

**SHEEPLANDS NITRATE REMOVAL PIPELINE
OXFORDSHIRE/BERKSHIRE**

Archaeological Excavation and Watching Brief.

Prepared on behalf of:

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SUMMARY

Wessex Archaeology was commissioned by Thames Water Utilities to carry out archaeological monitoring and selective excavation during the construction of a pump-away sewer main between Harpsden Water Pumping Station (Oxfordshire) and Sheeplands Water Pumping Station (Berkshire). The route of the pipeline is approximately 4.5km long. Aerial photography and the county Sites and Monuments Record indicated areas of high archaeological potential along particular parts of the route.

Excavation revealed a number of archaeological features and pottery dating from the early Saxon period in an area previously identified as including crop marks. A subsequent Watching Brief of this area identified further features and artefacts of a similar date.

Archaeological monitoring in the form of a Watching Brief along the remainder of the route revealed few archaeological features, although a small amount of worked and burnt flint was collected and three features, including one pit containing a possible cremation burial, were excavated and recorded.

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The project was managed on behalf of Wessex Archaeology by Dave Farwell and Julie Gardiner. The field work was carried out by Angela Batt, Nick Cook, Rosemary Edmunds and Moira Laidlaw. This report was compiled by Rosemary Edmunds and Moira Laidlaw with information on environmental aspects by Sarah Wyles and Michael Allen. The illustrations were prepared by Erica Hemming.

SHEEPLANDS NITRATE REMOVAL PIPELINE OXFORDSHIRE/BERKSHIRE

1 INTRODUCTION

1.1 Project background

- 1.1.1 Wessex Archaeology was commissioned by Thames Water Utilities Limited to carry out archaeological monitoring and selective excavation during the construction of a pump-away sewer between Harpsden Water Pumping Station (Oxfordshire) and Sheeplands Water Pumping Station (Berkshire).
- 1.1.2 The proposed pipeline would be laid by traditional trenching methods over an approximate distance of 4.5km. A stripped easement of up to 15 metres width would be required where the route traversed open countryside and be reduced to a width of 2m in the area of known crop marks identified by aerial photographs (NGR SU 782 778).
- 1.1.2 A brief outlining the scope of the archaeological works was prepared by Mike Lang Hall, Archaeological Consultant, on behalf of Thames Water Utilities Limited in support of their intention to adhere to the terms of the *Code of Practice on Conservation, Access and Recreation*, published as a result of the *Water Act 1989*. As the proposed work constitutes permitted development, under the terms of the *Town and Country Planning Act*, being exempt from the requirement for planning permission by the General Development Order.
- 1.1.3 A project design was agreed in response to the Project Brief issued by Thames Water Utilities Limited and included the specifications for selective excavation in the area of known crop marks and the further archaeological monitoring in the form of a watching brief along the remainder of the pipeline.

1.2 Location, Geology and Topography

- 1.2.1 The route of the pipeline runs west from Harpsden Water Pumping Station, Oxfordshire (NGR SU 771 801) for c. 750 m, turning south-east at the crossing of Woodlands Road where it runs for a further c. 2km. Here it passes under the River Thames (the County boundary). Continuing south-east, it runs a further 1km to where it meets the River Loddon and then in a north-easterly direction to Sheeplands Water Pumping station, Berkshire (NGR SU 784 779).
- 1.2.2. At the northern end of the route the topography is undulating, with a maximum height of 70m AOD. From the crossing of the A4155 southwards towards the rivers Thames and Loddon the ground slopes down onto the flood plain where it averages a height of 35m AOD. The geology is mapped as Thames gravels with alluvial deposits.
- 1.2.3 Land use varies from predominately arable in the north-west, with pasture on the lower lying areas and market gardening at the far south eastern end.

1.3. Archaeological Background

- 1.3.1 An aerial photographic assessment was commissioned by Thames Water Utilities Ltd. from Air Photo Services Ltd. in October 1996. This identified a complex ditched settlement suggested as being of prehistoric or Romano-British date (SU 781 778) and a simple ditched enclosure likely to include internal and external features, probably of the same date (SU 766 789). Both of these crop marks were crossed by the proposed route of the pipeline. Nine other areas of archaeological interest were located by the appraisal adjacent to the route of the pipeline, highlighting that the area is of high archaeological potential.
- 1.3.2 The Sites and Monuments Record shows that within the vicinity of the route, archaeological evidence is present representing most periods.

2 AIMS AND OBJECTIVES

- 2.1 The aim of the monitoring work was to locate, identify, investigate and record the presence/absence of any archaeological features or deposits within the easement potentially affected by the pipeline construction. Further monitoring of the pipe trenches was advised to identify and bring further understanding of the underlying geology.
- 2.2. Any investigations were to be carried out in such a way as not to compromise the integrity of any archaeological features or deposits which might warrant preservation *in situ* rather than excavation/recording under 'rescue' conditions.
- 2.3 The report on the archaeological monitoring would aim to provide the requisite information for formulating further archaeological responses, if necessary.

3 METHODS

3.1. General

Each field was allocated a separate plot number in order to differentiate between certain areas of the pipeline. (See Fig. 1). These plot numbers are used throughout this report to discuss any results.

3.2. Area Excavation, Plot 10

- 3.2.1. No easement was stripped within the area of the complex ditched enclosure (SU 781 778) in order to avoid unnecessary damage to the archaeology. Instead a 2m wide trench along the centre of the line of the proposed pipe was excavated mechanically using a 360° excavator with a flat, toothless grading bucket under constant archaeological supervision.
- 3.2.2. The excavation continued to the top of any archaeological deposits or the bedrock, whichever was encountered first. The topsoil removed was kept separate from any subsoils and geological deposits so that it could be reinstated with minimum disturbance.
- 3.2.3 Where archaeological deposits were encountered, the areas were cleaned manually to an archaeologically acceptable standard and recorded using Wessex Archaeology's *pro*

forma recording system, including a full photographic and graphic record. Any features were excavated by hand to establish their nature and date, and if suitable, environmental samples were taken to identify and provide descriptions of palaeo-environmental stratigraphy. The aims of the sampling were to relate any paleo-environmental stratigraphy to dated episodes of human activity and to assess the preservation of the evidence.

