

97/13

**Archaeological Watching Brief Report**

Monitoring of excavations at an irrigation lagoon  
at the Lincoln Golf Club, Torksey, Lincolnshire

**Site code:** LGC96  
**LCNCC Acc. No.:** 103.96



Lincolnshire County Council  
Archaeology Section

LINCOLN LN2 5AL

TEL. 0522 5752.2 FAX: 0522 530724  
8.1.97.





## **Archaeological Watching Brief Report**

Monitoring of excavations at an irrigation lagoon  
at the Lincoln Golf Club, Torksey, Lincolnshire

Site code: LGC96  
LCNCC Acc. No.: 103.96

Prepared by Simon Johnson

Pre-Construct Archaeology (Lincoln)

January 1997

PCA(L) Arc. Ref. LGC96/17/1

## Contents

<i>Summary</i>	1
1.0 Introduction	2
2.0 Location and description	2
3.0 Purpose and general account	2
4.0 Archaeological and historic background	4
5.0 Results	
5.1 Stratigraphy	5
5.2 Interpretation	6
6.0 Discussion and conclusions	7
7.0 Acknowledgements	9
8.0 Appendices	
8.1 Site Archive	9
8.2 References	9
8.3 List of Contexts	10
8.4 Colour Plates	



### Summary

- \* *An archaeological watching brief took place during the excavation of an irrigation lagoon and wildlife sanctuary at the Lincoln Golf Club, Torksey, Lincolnshire. (Fig. 1)*
- \* *The Lagoon cut through a series of deposits relating to an extinct channel of the (now) River Trent and a well preserved buried soil or palaeosol*
- \* *A sampling strategy initiated by an independent environmental archaeologist resulted in the retrieval of column and bulk samples from the soil profiles exposed, as well as large oak timbers (suited to dating by dendrochronology)*
- \* *The overall significance of the data is presently unknown. If the deposits are of recent origin, they will be of moderate or limited archaeological value. If, however, they date to the early post-glacial period, they will be highly significant*

