicaria hydropiper*), a plant of shaded damp ground or shallow water. Bramble (*Rubus* sect. *Glandulosus*) 'pips' were moderately common, with other tree/shrub macrofossils including a fragmentary sloe (*Prunus spinosa*) fruit stone and elderberry (*Sambucus nigra*) seeds. Other plant macrofossils included indeterminate buds, bark and leaf fragments and a rose (*Rosa* sp.) type thorn. Charcoal/charred wood fragments, all of which were very abraded, were present, although at an extremely low density. Other remains included a single small piece of bone and moderately well preserved arthropod remains.

| | |
|---|------------|
| Sample No. | 1 |
| Context No. | 1 |
| Layer No. | 5 |
| Dry land herbs | |
| <i>Carduus</i> sp. | x |
| Chenopodiaceae indet. | x |
| <i>Mentha</i> sp. | x |
| <i>Polygonum aviculare</i> L. | x |
| <i>Ranunculus acris/repens/bulbosus</i> | xx |
| <i>Rumex</i> sp. | x |
| <i>Solanum</i> sp. | x |
| <i>S. nigrum</i> L. | xcf |
| <i>Sonchus asper</i> (L.) Hill | x |
| <i>Stellaria</i> sp. | x |
| <i>Viola</i> sp. | x |
| Wetland plants | |
| <i>Apium graveolens</i> L. | xcf |
| <i>Carex</i> sp. | xcf |
| <i>Persicaria hydropiper</i> L. | xx |
| <i>Ranunculus</i> subg. <i>Batrachium</i> (DC) A Gray | x |
| <i>Typha</i> sp. | x |
| Tree/shrub macrofossils | |
| <i>Prunus spinosa</i> L. | xfg |
| <i>Rubus</i> sp. | xx |
| <i>R. sect. Glandulosus</i> Wimmer & Grab | xx |
| <i>Sambucus nigra</i> L. | x |
| Other plant macrofossils | |
| Charcoal <2mm | x |
| Waterlogged root/stem | xxxx |
| Indet.bark | xxx |
| Indet.buds | xx |
| Indet.leaf frags. | x |
| Indet. thorns (<i>Rosa</i> type) | x |
| Indet.twig frags. | xxxx |
| Indet.wood frags>5mm | xx |
| Other remains | |
| Bone | x |
| Waterlogged arthropod remains | x |
| Sample volume (litres) | 56 |
| Volume of flot (litres) | 0.5 |
| % flot sorted | 25% |

Table 1: plant macrofossils

Key to Table

x = 1 – 10 specimens xx = 11 – 50 specimens xxx = 51 – 100 specimens
 xxxx = 100+ specimens cf = compare fg = fragment

Plant macrofossils conclusions

In summary, preservation of the remains is quite poor, possibly indicating that the deposit has been subject to intermittent periods of drying and wetting. Durable twig fragments predominate, with other remains being comminuted and/or fragmented. The composition of the assemblage appears to indicate material derived from an overgrown, damp grassland habitat, such as would probably be present on or adjacent to the banks of the palaeo-channel. However, wetland and aquatic plant remains are scarce, and it is, perhaps, most likely that the remains are principally derived from fills which accumulated within the channel as it began to silt up. The low density of recorded charcoal/charred wood fragments almost certainly indicates that little or no human activity was occurring within the immediate area.

As the assemblage is relatively limited, and as quantification of the remains would add little to the above interpretation, no further analysis is recommended.

9 Discussion

Although the trial-trenching evaluation did not reveal any archaeological features, deposits or finds, it did identify a localised palaeo-channel in Trench 2. This appears to run broadly parallel to the stream now running at the bottom of the valley (and coinciding with the centre of the proposed lake). It probably represents an earlier water course flowing through the valley towards the river Stour, to the north east.

The fill of the channel (ie, L5) was sampled, and conclusions are given above. A summary of those conclusions is that little or no human activity was occurring within the immediate area of the palaeo-channel as it began to silt up.

10 Archive deposition

The paper and digital archive is held by the Colchester Archaeological Trust at 12 Lexden Road, Colchester, Essex CO3 3NF, but it will be permanently deposited with Colchester & Ipswich Museum (accession code COLIM 2010.47).

11 Acknowledgements

CAT would like to thank James Mellish of Miles Waterscapes Ltd for commissioning the evaluation on behalf of clients.

The fieldwork was conducted by B Holloway. Digital survey by C Lister and B Holloway. Figures by CL, HB and Emma Spurgeon. The project was monitored by Adrian Gascoyne on behalf of Essex County Council Historic Environment Branch.