- 3.2.4 Sections were recorded at 25m intervals along the trench with monolith samples and bulk samples taken at suitable intervals. Three deeper sections were excavated to investigate the nature of the natural geology and to check that there was no alluvium sealing archaeological features or deposits.

3.3. Watching brief

- 3.3.1. An intensive watching brief was carried out along the remainder of the line of the pipe, involving the monitoring of topsoil stripping and any subsidiary development areas, such as pipe storage areas. The stripped easement was approximately 10m wide with the spoil heaped to one side.
- 3.3.2. The topsoil dumps within each section or plot along the easement were scanned for artefacts, which were retained and their location recorded by plot or chainage. Within each plot the topsoil, subsoils and underlying bedrock were recorded.
- 3.3.3. Where archaeological features were located, these were hand excavated and recorded using Wessex Archaeology's *pro forma* recording system, consisting of a written, drawn and photographic record.
- 3.3.4. The pipe laying phase of work was also monitored. The pipe trenches were excavated with a 0.60m toothed bucket. These were observed at suitable intervals and the natural geology recorded. It was not always possible to enter the trench due to the nature of the pipe laying and the unstable sides of the trench.

4 EXCAVATION RESULTS

4.1. Plot 10 - Trench details

The trench excavated was 229.20m long by approximately 2m wide. The machine was restricted to the trackway and therefore had to excavate the trench side ways on. This necessitated the trench being slightly wider at the top in order to obtain a width of 2m at the trench base. The trench varied in depth from 0.95m at the east end, 0.50m in the middle and 0.65m at the west end.

- 4.2. Excavation revealed a sequence of topsoil (1), a dark brown sandy loam, moderately loose with occasional flint gravel, becoming more frequent towards the western end of the trench, overlying a lighter brown subsoil (2) with occasional flint gravel. The topsoil was on average 0.25m deep and the subsoil varied from 0.30m to 0.40m deep. The natural geology varied from an orange brown silty clay, to a yellow brown sand, to a dark orange brown sand and gravel.
- 4.3. Three deeper sections were excavated to investigate the natural along the trench and to check that there was no alluvium sealing archaeological features or deposits. Section 1 (163.60m from the eastern end of the trench) revealed an homogeneous orange brown

silty clay with rare-moderate flint gravel inclusions. Section 2 (132.50m from the eastern end of the trench) revealed a sequence of various layers of silts, gravels and clays. Section 3 (77.55m from the eastern end of the trench) revealed a layer of dark orange brown silty clay 0.30m in depth overlying a pale orange brown silt clay 0.50m in depth. This overlies gravel.

4.4. *Archaeological features* (Figs 1 and 2)

Three archaeological features were identified and recorded, consisting of two circular features **7** and **8** and one palaeochannel (feature **4**). **Pit 7**, 180.40m from the east end of the trench, was a small circular truncated pit (0.35m in diameter and 0.23m in depth) filled with a dark grey silty clay with rare flint pebbles, frequent charcoal flecks and degraded fired clay flecks.

4.5. Towards the east end of the trench was a small circular **pit (8)**, 0.30m in diameter and 0.20m in depth. The pit had vertical sides and a concave base and was filled with a grey brown silty loam with rare small flint gravel and charcoal flecks.

4.6. A possible palaeochannel was recorded, seen in the south facing section of the trench 32m from its eastern end (feature **4**). The channel was 4.60m wide and 0.45m deep with sides sloping at 45-65° and a flat base. This was overlain by subsoil **2** and filled with a dark brown clay loam, similar to the topsoil, with occasional flint gravel and occasional-moderate charcoal flecks. One sherd of grass tempered sandy fabric pottery was found when cleaning back the section of ditch **4** although its provenance cannot be certain.

5 WATCHING BRIEF RESULTS

5.1. Plot 10

Topsoil stripping at the western end of the excavated area revealed further archaeological features. Here an area 25m by 38m was stripped for the sinking of a shaft for the pipe to be carried under the River Loddon. The area revealed a mid orange brown sandy loam topsoil with moderate to frequent flint gravel overlying a brown silty clayey loam subsoil with occasional flint gravel inclusions. The underlying natural deposits varied from a brown silty sand in the eastern corner to a yellow silty sand and gravel in a yellowish brown sand matrix over the north, west and southern parts of the stripped areas.

5.1.2. *Archaeological features*

The archaeological features were restricted to the sandy eastern corner and were quite clearly visible because of their charcoal rich fills. Eight features were identified consisting of three pits, three possible postholes, one amorphous feature and a possible treebole. **Pit 10** was oval, 1.80m long by 1.60m wide and 0.44m in depth with gently sloping sides and a concave base. The upper most fill (**11**) was an orange brown silty sand with frequent charcoal inclusions. This overlies a darker, very charcoal rich fill (**12**) containing animal bone, slightly tipping in from the south side. Beneath was a mid greyish brown clayey silt (**13**) from which one sherd of early Saxon grass-tempered pottery was recovered. The primary fill (**22**) was a redeposited natural brownish yellow sandy silt located on the south and east sides of the pit. It is possible that this pit served as a rubbish pit for domestic waste.