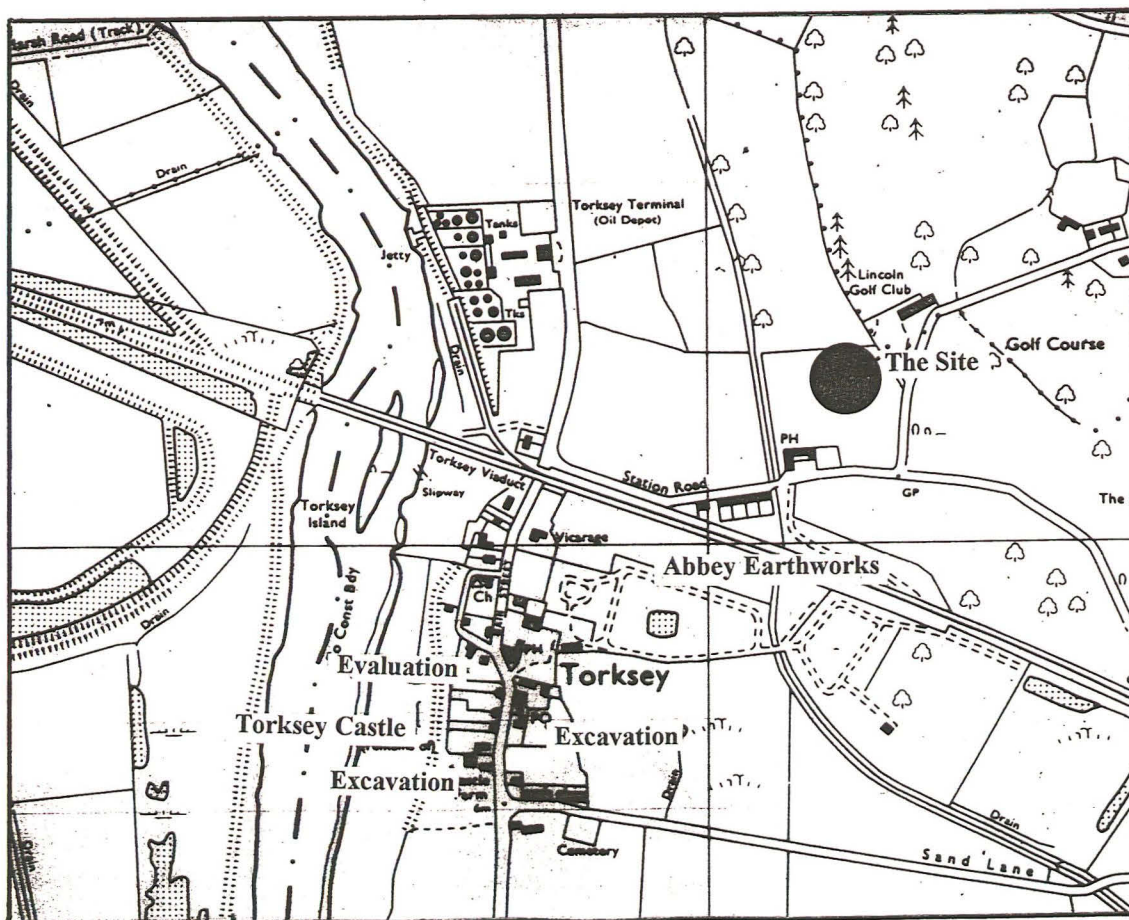


Fig. 1: Site location incorporating principal entries from the County Sites & Monuments Record (1:10,000)  
(OS Copyright Licence No: AL 515 21 A0001)

## 1.0 Introduction

Planning permission for the construction of an irrigation lagoon and wildlife sanctuary at the Lincoln Golf Club was approved subject to conditions, one of which was for the undertaking of an archaeological watching brief to monitor all groundworks (George 1996, 2-3). The Lincoln Golf Club commissioned Pre-Construct Archaeology (Lincoln) (PCA) to undertake the watching brief, thereby fulfilling the planning requirement.

This report details the work undertaken by PCA, copies of which will be deposited at the County Sites and Monuments Record; the District Planning Authority and the City and County Museum, Lincoln. A summary on the findings will be submitted to the editor of the county journal *Lincolnshire History and Archaeology* for inclusion in a future edition. An ordered site archive of both paper and physical elements is in preparation and will be deposited at the City and County Museum, Lincoln, within six months of project completion.

The watching brief was undertaken by the writer and was monitored on a daily or twice-daily basis by Mr B Minnit (Greens Chairman) of the Lincoln Golf Club.

## 2.0 Location and description

Torksey lies adjacent to the east bank of the River Trent, immediately north of its junction with the Fosse Dyke. The development site is to the north of the village and centres on NGR SK 8415 7920.

The site lies at an altitude approximately 6.0m above modern sea level. The underlying geology consists of wind-blown cover sands with basal deposits of sand and gravel; intermingled in places with Mercia Mudstone.

## 3.0 Purpose and general account

The County Sites and Monuments Record (SMR) contains entries which indicate the potential for the disturbance of important archaeological remains within the chosen development site. In consequence, the Assistant County Archaeology Officer issued a project brief which outlined the basic archaeological requirement. The level of recording deemed appropriate on this occasion was an archaeological watching (recording) brief. This has been defined as follows:

*'An archaeological watching brief is defined as a programme of observation and investigation conducted during the destruction of archaeological deposits, resulting in the preparation of a report and ordered archive' (IFA, 1994 Standard Guidance for Archaeological Watching Briefs)*



Prior to the start of groundworks the writer met with Mr B Minnit at the request of the Club to discuss the archaeological programme within the framework agreed with the contractors, A Grice & Son.

Mr Minnit expressed his concerns at the possible cost of fulfilling the planning condition, given that the groundworks was expected to be in the region of two weeks. The writer informed Mr Minnit that a full time presence would only be required if important or potentially important deposits were exposed and disturbed; and that an intermittent programme may be appropriate if no or low levels of archaeological deposits were encountered. It was suggested that if topsoil and subsoil removal exposed a natural/archaeologically insignificant horizon, then an appeal could be lodged with the County Archaeological Officer for an early termination to the project.