12 References

Note: all CAT reports, except for DBAs, are available online in .pdf format at <http://cat.essex.ac.uk>

- | | | |
|-------------------------|------|---|
| CAT | 2010 | <i>Written Scheme of Investigation for archaeological and palaeo-environmental assessment of land proposed for a new conservation lake at Dairy House Farm, Mistley. June 2010.</i> |
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| | | |
|----------|-------|---|
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| HEM | 2010 | <i>Brief for archaeological and palaeo-environmental assessment of land proposed for a new conservation lake at Dairy House Farm, Mistley</i> . May 2010. |
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| IfA | 2008b | <i>Standard and guidance for the collection, documentation, conservation and research of archaeological materials</i> |
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| Stace, C | 1997 | <i>New Flora of the British Isles</i> . Second edition. Cambridge University Press |

13 Glossary

| | |
|---------------|--|
| context | specific location on an archaeological site, especially one where finds are made |
| EHER | Essex Historic Environment Record, held by the ECC |
| feature | an identifiable thing like a pit, a wall, a floor; can contain 'contexts' |
| HEM | Historic Environment Management Team |
| IfA | Institute for Archaeologists |
| layer | distinct or distinguishable deposit of soil |
| modern | period from the 19th century onwards to the present |
| natural | geological deposit undisturbed by human activity |
| NGR | National Grid Reference |
| post-medieval | after Henry VIII to around the late 18th century |

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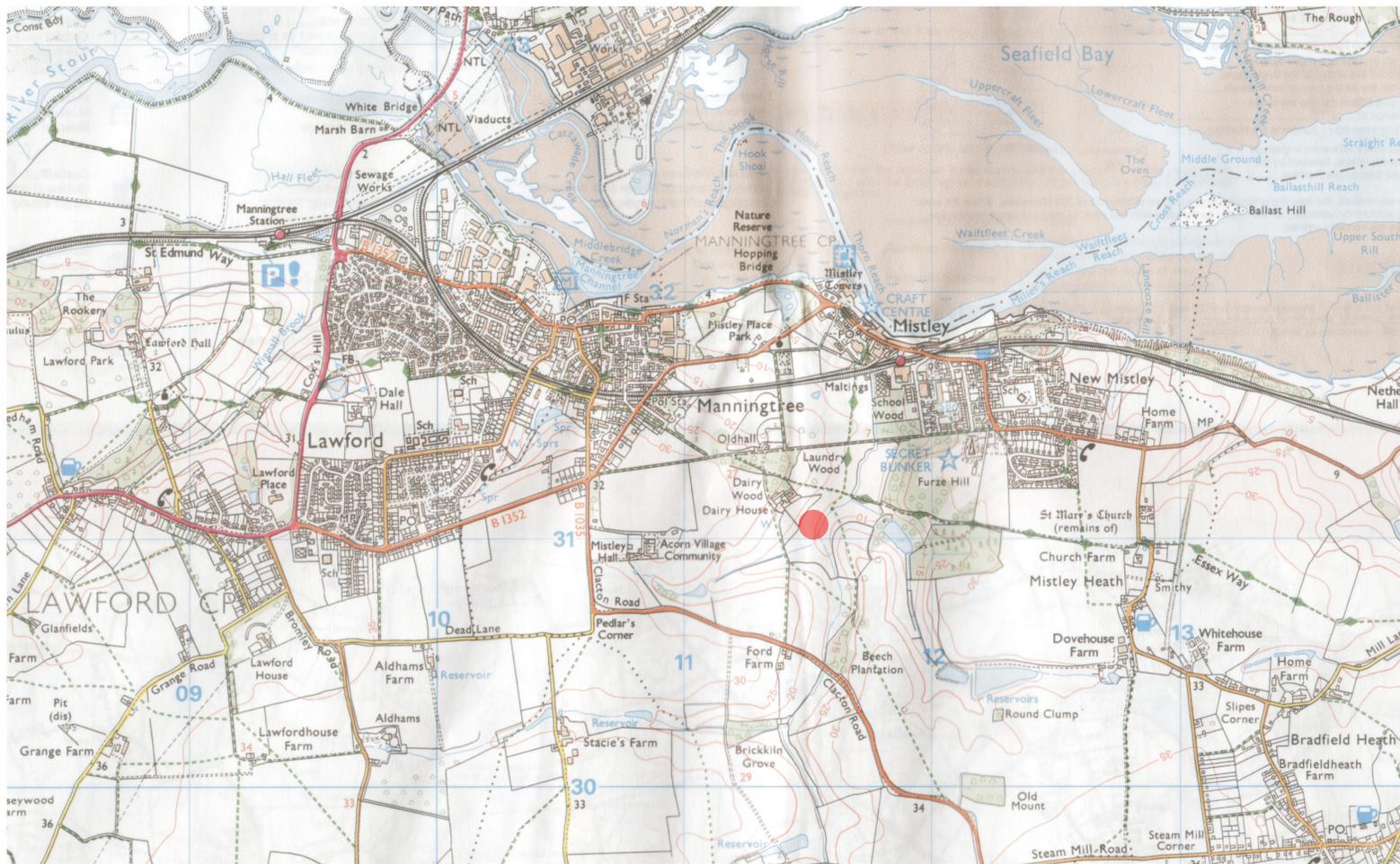


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Fig 1 Site location, shown as red dot.