- 5.1.4. **Pit 10** was cut on its east side by another smaller **pit 20**. This was a circular pit with a diameter of 1.20m and a maximum depth of 0.23m and a concave base. On the west side the feature has a gently sloping side, while on the east it was slightly steeper. Only one fill (**21**) was apparent, a mid-dark yellowish brown sandy silt with a moderate amount of charcoal flecks.
- 5.1.5. The northern edge of **pit 10** was also cut by a small oval truncated pit or **posthole (14)** which had a width of 0.55m and depth of 0.19m and was filled with a mid greyish brown silty sand (15) with moderate amounts of charcoal fleck and occasional lumps of possibly burnt natural sand.
- 5.1.6. Two further possible post-holes were excavated to the west of feature **14**. **Posthole 16** was small and circular with a diameter of 0.30m and a depth of 0.13m. **Posthole 18** was also 0.30m in diameter with a depth of 0.14m. Both had similar profiles, with moderately sloping sides and a concave base. The relationship between these two features was unclear as they were both filled with a mid yellowish grey sandy silt (**17** and **19** respectively).
- 5.1.7. **Posthole 18** cut a shallow irregular **feature (23)** which measured 0.92m in length, 0.26m in width and 0.13m in depth. This was filled with a mid reddish brown slightly silty sand (**24**).
- 5.1.8. In the eastern corner of the site an oval **pit 25** was recorded as being 1.52m in length, 1.20m in width, with a maximum depth of 0.19m. This had moderately steep sloping sides and a flat base. The fill (**26**) was a mid greyish brown sandy silt with occasional flint gravel inclusions and moderate amounts of charcoal flecks. Finds consisted solely of burnt flint.
- 5.1.9. Along the north-east edge of the area a possible **feature (27)** was identified mainly in section. This was an irregular shaped feature 1.96m wide and 0.34m in depth with a concave base and root disturbance on the south-west side. The fill (**28**) was a dark greyish brown sandy silt with frequent charcoal fleck. Finds included a small amount of burnt flint and four sherds of Saxon pottery. This may be a truncated pit or possibly a natural treebole due to its irregular shape and sides.
- 5.1.10. Towards the eastern side of plot 10 another small **pit (30)** was identified in the stripped area which ran parallel to the north-south portion of the access track. The pit was circular with moderately steep sides and a flat base (diameter 0.63m, depth 0.09m). It was filled with a greyish brown sandy silt and contained three iron objects.

5.2. **Plots 1, 2, 3 and 4.**

- 5.2.1. A 9-10m wide easement was stripped running north-south along the eastern side of plot 1 (NGR SU 777 778) revealing a modern sewer main aligned north-south. At the northern end of the plot the easement turned and ran in a north-westerly direction through plots 2 (NGR SU 776 781), 3 (NGR SU 774 782) and 4 (NGR SU 773 783). Towards the west end of plot 4, at the junction with the River Thames, an area 40m sq was stripped for the sinking of a shaft.

- 5.2.2. Throughout the plots 1, 2, 3 and 4 the topsoil was a dark greyish brown silty loam, with a maximum depth of 0.14m. This overlay a mid brown slightly clayey silt natural subsoil in plot 1. The subsoil varied in plots 2 and 3 to a mid brown, sometimes reddish, sandy silt becoming more gravelly toward the north-west. Plot 4 showed a similar subsoil, although less gravelly.
- 5.2.3. Trenching in plot 2 revealed that the subsoil layer was 1.20m in depth, overlying a layer of fine pale brown sand, 0.40m in depth, above gravel. In Plot 4 a mid-brown silt was observed to a depth of 0.36m at the north-west end overlying a layer of mid brownish grey silty clay 0.73m in depth. This, in turn, overlay a mid brown slightly clayey silt alluvium, greater than 0.10m in depth. At the south-east end of plot 4 a similar sequence was observed with gravel at a depth of 1.20m.
- 5.2.4. A small quantity of unstratified burnt flint was recovered from plots 1 and 2, along with a quantity of post-medieval ceramic building material.
- 5.2.5. No archaeological features were encountered within plots 1, 2, 3 and 4.

5.3 Plot 5.

- 5.3.1. A 9-10m wide easement was stripped running east-west through plot 5 (NGR SU 778 778). At the western end a 40m sq working area was stripped for a shaft under the River Loddon. Topsoil, a dark brown silty loam with occasional chalk and flint gravel inclusions overlay a mid brown slightly clayey silt and a mid reddish brown silt. Remnant ridge and furrow was recorded running north-south and observed in the baulk of the easement as undulating topsoil to a maximum depth of 0.27m.
- 5.3.2. One unstratified fragment of burnt flint was recovered along with six fragments of post-medieval ceramic building material.

5.4 Plot 6

Topsoil stripping of the 9-10m wide easement ran east-west through plot 6, a gently sloping pasture field with a north-east facing aspect (NGR SU 768 799). Topsoil, a mid brown silty loam with a maximum depth of 0.24m, overlay a mid brown silt with occasional chalk flecks and moderate amounts of flint gravel. This overlay chalk at a depth of 1m. No archaeological features were identified.

5.5 Plot 7.

- 5.5.1 This arable field (NGR SU 765 794) had a gently sloping northerly aspect. The easement ran in a south-easterly direction, again being 9-10m wide. Topsoil, a mid brown sandy silty loam, overlay an orange brown silt with occasional flint gravel inclusions. The chalk was visible at an average depth of 0.75m at the northern end and 1.50m at the southern end of the pipe trench. This revealed soliflucted undulations, filled with an orange brown silt.
- 5.5.2. A small amount of worked and burnt flint was recovered from the spoil heap, although no archaeological features were identified.

5.6 Plot 8.

- 5.6.1. Plot 8 (NGR SU 765 794) was an arable field sloping quite steeply from the brow of the hill at the northern end with a southern aspect. The 9-10m wide easement ran in a

south-south-easterly direction. Topsoil was a dark brown sandy loam with occasional to moderate flint gravel, 0.35m in depth. This overlay an orange brown sandy clay with moderate flint gravel inclusions. The pipe trench revealed chalk at a depth of c.2m at the top of the slope, sloping down towards the south-east the chalk became visible at a shallower depth.

5.6.2. Three small pits were recorded c. 60m from the northern end of the easement. **Pit 102** was an oval, vertical sided, 0.65m in length, 0.50m in width and with a depth of 0.30m. The lower fill, **101** was a very dark brown silt, 0.15m in depth, with frequent charcoal inclusions. Finds consisted of burnt flint and a small amount of burnt human bone. The upper fill (**100**) was a dark orange brown sandy clay with frequent gravel inclusions, 0.15m in depth, containing a quantity of charcoal flecks. This may be interpreted as a pit containing either pyre debris or a possible cremation burial.

5.6.3. **Pit 104**, c.5m north of **102**, was a circular steep sided pit, 0.50m in diameter and 0.15m in depth. This was filled with **103**, a very dark greyish brown silty loam with small gravelly inclusions, charcoal flecks and contained burnt flint and human bone.

5.6.4. **Pit 106**, 10m north-west of pit 104, was circular, steep sided with a flat base, 0.75m in diameter and 0.20m in depth. The fill (**105**) was a very dark grey sandy loam with moderate flint gravel inclusions and abundant burnt flint.

