ARCHAEOLOGICAL ASSESSESSMENT OF TWO PONDS AT INKBERROW MILLENNIUM GREEN, WORCESTERSHIRE

J D Hurst and E Pearson
With a contribution by J Greig

Illustrated by L Templeton

5th November 1999

Field Section,
Archaeological Service,
Worcestershire County Council,
Tolladine Road,
Worcester WR4 9NB

Project 1787
Report 779
WSM 27971

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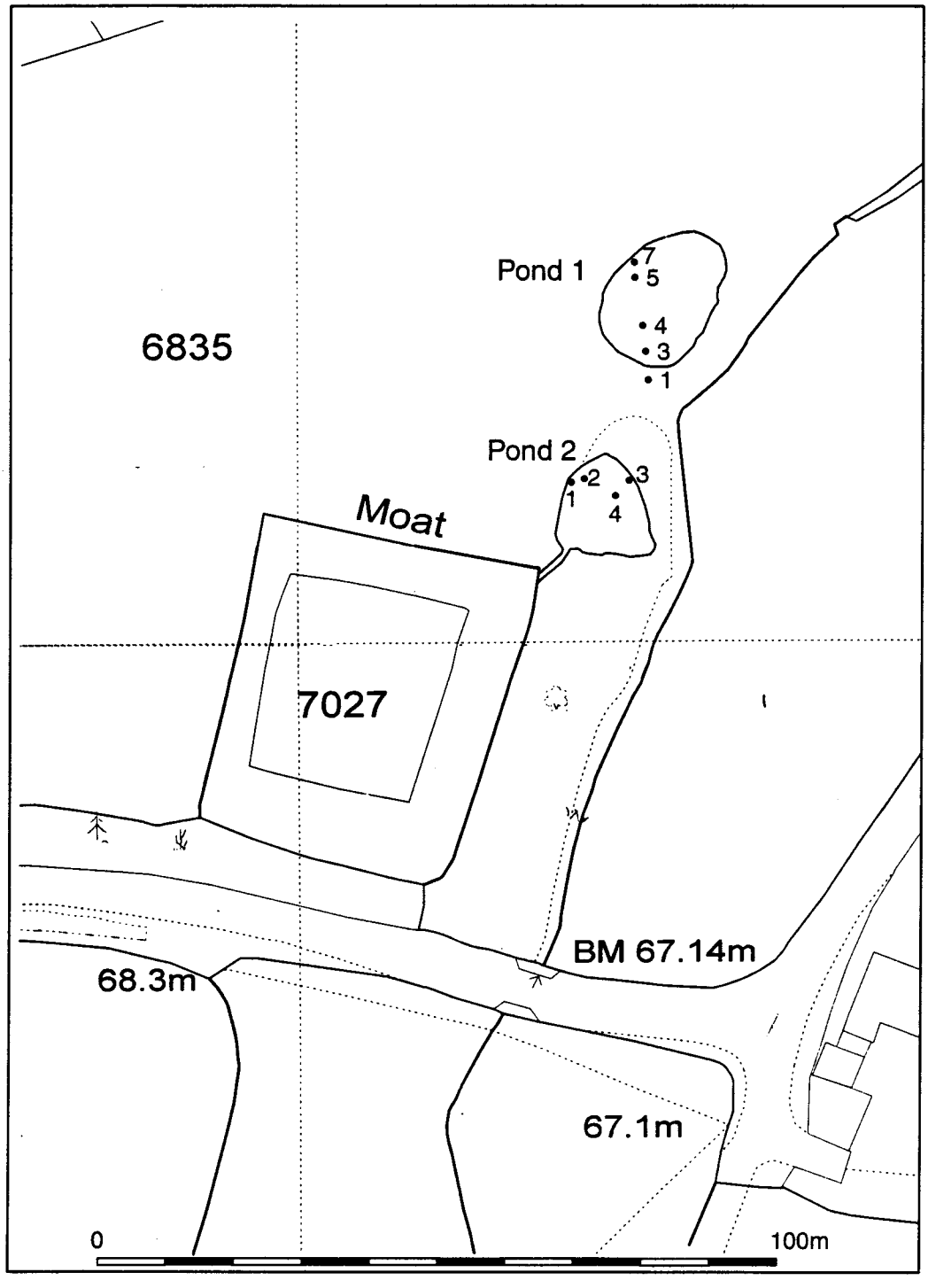