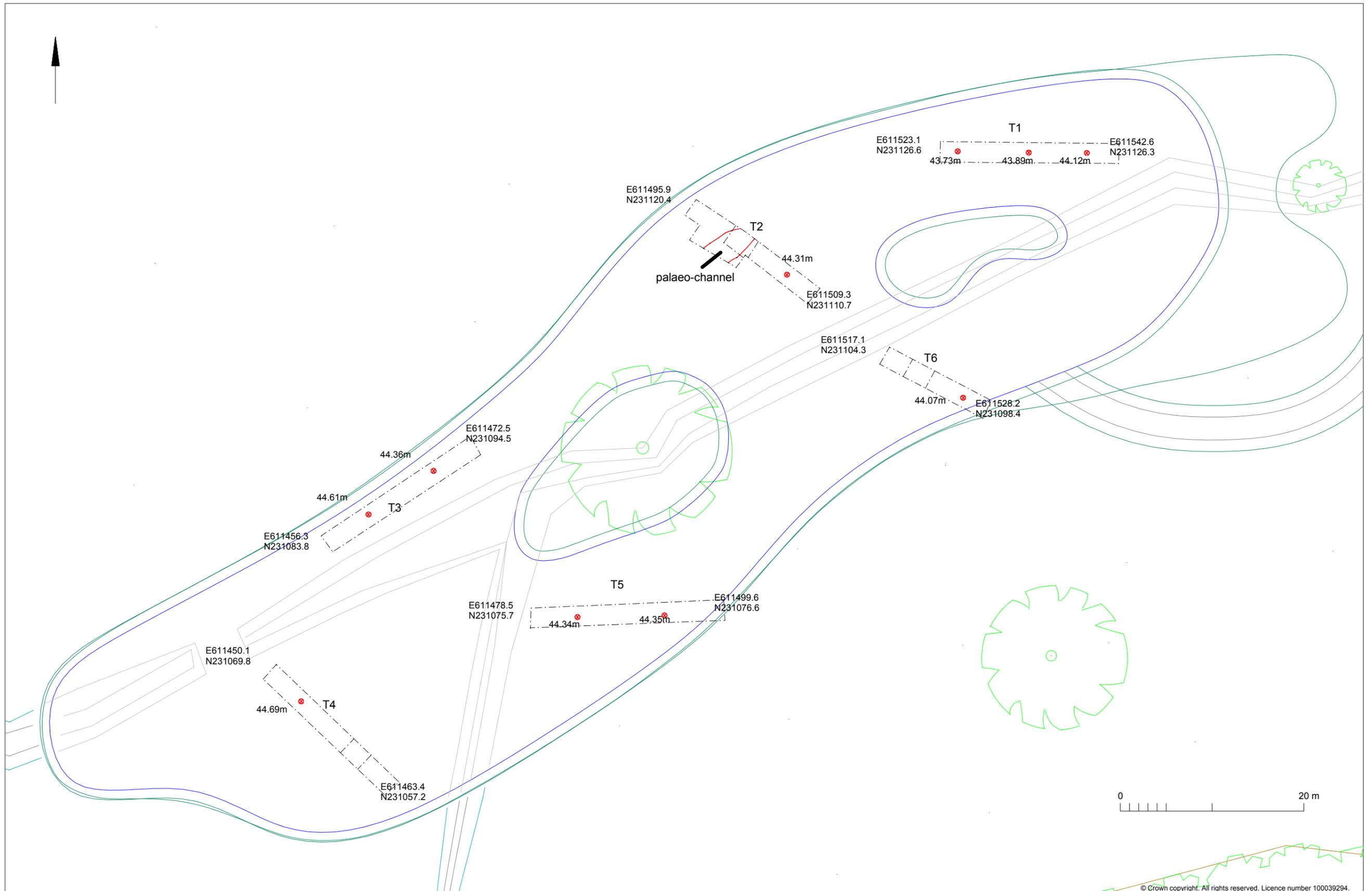


Fig 2 Plan of evaluation trenches in relation to proposed conservation lake. Showing location of palaeo-channel, and auger holes with heights of top of natural sand (L4).