5.7 Plot 9.

5.7.1. The easement ran from the northern end at plot 8 in a south-easterly direction across plot 9, (NGR SU 767 790) an arable field sloping steeply down towards plot 8, and levelling at the south-east end. Topsoil was a dark brown sandy loam with occasional flint gravel inclusions and 0.40m in depth. This overlay an orange brown clayey sand subsoil with gravel inclusion. At the brow of the hill weathered chalk was apparent after topsoil stripping.

5.7.2. Adjacent to the 9m wide easement, an area 8m wide was stripped and excavated to a maximum depth of 1.80m revealing chalk at a depth of c.0.50m. The section was recorded, showing that a considerable amount of weathering of the chalk has taken place, probably due to solifluction. One possible feature showed in the section 194m from the northern end of the plot, being 4.50 wide, and 1.25m in depth with a V-shaped profile. This was clearly defined, unlike the natural features. The undulations in the natural were up to 1.25m in depth with irregular profiles and up to 6.50m wide, filled with an orange brown sandy clay with occasional gravel inclusions.

5.8 Plot 11.

The easement through plot 11 (NGR 783 776) ran north-west across a relatively flat arable field to join with the pumping station. A small area of easement was monitored and no archaeological features were recorded.

5.9 Plots 12,13,14 and 15.

- 5.9.1. The easement stripped through plot 12, 13, 14, and 15 ran in a south-easterly direction through pasture fields downslope to meet the Thames at plot 15. No archaeological features were present within these plots.
- 5.9.2. In plot 12 (NGR SU 767 790) an area 34m by 60m was stripped for a compound. Here topsoil was a dark brown sandy loam, 0.24m in depth, overlying a subsoil of orange brown sandy loam with frequent root disturbance and modern building rubble. A number of treeboles were observed. Chalk was recorded at a depth of 0.75m.
- 5.9.3. In plot 13 (NGR SU 769 788) and plot 14 (NGR SU 771 786) topsoil was observed to a depth of up to 0.33m, a dark brown clay loam overlying an orange brown sandy loam. The ground in plot 14 sloped southwards at 20-30°.
- 5.9.4. Plot 15 (NGR SU 771 784) also sloped southwards, slightly more steeply. A similar sequence was observed, with topsoil 0.20m in depth, a dark brown silty loam overlying subsoil, an orange brown silty loam. This overlay chalk at a depth of 0.80m. At the south-east end an area 30m by 40m was stripped for the sinking of a shaft to bore under the Thames.

6 FINDS

- 6.1. All collected finds were retained, cleaned and quantified by number and weight according to material type within each plot and by context from archaeological deposits. The assemblage was then scanned to extract information regarding the range, nature and date of the artefacts represented. This information is discussed by material type below. Total quantities of artefacts, including finds recovered from bulk samples, are summarised in Table 1.

6.2 Animal bone

A small quantity of animal bone fragments was recovered from two fills within pit 10, situated on the north-western edge of plot 10. The species represented include medium to large domestic mammals. The fragments are all moderately small and rather poorly preserved.

6.3 Human bone

Fragments of burnt human bone were recovered from the fills of two small pits in plot 8, pit 102 and pit 104. Both pits were found only 4 m apart, towards the brow of the hill at Haileywood. The fragments, which are well preserved and moderately large, are derived from two adults and are likely to represent either two cremation burials or pyre debris.

6.4 Burnt flint

A small quantity of burnt flint was recovered from plot 10, concentrations of which were found in the Saxon pit 10 and feature 27, a possible prehistoric pit or natural treebole. A moderately large number of fragments was also retrieved from pit 102 within plot 8 which contained cremated human bone. The remainder of the assemblage was dispersed in small quantities along the pipeline. Burnt flint is basically undatable, although it is often found in association with prehistoric features.

6.5 Ceramic building material

The only stratified fragments of ceramic building material were five fragments of Romano-British tile recovered from pit 10 (contexts 11, 12 and 22). On the basis of associated pottery this pit has been dated to the Saxon period, therefore the tile fragments are likely to be residual. The tiles are in hard sandy fabrics and one fragment from context 12 is grog tempered. The remainder of the fragments, from unstratified deposits, are post-medieval in date .

6.6. Fired clay

The fired clay recovered consists of very small abraded, undiagnostic fragments, 24 from pit 10 and one fragment from pit 6. The fragments are all in moderately coarse sandy fabrics.

6.7. Worked flint

Five fragments of worked flint were recovered from three stratified features, pit 102, pit 10 and pit 25, the remaining four fragments were unstratified. The fragments are all waste flakes with edge damage characteristic of a plough zone assemblage. The small assemblage is not chronologically distinctive though a broad Neolithic/Bronze Age date is likely.

6.8 Pottery

6.8.1 A total of 22 sherds of pottery was recovered during the excavation and watching brief. The 19 sherds recovered from within plot 10 include four prehistoric sherds in a flint tempered fabric, retrieved from the pit fill 25. On the basis of fabric type they may be dated to the Late Bronze Age (1100-700 BC).

6.8.2. The remainder of sherds are organic tempered (with some sand inclusions). With the exception of two conjoining sherds from context 11 (pit 10) which represent one hand made rounded jar with an inverted rim, the sherds are non-diagnostic body sherds. The sherds may all be dated as early-middle Saxon or the 5th - 8th centuries AD.

6.8.3. Two small, non-diagnostic pottery sherds were recovered from the pit fill 103 within plot 8, interpreted as possibly containing a burial. On the basis of fabric type, the sherds may be tentatively dated to the early 1st millennium BC. One unstratified post-medieval rim sherd was recovered from plot 1.

6.9. Metalwork

Three fragments of iron were recovered from the pit fill 29 in plot 10 and consist of one possible blade fragment, one strip and one unidentified lump. One post-medieval knife fragment was also recovered from plot 1.

Table 1: Finds totals by context

NB Quantities are presented by number/weight in grammes. CBM = ceramic building material.
 *= post medieval, ph = prehistoric, sx = Saxon, u/s = unstratified.