Figure 1 Inkberrow ponds: location of auger holes

Archaeological assessment of two ponds at Inkberrow Millennium Green, Worcestershire

By J D Hurst and E Pearson (Worcestershire Archaeological Service)

With pollen by J Greig (University of Birmingham)

Part 1 Project summary

1. Reasons for the project

This project was undertaken for the Inkberrow Millennium Greens Trust under the direction of Stewart Rampling of the Worcestershire Wildlife Consultancy. The project was centred on two ponds (NGR SP 01505732; WSM 27971) situated adjacent to Inkberrow Moat, and the fieldwork was undertaken on 22nd-23rd September 1999.

2. Outline of results and significance

Organic deposits of some depth survived in both ponds, in which pollen and other plant remains are well preserved. The pollen results and macroplant remains showed a largely wooded environment surrounding the ponds. However, it was difficult to fully assess the significance of the assessment results in the absence of any dating of the deposits.

3. Conclusions

Recommendations have been made with reference to the future development of the site as part of a Millennium Green. Further analysis and a more detailed documentary search are suggested, while the results of the assessment have been used to outline an approach towards preserving significant environmental deposits *in situ* in order to mitigate the impact of disturbance by any major earthmoving activity such as desilting.

Part 2 Detailed report

4. Aims

The aims of the project were specifically defined in a memorandum from M Atkin (County Archaeologist) dated 27th August 1999. This stated that the project should be based on palaeoenvironmental analysis (coring) of the pond deposits in order to provide information about:

(a) the depth and profile of the original ponds

(b) the presence of archaeological stratigraphy within the silts

(c) an outline assessment of the likely environmental potential of the silts,

and that the report should include:

(a) plan of the ponds

(b) a drawn profile of the ponds

(c) a brief assessment of results.

The purpose of this project was to establish the significance of any deposits in the ponds, since this would make it possible to recommend an appropriate treatment which may then be integrated with the proposed development programme for the site as a Millennium Green, as part of any scheduled monument consent that may be sought for works on the site.

Owing to the requirement for an outline report only of the results, some sections of the report are only treated in brief, and detailed fieldwork data are available only in archive.

5. Topographical and archaeological background

The ponds are part of a larger site including a medieval moated site, and these are elements of a scheduled ancient monument (SMR ref WSM 5569; SAM 293; SM 31941).

No previous archaeological work has been undertaken on the site.

6. Methods

The evaluation follows the general specification for evaluations contained in the Service manual (County Archaeological Service 1995).

Prior to fieldwork commencing a search was made of the County Sites and Monuments Record (SMR). Some information about site history was also noted from Countryside Consulting (1998).

6.1 Artefacts

No artefactual material was recovered.

6.2 Environment

6.2.1 Sampling policy

Profiles of the silted ponds were obtained by augering using both Dutch and Russian augers. On account of the difficulty of working in deep soft silts within water filled ponds, the number of auger cores was restricted to the minimum required to establish a profile.

A basic record of any changes in the silt deposits was recorded for each auger core. Levels were recorded at the top of the pond silts for each auger core and at other strategically important points on the site.

6.2.2 Method of analysis

Samples of approximately 30 to 50mls were taken from the organic silts at the base of the auger cores from the centre of each pond for assessment of macroplant remains. The samples were washed through a 300µm sieve and the remains scanned using a EMT light microscope. Small spot samples were also taken for assessment of pollen preservation.