The writer was informed that excavation would probably commence Friday 26th July, but that the schedule could be accelerated. Mr Minnit agreed to confirm the start date in advance of any ground disturbance.

*Started to early-*

PCA received no communication from the Golf Club, and the writer inspected the site on 26th July: to find that the excavation had already commenced. Mr Minnit was on site and apologised, on behalf of the Club, for not notifying PCA.

The excavation were quite advanced and were being carried out by a vertical cut method: topsoil stripping had been abandoned due to the fact that tractors had been sinking into a horizon of peat which had been exposed beneath the topsoil.

Initial observation revealed an extensive well preserved peat which was rich in organic matter and incorporated large timbers. The writer informed Mr Minnit of the improbability of an early termination of the brief for the following reasons:-

- i) Independent topsoil and subsoil stripping was not being employed: there was no overall basis, therefore, for suggesting or proving that the site contained no significant archaeological remains
- ii) The peat was rich in organic remains and, as such, it had a significant potential for the recovery of archaeo-environmental data.

*Brief + Spec say.*

*? Not been done*

Via Mr Minnit, the Golf Club was informed that (in the opinion of the writer) a moderately intensive archaeological programme should be maintained, and that the site should be inspected by Mr J Rackham, an environmental archaeologist, to assist with the interpretation of deposits (as outlined in the project specification). Mr Rackham suggested that the deposits could be highly significant and advised a sampling strategy.

The writer informed Mr Minnit of Mr Rackham's suggestions, and it was suggested that the Archaeological Officer for Lincolnshire should be consulted to clarify the situation further. No objections were raised at this suggestion, and the Archaeological Officer was accordingly approached, after which the writer was asked to take the necessary samples.

Mr Rackham re-visited the site to take further samples, assisted by the writer.



A presence was maintained on the site during the remaining excavation, until the peat thinned to the extent that, on the balance, no further timbers large enough for dendro-chronological sampling would emerge.

Following the completion of excavation and battering of the lagoon sides the writer returned to the site to survey the excavation at an appropriate scale.

Recording was undertaken using standard context record sheets (incorporating physical descriptions, interpretations, and stratigraphic relationships). Sections were drawn to scale (1:20), and comprehensive photographic recording was undertaken (some prints are reproduced in this report). Artefacts (pottery, animal bone etc.) were not recovered from stratified contexts.

Section locations were plotted on a final 1:100 post-excavation plan which, with the rest of the paper record, will form part of the project archive.

#### 4.0 Archaeological and Historic Background

In the historical era, Torksey became significant in the Roman period. Pottery kilns dating to the 3rd century have been excavated on the south side of the Fosse Dyke at Little London Farm (Whitwell 1992, 58). The potters specialised in the production of grey ware vessels and, like similar production sites at Lea and Knaith, were ideally placed for water transportation to important centres such as Lincoln (*Lindum*). Due to the difficulties associated with sourcing ceramic fabrics, it has not been possible to relate the wares from sites in Lincoln with production centres such as those at Torksey (Field and Palmer-Brown 1991, 56).

No evidence of Romano-British occupation has been found north of the Fosse Dyke (Barley 1964, 172), though a single sherd of pottery (from a residual context) was recovered during an archaeological evaluation south of the church (Palmer-Brown 1996, 4).

Despite being of minor economic interest today, Torksey was one of the principal towns in Lincolnshire during the middle ages. The earliest historical reference occurs in AD873 when the Danish army, under their king *Halfdene*, wintered at a place called *Turcesige* after plundering Northumbria (Hill 1965, 306). At the time of the Domesday Survey (1086) Torksey was the third largest borough, after Lincoln and Stamford; it possessed a mint in the late 10th/early 11th centuries and probably a court (*burwarmot*) (Barley 1964, 167).

Prosperity of the borough during the second half of the 12th century, and first half of the 13th century, was reflected in the degree ecclesiastical foundation. The parish retained three medieval churches dedicated to All Saints, St Peter and St Mary. These eventually came into the possession of the Augustinian priory of St Leonard, founded during the reign of Henry II. A small nunnery of the Cistercian Order, later known as *St Nicholas de Fosse*, was established south of the town (*ibid.*).