Plots	Context	Animal Bone	Human Bone	Burnt Flint	CBM	Fired Clay	Worked Flint	Pottery	Other
Plot 1	u/s				7/112*			1/61*	1/44 Iron Knife*
Plot 2	u/s			8/152	3/104*				
Plot 5	u/s			1/9	6/316*				
Plot 6	u/s						1/12		
Plot 7	u/s			1/49			2/28		
Plot 8	100						1/6		
Plot 8	101		335/100	36/68					
plot 8	103		15/20	5/40				2/2 ph	
Totals			350/120	51/318	16/532		4/46	3/63	
Excavation and Watching brief, Plot 10									
Plot 10	u/s			13/494			1/24	7/25 sx	
	6			3/3		1/1		1/1 ?	
	11			3/66	3/706			2/184 sx	
	12	65/151		13/70	1/86	23/18			
	13			1/6				2/64 sx	
	21			7/128					
	22	2/24		3/139	1/124	1/1	1/1		
	26			18/330			3/15	4/11 ph	
	28			3/78				4/10 sx	
	29								3 iron objects
Totals		67/175		64/1314	5/916	25/20	5/40	19/287	

7. PALAEO-ENVIRONMENTAL ASSESSMENT

7.1.1 A series of five bulk samples of 10 litres was taken from three pits of Saxon date for the retrieval and assessment of charred plant and charcoal remains.

7.1.2 The samples were processed by standard flotation methods; the flots retained on a 0.5 mm mesh and the residues fractionated into 5.6 mm, 2 mm and 1 mm fractions and dried. The coarse fractions (>5.6 mm) were sorted, weighed and discarded.

7.1.3 The flots were scanned under a x10 - x30 stereo-binocular microscope and presence of charred remains quantified (Table 2), in order to present information about preservation and assess the potential of the charred plant remains for detailed analysis.

7.2 Charred plant remains

7.2.1 The majority of the samples produced small flots (average flot size for 10 litres is 60 ml) with between 2 and 50% rooty material and generally low numbers of uncharred weed seeds which can be indicative of stratigraphic movement.

7.2.2 Sparse quantities of charred grain fragments were recorded in all samples. Molluscs were observed in three samples and small mammal bones in one sample.

7.3 Charcoal

7.3.1 Charcoal was noted from the flots of the bulk samples and is recorded in Table 2. Large numbers of charcoal fragments of greater than 5.6mm were recorded in most of the samples. The charcoal pieces were mainly large wood fragments.

7.4 Potential of the charred plant and charcoal remains

7.4.1 Only clean charred grain and charcoal was present indicating that they represented cleaned and processed material, possible bought from market and processed for storage. Although the lack of chaff and charred weeds indicates this, their lack also inhibits determination of when the crop was harvested and on what soils it was grown.

7.4.2 Excavation only enabled a limited window on the archaeological evidence and in total the remains and archaeological evidence are not of great significance. However, there is a dearth of information on Saxon farming economy in rural Berkshire/Oxfordshire, as there is for much of southern England. In view of this the plant remains from two pits (pit 10, context 12 [sample 9] , and pit 25 context 26 [sample 12]) should be considered for analysis. The charcoal from pit 10 (sample 9) is exceptional and likely to represent collection and selection from local, possibly managed, woodlands.

7.5 Summary

The remains and broader archaeological context are limited, but the lack of information about the Saxon rural economy makes a very limited analytical programme worth considering.

Table 2: Assessment of the charred plant remains and charcoal

Feature type/ no	Context	Sample	size litres	Flot							Other	Residue
				flot size ml		Grain	Chaff	Weed seeds uncharre charred	Charcoal >5.6mm	Charcoal >5.6mm		
Saxon Pits												
7	6	2	101	30	1	C	-	a	-	A	-	-
10	12	9	10	200	4	C	-	c	-	A*	smb(C)	250
10	22	10	10	5	0.5	C	-	c	-	B	mollusc (C)	-
10	21	11	10	40	10	C	-	c	-	A	mollusc (C)	-
25	26	12	10	20	10	B	-	b	-	C	mollusc (C)	-

KEY: A** = exceptional, A* = 30+ items, A = ≥10 items, B = 9 - 5 items, C = < 5 items, (h) = hazelnuts, smb = small mammal bones

NOTE: ¹flot is total, but flot in brackets = ml of rooty material. ²unburnt seed in lower case to distinguish from charred remains

7.6 Soils and sediments

7.6.1 The Loddon Valley is largely underlain by Thames Gravels and is mapped with stagnogleyic pelo-argillic brown earths of the Hornbeam 1 Association on the plateau/hill to the west, with typical paleo-argillic brown earths of the Sonning 1 Association on the slopes, and typical argillic brown earths of the Hucklesbrook Association on the adjacent floodplain (Allen *et al.* 1983). The main valley is mapped as pelo-calcareous alluvial gley soils of the Thames Association flanked on the lower-lying eastern side at Shiplake with typical argillic brown earths of the Frilsham and Hucklesbrook Associations, and on Knowle Hill, to the east and beyond the transect, pelo-stagnogley soils of the Windsor Association occur.

- 7.6.2. In general, therefore, the soils are argillic brown earths over gravels, with varying gleying effects relating to the floodplain and river itself, the more calcareous deposits in the soils adjacent to the river as a result of transported chalky material being deposited by the river in flood events over the adjacent floodplain.
- 7.6.3 A transect of monolith samples was obtained during trenching on the eastern side of the floodplain (plot 10), which is mapped here as typical argillic brown earths of the Frilsham and Hucklesbrook Associations (Fig 3). Understanding these soils and deposits was considered important because of the recovery of Roman-British and Saxon finds. A series of seven undisturbed soil samples was therefore taken in 0.75m long plastic monoliths along the exposed section of deposits to provide more detailed descriptions and interpretations of the sediment units to augment and amplify the field record. As these samples were taken purely for descriptive purposes, each sampled as many contexts as possible and their locations along the recorded section were recorded. Six of the seven monolith samples are briefly described following pedological nomenclature (after Hodgkin 1976), and these descriptions are presented in appendix/archive. The results of the descriptions are used within the geomorphological summary of the sediment and soil deposits below.
- 7.6.4 *Plot 10, The eastern Loddon valley floodplain*
This area is mapped as typical argillic brown earths (Hucklesbrook Association) developed over well drained, non-calcareous loamy and sandy soils (Jarvis *et al.* 1984, 210) in the river terrace drifts (Thames Gravels). They are typically coarse loamy soil of moderate (1.2m) depth. Adjacent to the river are grey calcareous clayey soils in river alluvium (Thames Association) with much ochreous mottling (Jarvis *et al.* 274).
- 7.6.5 The monolith samples were all taken on the easternmost side of the eastern floodplain and all relate to typical argillic brown earths developed over well drained sandy gravels. The sequence reveals Eb and Ebt/Bt horizons over ferruginous sands (Cu horizon). The fill of the palaeochannel sampled in monolith 3 is a mottled (?gleyed) slightly ferruginous sand, but no fluvial structure (laminations etc) could be detected. This probably represented medium ferruginous sand sorted from the sandy facies at the top of the Thames Gravels by fluvial action.
- 7.6.6. The palaeochannel and its fills have little or no palaeo-environmental potential themselves, and the presence of former, undated palaeochannels cut in the Thames Gravels of the Loddon floodplain is not surprising. All monoliths were discarded after descriptive records were made of the soils and sediments.