7. Analysis (Figs 1-3)

The positions of auger holes are shown in Figure 1.

Deposit description

Natural deposits into which the ponds were excavated consisted of a buff to reddish brown clay (Mercian Mudstone). In both ponds, the natural deposits were overlain by a stratified sequence of both organic and relatively inorganic silty clay fills (see Figs 2-3). For the profile across the ponds, the deposits identified during fieldwork have been classified according to broad type in order that the deposits in each auger core can be more readily compared. Up to 1.73m of fills were recorded in the centre of pond 1 (northern pond), and 1.20m of fills in the centre of pond 2 (southern pond).

Pond 1

At the base of this pond there was a deep deposit (approximately 1.15m thick) of mixed organic and inorganic silty clay (layers 5 and 7), with a fibrous organic band (layer 6) near the top. Without detailed sediment analysis it is difficult to determine whether the mottling of these deposits reflects mixing or disturbance of deposits, or simply some degradation of the organic component. These layers are overlain by a sequence of alternating inorganic and relatively organic deposits seen in auger holes 1, 3, and 4 throughout, and in auger hole 5 as layers 1 to 4.

Pond 2

At the centre of this pond auger hole 4 consisted entirely of alternating layers of coarse fibrous organic material (layers 2 and 4) and fine organic silts (layers 1 and 3). A thin layer of red clay (layer 2) towards the base of auger hole 2 may indicate slumping of the natural clay into the pond along its western edge. Similarly a mixed organic clay and red sand (layer 3) at the base of auger hole 3 is likely to reflect disturbance of the pond deposits close to the sandy bank on the eastern edge, perhaps during pond clearance activity. The orange sand (layer 1) at the top of this sequence may also mark some erosion of the adjacent bank on this side of the pond.

Plant macrofossils

Plant macrofossil remains from small samples taken from the lowest organic layers in each pond were both similarly dominated by fragments of leaves provisionally identified as broadleaf deciduous tree species. Occasional seeds were recovered, which included cornfield weeds (eg broad-fruited corn salad (*Valerianella rimosa*)), and pond side or boggy vegetation (water-plantain *(Alisma plantago-aquatica)*, crowfoot *(Ranunculus sbgen Batrachium)*, and soft rush *(Juncus effusus)*).

Pollen (based on results by J Greig)

Pond 1 (sample from a depth of 1.63m from top of pond sediments in auger hole 5)

This sample was dominated by pollen from grasses (Poaceae), elm (*Ulmus*) and beech (*Fagus*). However, a significant quantity of pollen also derived from woodland trees or scrub which include oak (*Quercus*), birch (*Betula*), possible maple or sycamore (cf *Acer*), walnut (*Juglans*), and hawthorn (*Crataegus*). Herbaceous plants included goosefoot (Chenopodiaceae), daisies (*Aster* type), cabbage family (Brassicaceae), docks (*Rumex*), buttercups or water crowfoot (*Ranunculus*) and bulrush (*Typha*). Also present in smaller quantities were lime (*Tilia*), pine (*Pinus*) dandelions (Cichorioidae), ribwort plantain (*Plantago lanceolata*) and water plantain (*Alisma*).

Pond 2 (sample from a depth of 1.07m from top of pond sediments in auger hole 4)

This sample was dominated by grasses, maple or sycamore (cf *Acer*) and oak (*Quercus*), with significant quantities of ash (*Fraxinus*) pollen.

8. Discussion

Organic deposits of some depth survive in both ponds, in which pollen and other plant remains are well preserved, at least at the base of the ponds. However, fibrous organic layers in both ponds are likely to represent leaf litter surfaces to the pond silts, which formed after previous pond clearance episodes, and have since been buried by later silting. This may, therefore, represent a discontinuous sequence of pond silting.