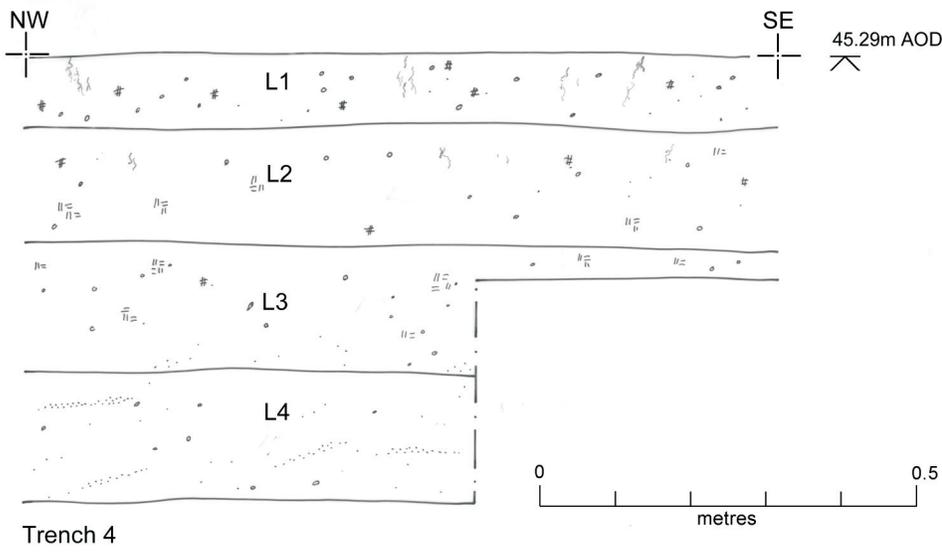
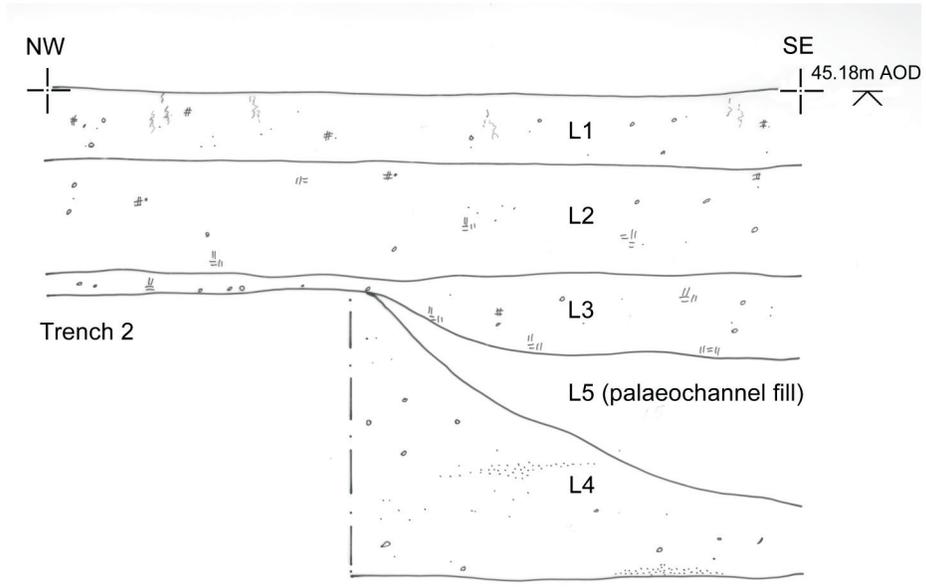


Fig 3 Sections: Trench 2 (palaeochannel) and Trench 4 (typical trench section)

**Essex Historic Environment Record/
Essex Archaeology and History**

Summary sheet

| | |
|---|--|
| Site address: Dairy House Farm, Mistley, Essex | |
| Parish: Mistley | District: Tendring |
| NGR: TM 1156 3105 (c) | Site code: CAT project – 10/6b HEM project code: MIDH 10 |
| Type of work: Evaluation and palaeo-environmental sampling | Site director/group: Colchester Archaeological Trust |
| Date of work: June 2010 | Size of area investigated: 0.49 ha. 4% trenching = 6 trenches 1.8m wide, total length 108m |
| Curating museum: Colchester & Ipswich Museum accession: COLIM 2010.47 | Funding source: Developer |
| Further seasons anticipated? not known | Related EHER no: 7478 |
| Final report: CAT Report 557 and summary in <i>EAH</i> | |
| Periods represented: undated | |
| Summary of fieldwork results: <i>In advance of the construction of a conservation lake, a 4% evaluation by six trial trenches located no archaeological features. However, an undated palaeo-channel was identified in one of the trenches. Its fills, which contained a low density of charcoal fragments, almost certainly indicate that little or no human activity was occurring within the immediate area as the channel was filling up.</i> | |
| Previous summaries/reports: none | |
| Keywords: palaeo-channel | Significance: * |
| Author of summary: B Holloway and H Brooks | Date of summary: July 2010 |