8 DISCUSSION

8.1 Excavation and Watching brief, plot 10

The excavation and the watching brief of plot 10 produced evidence for occupation activity in the form of pits and postholes which could be dated principally to the early-mid Saxon period on the basis of the recovered pottery. Pit 25 was dated as probably Late Bronze Age in date by the flint tempered fabric of the pottery.

The identified features support the evidence from the aerial photographic assessment for the survival of peripheral remains to the extensive multi-period "settlement complex". The palaeochannel recorded may relate to the crop mark identified by the aerial photography as a possible trackway.

8.2 Watching brief

8.2.1 The watching brief along the rest of the route of the pipe line observed very little archaeology. The cropmark identified by aerial photography (NGR SU 776 789) may relate to the possible ditch located within plot 9 running north-east/south west.

8.2.2 The only other features identified were the three small pits in plot 8, two of which contained burnt human bone and are likely to be associated with cremation burials. Pit 104 also contained two small sherds of prehistoric pottery, which together with the worked flint recovered from this area suggests evidence for some prehistoric activity.

8.2.3 The remnant ridge and furrow identified in plot 5 is indicative of medieval agriculture, although no dating evidence was recovered, and illustrates that much of the potential archaeology in the area has undergone extensive agricultural disturbance.

9 THE PROJECT ARCHIVE

The archive is currently held at the offices of Wessex Archaeology at Old Sarum, Salisbury under the project code W3078. In due course it is hoped that it will be deposited with the Reading museum.

The archive consist of:

- Copy of this report and project designs
- Day books
- Context index and records
- Graphics index and records
- Photographic register
- Bulk finds records
- Environmental index and records
- Photographic colour transparencies and monochrome contact prints
- One box of finds

10 REFERENCES

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APPENDIX 1

Monolith summary descriptions from east to west

Monolith 1 300mm at 25m

Dark brown slightly stony sandy loam (Eb or Ebt horizon) with a sharp smooth boundary over a brown slightly stony sand loam with weak coarse subangular blocky structure

Monolith 4 300mm at 28m

Brown slightly stony sand loam Eb or Ebt horizon with weak coarse subangular blocky structure over a brown sandy silty loam with common fine macropores and medium moderate subangular blocky structure (channel - context 5) over a yellowish brown slightly stony ferruginous sand (Cu horizon probably top of Thames Gravel facies).

Monolith 3 500mm at 34m

Strong brown slightly stony sand loam Eb or Ebt horizon with weak coarse subangular blocky structure over a brown medium sandy silty loam with common fine macropores, some ferruginous mottling and medium moderate subangular blocky structure with few inclusions (channel 1 - context 5)

Monolith 7 500mm at 62m

Brown slightly stony sandy loam Eb horizon with fine subangular blocky structure over a strong brown almost stonefree sandy clay loam (Ebt\Bt horizon) with fine subangular block structure.

Monolith 6 500mm at 74m

Brown slightly stony sandy loam Eb horizon with fine subangular blocky structure over a strong brown almost stonefree sandy clay loam (Ebt\Bt horizon) with fine subangular block structure.

Monolith 8 500mm at 105m

Brown slightly stony sandy loam Eb horizon with fine subangular blocky structure over a strong brown slightly stony sandy clay loam (Ebt\Bt horizon) with fine subangular block structure.