The pollen results and macroplant remains show a largely wooded environment surrounding the ponds. However, the relatively large amounts of maple or sycamore (*Acer)* pollen, which is insect pollinated and normally infrequent, may suggest overhanging trees and a rather local source for most of the pollen (J Greig pers comm). These trees may have effectively formed a barrier to pollen from further afield. The high proportion of tree pollen would also tend to mask the significance of pollen from other vegetation, as a result of the analytical technique used for pollen identification purposes.

A greater diversity of species (particularly woodland trees) were recorded from pond 1. Whether this reflects a greater diversity of trees at the northern end of the pond system, or better conditions for preservation of pollen is uncertain. Overall, the main impression was of woodland and some grassland (possibly grazed clearings within the woodland, or beyond tree cover).

Any further interpretation of these results is, however, heavily dependent on the date of the deposits, and there are few clear indications as to which period the ponds belong to. The schedule maintained under the Ancient Monuments and Archaeological Areas Act 1979 refers to the ponds as medieval fishponds attached to the moat. There is, however, some documentary evidence that a later date may apply, since the 1840 tithe map shows pond 1 as situated in a field known as 'brick kiln piece', while pond 2 is not shown at all.

The main infilling of the ponds is likely to relate to a period after abandonment of the moat, perhaps when a more salubrious site was sought for the manor house. The palaeoenvironmental results could be in keeping with the location of the moated site, which typically would have been within a woodland area (cf in Hanley Castle, where there are two moated sites on the edge of Malvern Chase). However, the tithe map evidence suggests that the ponds could be of early post-medieval date (or even in the case of pond 2, of 19th century date), in which case the results would reflect a more recent landscape, probably similar to the current landscape, which is locally pasture, with tree cover around the ponds.

9. Significance

In considering significance, the Secretary of State's criteria for the scheduling of ancient monuments (DoE 1990, annex 4), have been used as a guide. These nationally accepted criteria are used to assess the importance of an ancient monument and considering whether scheduling is appropriate. Though scheduling is not being considered in this case they form an appropriate and consistent framework for the assessment of any archaeological site. The criteria should not, however, be regarded as definitive; rather they are indicators which contribute to a wider judgement based on the individual circumstances of a case.

Assessment of significance of the pond deposits

It is difficult to fully assess the significance of the assessment results in the absence of any dating of the deposits in the ponds. However, the deposits in Pond 1 below 67m (above OD) and in Pond 2 below about 66.60m (above OD), both contain well preserved organic remains, which are generally a rare survival. Such deposits have considerable potential to give detailed information about the surrounding landscape in this part of Inkberrow.

10. Recommendations

It is recommended that further analysis (ie scientific dating,) is undertaken of the samples already taken, as presently the archaeological significance of these deposits cannot be fully determined. In addition, a more detailed documentary search for information about Inkberrow Moat and its related features would not be out of place as providing a context for the current scheme of works. In the absence of any further analysis or research along these lines, the deposits described in the above section (Section 10) should be preserved *in situ* in the event of any disturbance to the pond fills being carried out (such as pond desilting). Consideration should also be given to the possibility that there are structural remains associated with the original function of the ponds, as this was not covered within the scope of the present project. Consequently any disturbance of deposits within the ponds may require further evaluation.

11. Academic summary

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, the Service intends to use this summary as the basis for publication through local or regional journals. The Client is requested to consider the content of this section as being acceptable for such publication.

A limited palaeoenvironmental survey was carried on two ponds to the north of Inkberrow Moat ((NGR SP 01505732 ; WSM 27971) as part of a Millennium Green Project. This revealed the presence of well preserved, though undated, organic remains.

12. The archive

The archive consists of:

2 Fieldwork progress records AS2

1 Photographic records AS3

1 Colour transparency film

1 digital film

9 Sample records AS17

1 Scale drawing

1 Computer disk

The project archive is intended to be placed at: Worcestershire County Museum, Hartlebury Castle, Hartlebury, Near Kidderminster, Worcestershire DY11 7XZ.