Torksey's privileged position, at the junction of the Trent and Fosse Dyke, no doubt contributed to its rapid growth and initial prosperity. By the late 13th century, however, the canal was beginning to fail. By the mid-14th century wool from Lincoln, for example, was being transported by road to Hull via Barton-upon-Humber instead of Torksey (*ibid*, 311).

Torksey Castle, which lies on the west side of the village against the River Trent, was given its name only in the 19th century. It is in fact an Elizabethan manor whose fabric included reused materials robbed from the ruins of St Leonard's Priory. It was sacked by Royalists during the English Civil War in 1645 and was never rebuilt.

Prehistoric artefacts have been recovered from around the present village, including a hand axe and a polished flint axe which was dredged from the River Trent on the west side of Torksey Island. A Neolithic flint adze has also been recovered from a garden, and residual worked flints were recovered from the excavations at Castle Farm.

Site specific information is not contained within the SMR, but the project brief notes: 'Air photo interpretation by the RCHME has indicated the presence of earlier field boundaries in this area' (George 1996, s 4.4).

## 5.0 Results

### 5.1 Stratigraphy

As noted in section 3.0 above, the irrigation lagoon was excavated by the vertical <sup>other</sup> removal of deposits along a section face after soil stripping had been abandoned. This enabled rapid initial assessment of the stratigraphy. There follows a descriptive account of the deposits recorded at the site; which should be read in conjunction with Figure 2. <sup>not to be</sup>

The site was sealed by a modern ploughsoil which measured between 0.3 and 0.4 m. in depth, (100). It comprised grey humic silty sand with inclusions of sub-rounded pebbles and angular flints. The ploughsoil sealed deposits of wind-blown sand, (101) and (104)b), and partially sealed a peat horizon, (102).

Context (101) was a well sorted fine-medium coarse yellow sand striated with laminate bands of grey silt or alluvium. In the south-west corner of the development it partially sealed the peat. Despite careful examination of the interface between the plough soil, wind-blown sand and the peat, it was not possible to establish whether or not (101) was strictly confined to the south-west corner or whether it had originally sealed peat in total (its northern extent having become part of the ploughsoil).

The peat comprised an extensive lens-shaped deposit which extended to most of the development. At its deepest point, three distinct stratigraphic units were defined: the upper 0.4 m. consisted of a firm humified horizon of compacted fibres within a pure organic black matrix. The central unit, 0.25 m. in thickness, possessed a light reddish-brown hue and contained the fibres of ?rushes, ?alder, ?birch, seed and insect remains.



The lower 0.35 m. was a black plastic organic matrix with some sediment and sand at the base. It was rich in preserved wood, including oak trunks (one of which exceeded 10m in length).

The peat, and cover sand (101), sealed a deep buried soil or *palaeosol* (103). This sand-based layer, which was interpreted by Mr DJ Rackham, was characterised by an upper white (leached) horizon 0.08 m. deep over a dark brown horizon containing black striations *circa* 0.27 m. deep. It formed a gradual interface with the underlying cover sand (104)b from which it derived, and terminated abruptly in the north-west corner of the development.

Cover sand (104)b was of variable depth (up to 3 m.). Primarily yellow-orange with occasional grey alluvial bands, it formed white dunes in the south west and south east corners of the development. It was the most extensive deposit recorded during the brief, extending to the south, east and west limits of the development. At the east end it sealed a grey plastic sediment, (105), which was 0.18 m. deep and contained black striations and iron salts. This in turn sealed a basal deposit of red river-derived sand/gravel (106).

A grey sand deposit (104)a of variable depth was sealed below peat (102) from the north-west corner (where the buried soil ceased) to the north-east corner, and extended south beyond the excavation limit.

Soil sampling involved the removal a column through the palaeosol, (103), bulk samples from the peat, (102), and sediment, (105), and sections through the preserved oaks which were of a size suitable for dating by dendrochronology.