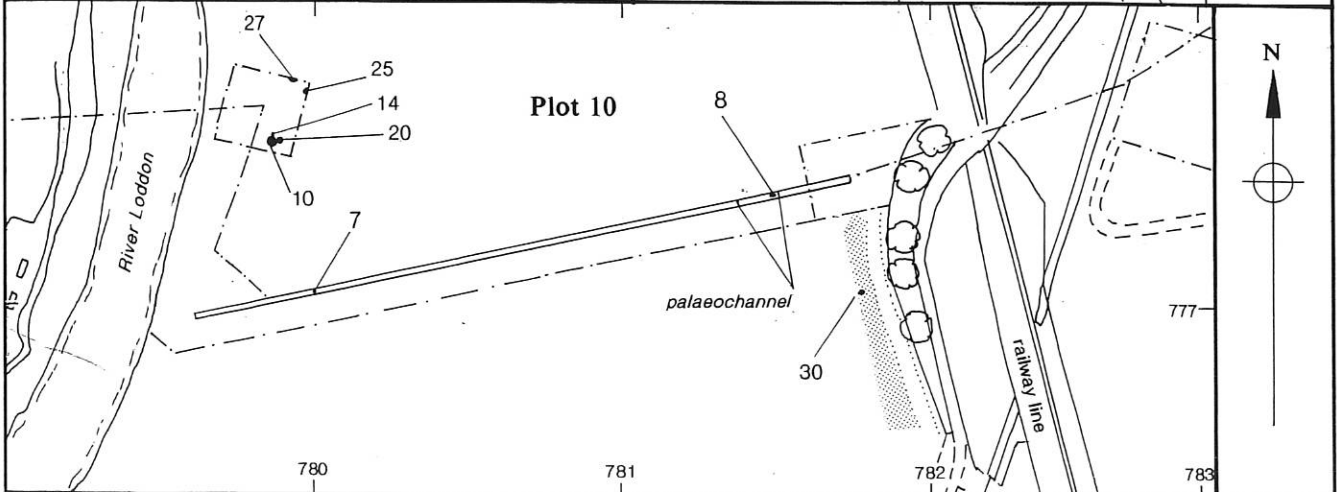
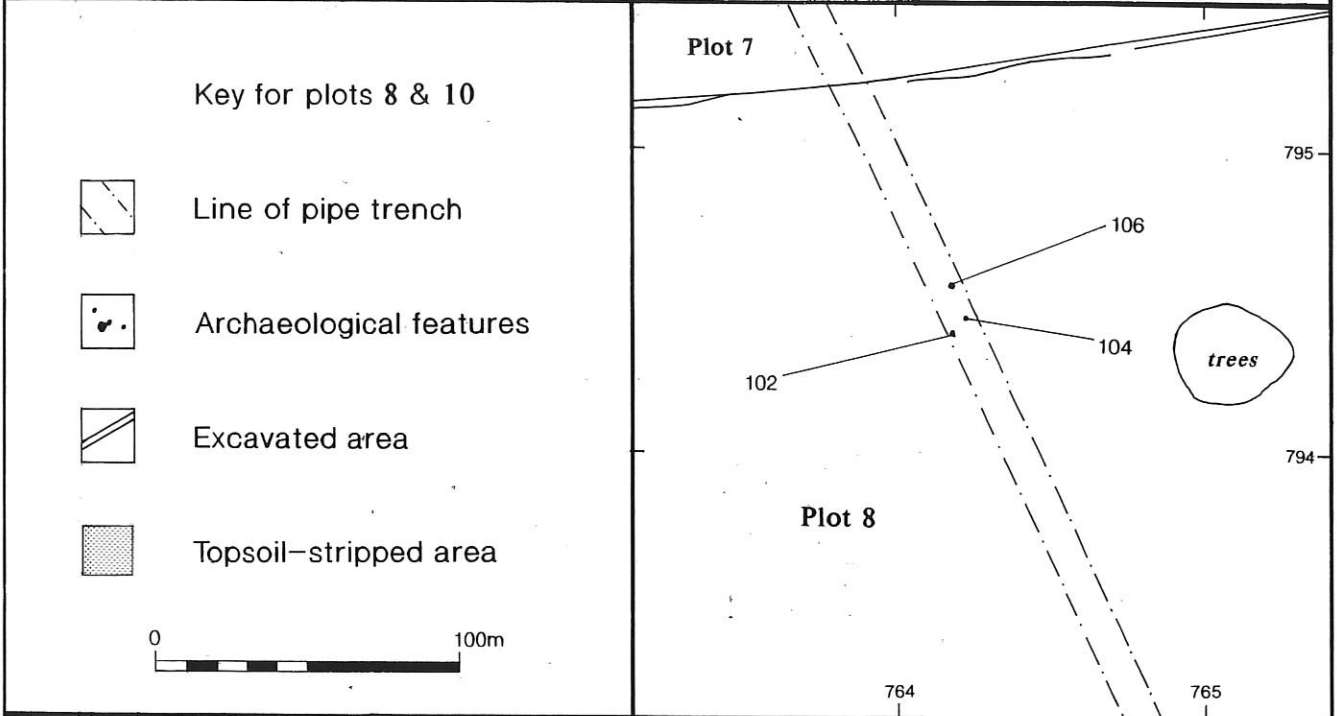
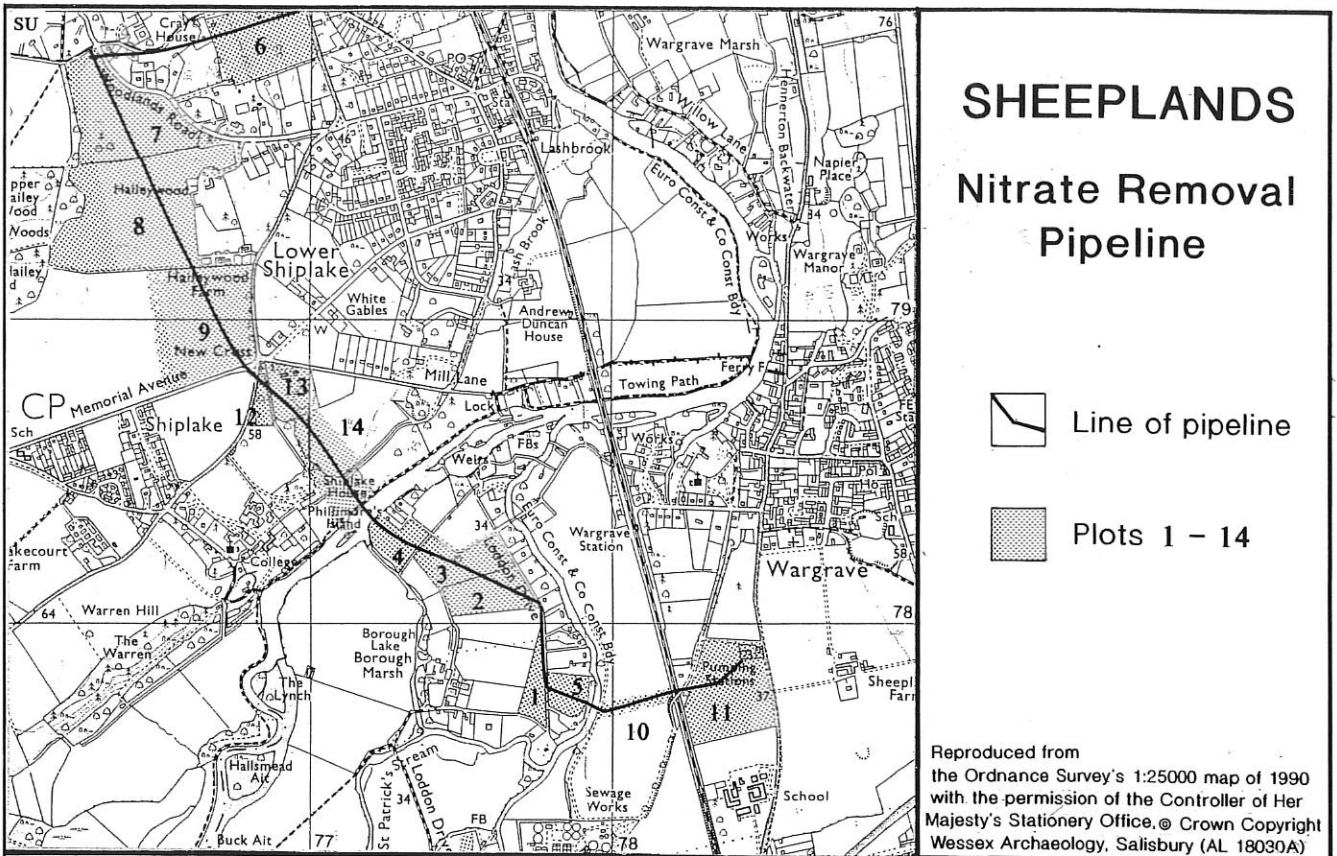
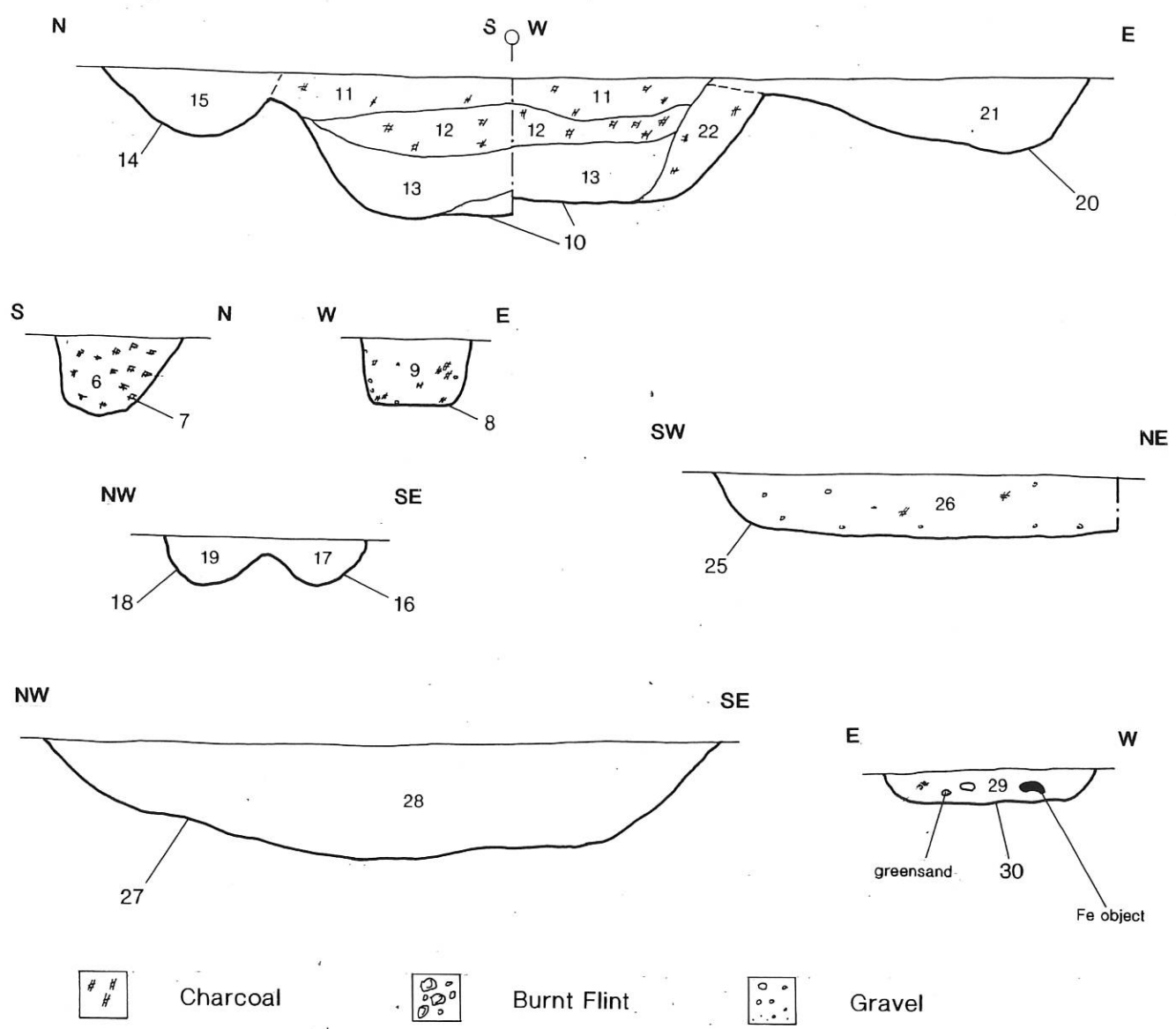