Tel Hartlebury (01299) 250416

13. Acknowledgements

The Service would like to thank the following for their kind assistance in the successful conclusion of this project: Patrick Hopcroft (University College Worcester), Lisa Moffet (English Heritage Science Advisor), and James Grieg (School of Archaeology, Birmingham University) for advice on underwater sampling procedure, and D Vann (Inkberrow Millennium Green project), and S Rampling (Countryside Consultants) for their help (including the provision of a rowing boat!) in carrying out the project.

14. Personnel

The fieldwork was carried out by Mike Glyde, Derek Hurst, and Elizabeth Pearson.

15. Bibliography

County Archaeological Service, 1995 *Manual of Service practice: fieldwork recording manual*, County Archaeological Service unpublished internal report, **399**

Countryside Consulting, 1998 *Inkberrow Millennium Green: site preparation plan*, typescript report

16. Abbreviations

WSM Numbers prefixed with 'WSM' are the primary reference numbers used by the Worcestershire County Sites and Monuments Record.

SMR Sites and Monuments Record.

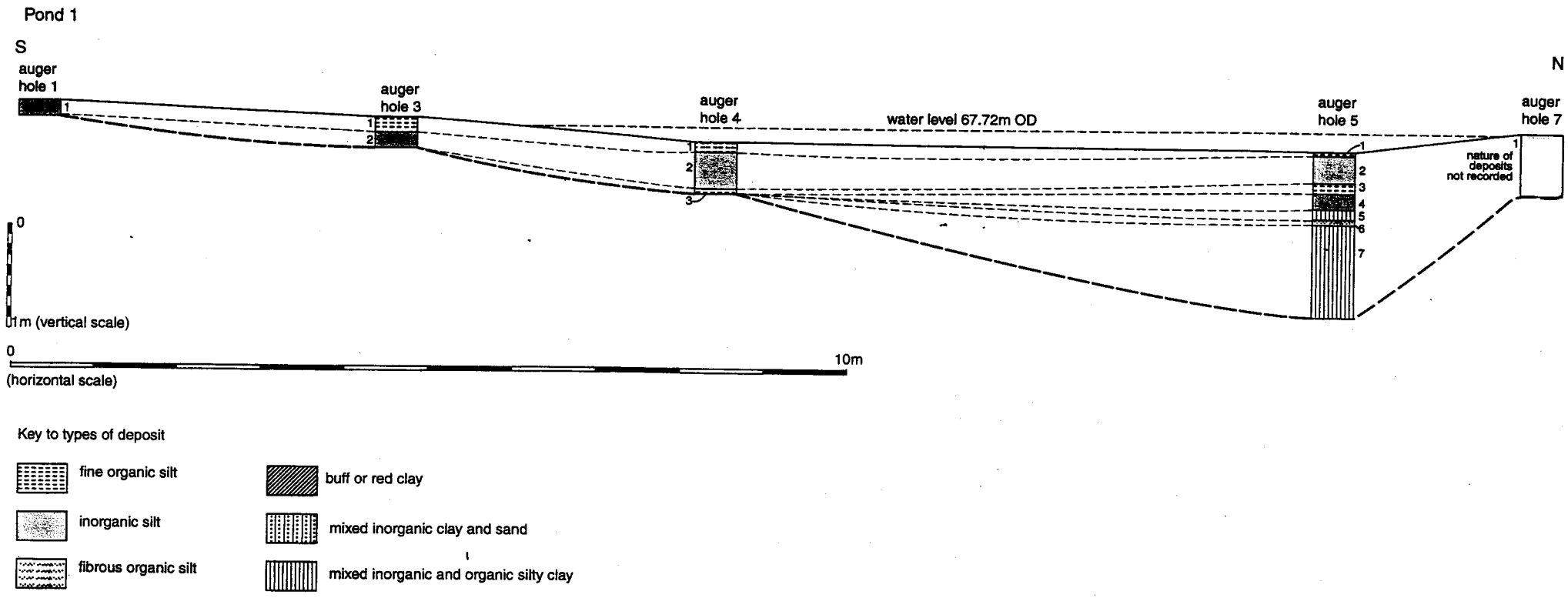

Figure 2 Results of augering, with interpreted section and extrapolated profile of Pond 1