1 - Date.  
2 - Cereals  
Seeds.

## 5.2 Interpretation

Without further assessment and dating of the samples, it is not possible to make definitive statements about the exact nature and chronology of the remains. There follows a possible interpretation of the formation and significance of the deposits, based on the stratigraphy recorded by the writer and comments made by DJ Rackham.

11 Incomplete

The basal red sand deposit (106) is a natural river deposit, probably an upper margin of terrace gravel. At the east side of the site a hollow preserved an *in situ* lacustrine deposit from a glacial lake, (105). This was sealed by an extensive wind-blown sand (104)b. Dating from the late glacial period, this was a gradual shifting accumulation which formed an undulating landscape with dunes in the south-east and south west corners of the development. Early in the current (Flandrian) period a soil horizon (103) began to develop. This marked a stabilisation of the shifting dune environment by vegetation growth; wind-blown movement of sand deposits continued, however, as the soil horizon was partially sealed by further cover sand (101).

This palaeosol and underlying wind-blown sand was 'cut' by an extinct meandering course of the River Trent which redeposited it as a grey water-washed deposit (104)a. At some stage, flow within the channel ceased: either as a result of the creation of an oxbow lake, or an abrupt change in the river course following (for example) a flood.



This resulted in a standing water environment which gradually became infilled with organic detritus, leading to the creation of peat deposit (102), which partially sealed (thus preserving) palaeosol (103).

## 6.0 Discussion and Conclusions

The current (Flandrian) period began c. 10,000 years ago with the ending of the Devensian glaciation: the last in the series of the great 'ice ages' of the Pleistocene. The end of the Devensian resulted in mass extinctions of cold climate fauna and flora and a rise of c. 106 m. in mean sea level.

Within the archaeological record, the first artefactual evidence for post-glacial activity comprises Mesolithic flint work, produced by hunter-gatherer communities. Based upon industries first developed during the Upper Palaeolithic, these assemblages consist of small blade technologies, becoming increasingly geometric with time.

Mesolithic settlement sites are rare due to the numerous taphonomic processes which have taken place since deposit formation: plough damage and natural soil profile developments, for example, all destroy occupation stratigraphy, leaving only scatters of worked flint as settlement indicators.

Mesolithic flint scatters were identified at Newton Cliffs by Mr R Minnit. Over a period of 18 years, Mr Minnit collected more than 33,000 artefacts (Phillips 1989, 87). The fields which were walked were subject to excavations which showed that prehistoric features did survive within the cover-sands, including a post hole structure associated with mesolithic flintwork (Garton 1982, 100).

Large flint scatters are rare in the Trent Valley; the nearest sites which compare to Newton Cliffs are those which centre around the Scunthorpe region such as Risby Warren and Normanby Park. None of the latter retained deposits suitable for environmental reconstruction. If the interpretation given in section 5.2 above is correct, then the information contained within deposits at the present site would not only have implications for the interpretation of all local sites of Mesolithic date, but a dendrochronology sequence from the oak samples for the early post-glacial period would be of national significance as there is currently no comparable national dating curve available.

Although no artefactual evidence was recovered during the brief, the stratigraphic context of the palaeosol gives rise to the possibility that *in situ* mesolithic occupation will be found close by (it should be noted that the recovery of material objects such as worked flints, assuming these to have been present on the site, would have been extremely difficult, given the nature of the excavation methods used).

The brief has resulted in the recording and selective sampling of a range of deposits. An assessment on the significance of these deposits is not possible without further specialist work.