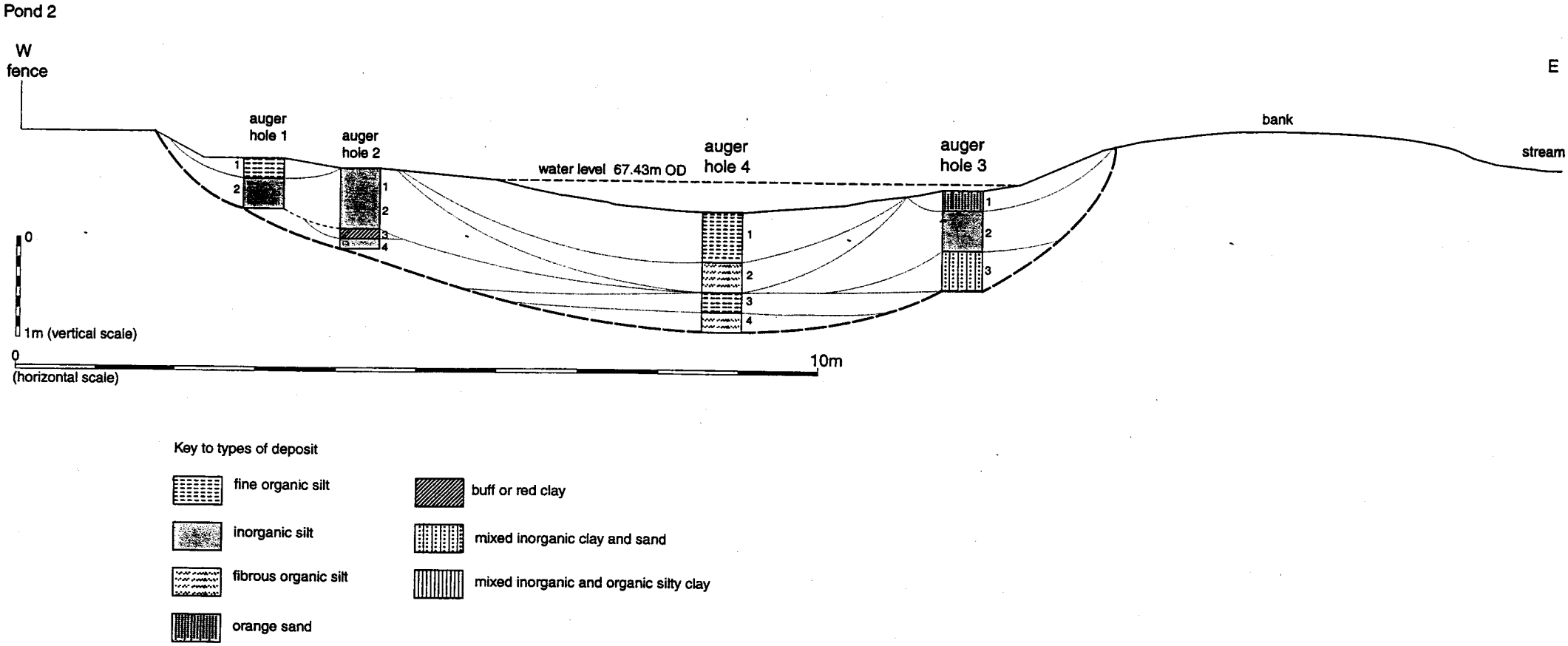

Figure 3 Results of augering, with interpreted section and extrapolated profile of Pond 2