*Selective processing.*





Hill, JFW 1965 *Medieval Lincoln*

Palmer-Brown, CPH 1995 'Castle Farm, Torksey' *Archaeological Excavation Report*  
(unpublished)

1996 'Verity' Church Lane , Torksey' *Archaeological Field  
Evaluation Report* (unpublished)

Whitwell JB 1992 *Roman Lincolnshire*

### 8.3 List of Contexts

Context	Depth	Description
100	30-40 cm.	Recent plough soil horizon; very humic and comprised of 60% sand and 40% alluvium. Occasional small angular flints and rounded pebbles. Seals site
101	c. 400 cm.	Layer comprised of well sorted yellow-orange medium sand in the south west corner of the site. Occasional bands of light grey alluvium. Diffuse interface with [104]b; Partially seals [102] and [103]. Wind blown cover sand.
102	variable to 1.0 m.	Rapidly formed peat deposit comprised of three distinct horizons:
103	c. 0.35 m.	Preserved soil horizon, upper 0.08 m. leached by a pumice effect caused by overlying peat. Bulk of deposit a dark brown medium coarse sand with black striations. Forms a gradual interface with (104).
104a	variable	Re-worked coversand within extinct river channel. Light grey and well sorted.
104b	Variable to 3.0 m.	Yellow-orange / white late glacial/early post glacial wind-blown cover sand. Forms dunes in S-W and S-E corners.
105	c. 0.18 m.	Alluvial band of bluish-grey clay with black striations and some iron panning. glacial pond ? environment
106	>1.8 m.	River lain red sand deposit, upper gravel terrace ? as lower margins include a greater proportion of gravel inclusions.

#### **8.4    Colour Plates**





Plate 1: *in situ* buried soil (103) sealed by humified peat (102)

Plate 2: Peat deposit (102) showing three distinct bands over redeposited cover sand (104)a.

Plate 3: General shot of buried soil, peat and cover sand.



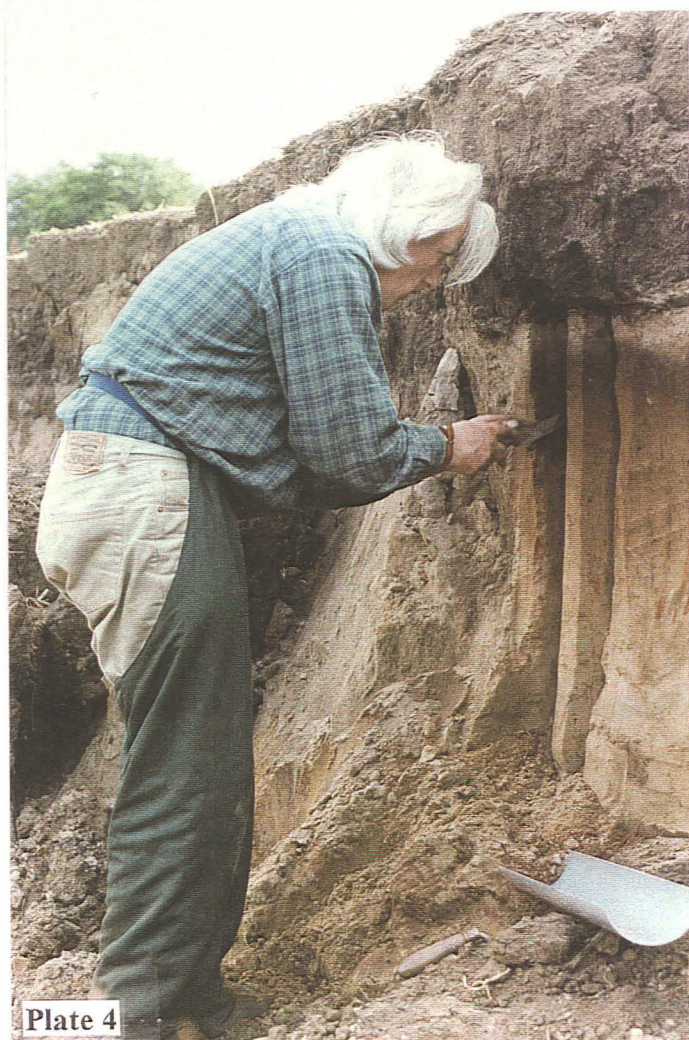
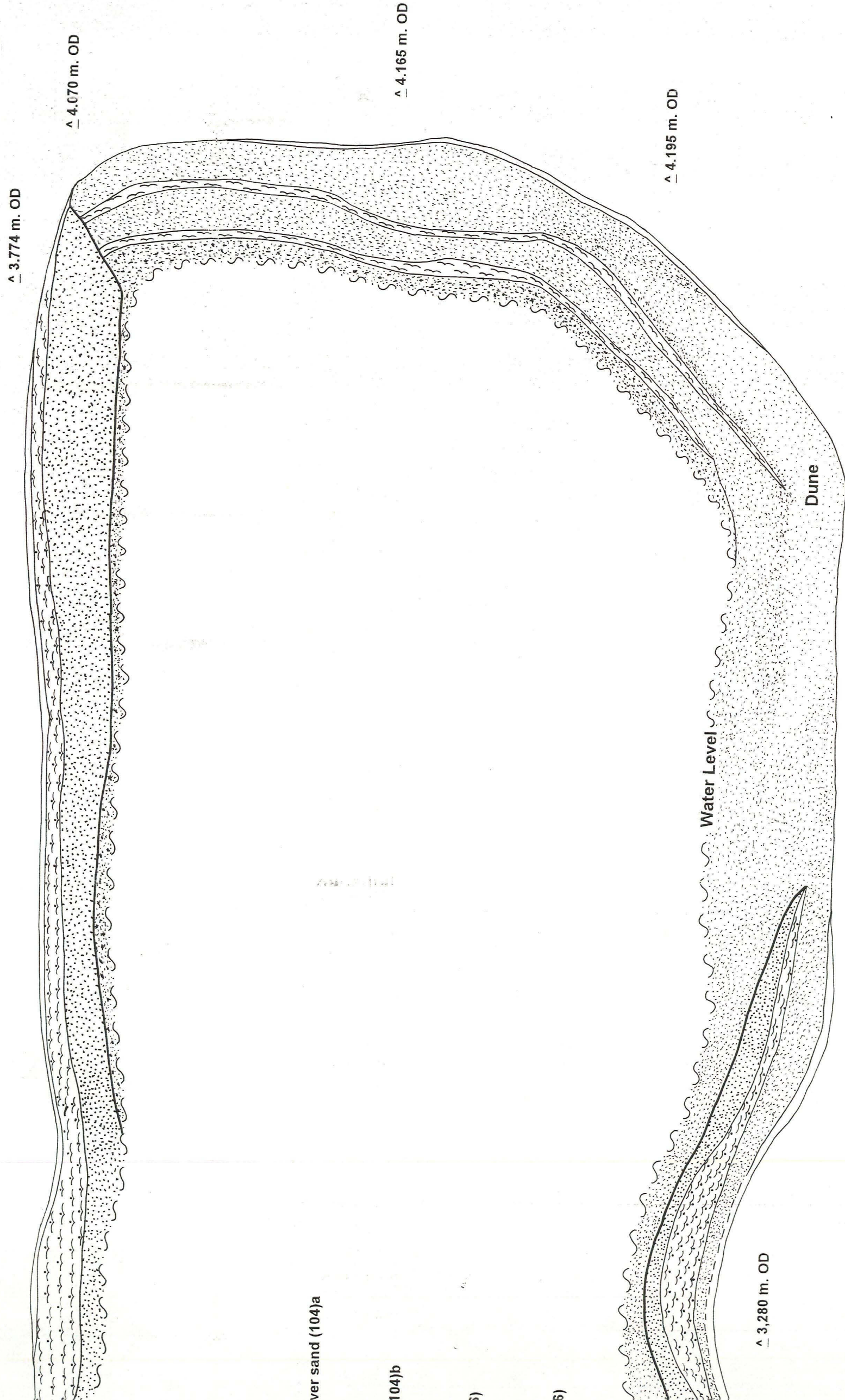


Plate 4: Mr DJ Rackham undertaking column sample through buried soil (103)

Plate 5: Dendrochronological samples being taken through preserved oak timbers by Mr DJ Rackham.

Plate 6: An example of one of the timbers sectioned during the brief





$\Delta$  3.430 m. OD

$\Delta$  4.025 m. OD

S N

[100]  
[101]

[102]

[104]a

[104]b

N

$\Delta$  4.350 m. OD

$\Delta$  2.355 m. OD

Section 1

Section 2



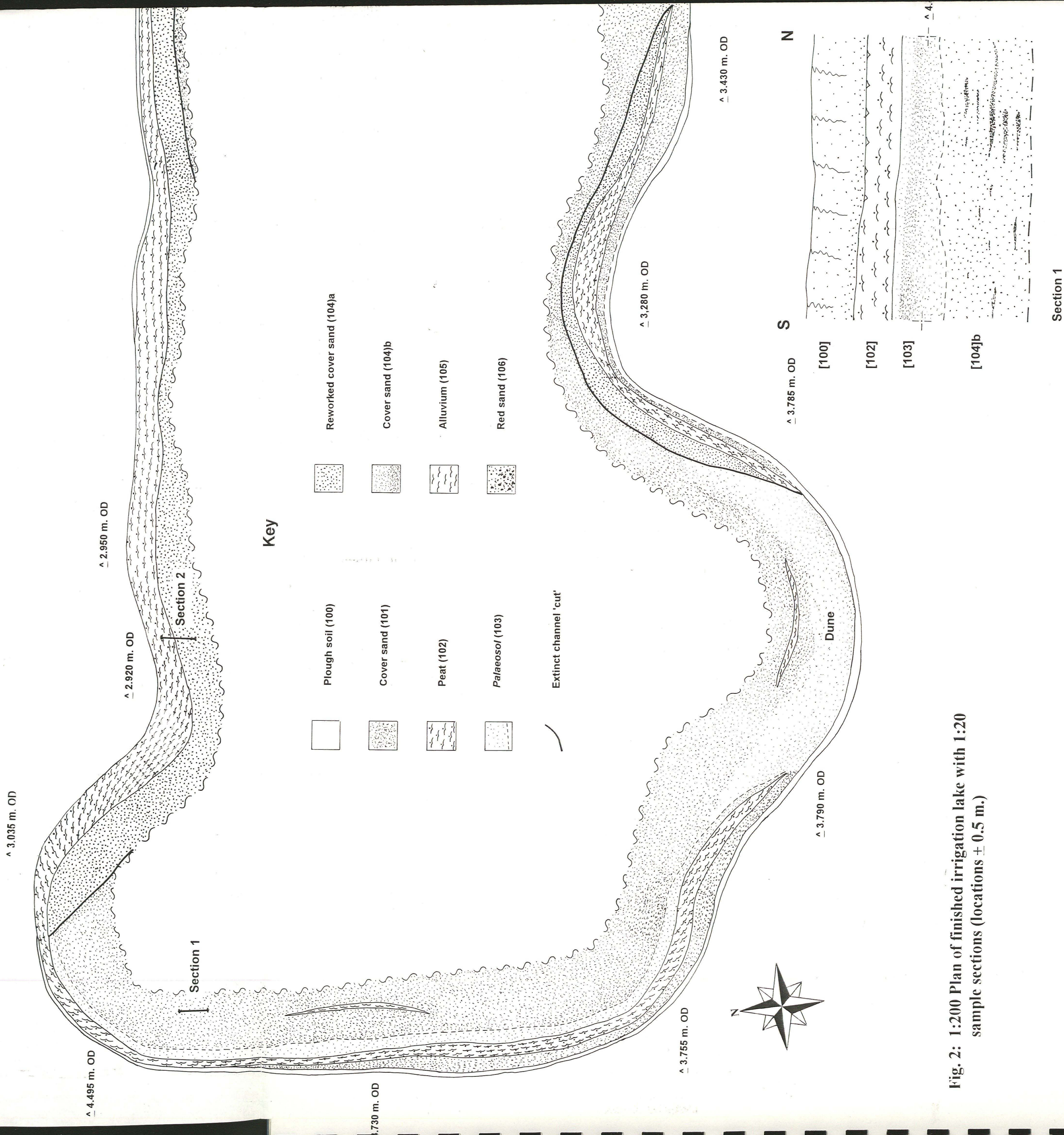


Fig. 2: 1:200 Plan of finished irrigation lake with 1:20 sample sections (locations  $\pm 0.5$  m.)