Fig.1

Plot 10



Plot 8

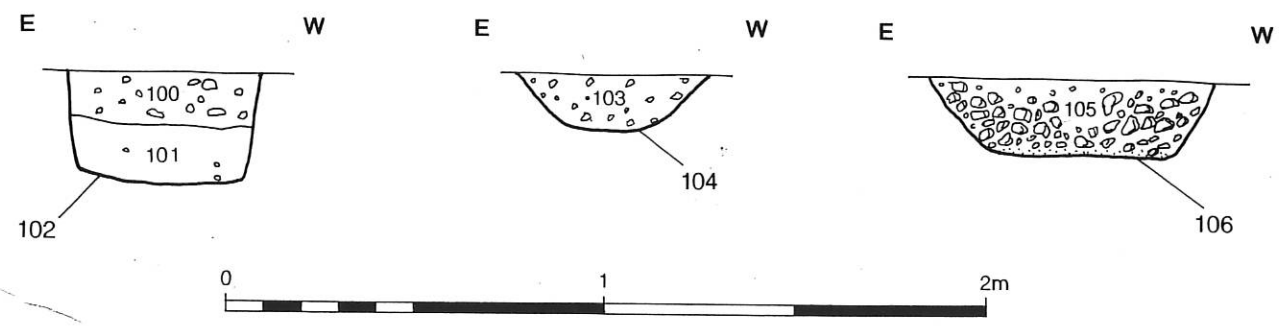


Fig.2

Schematic section of excavation trench, Plot 10

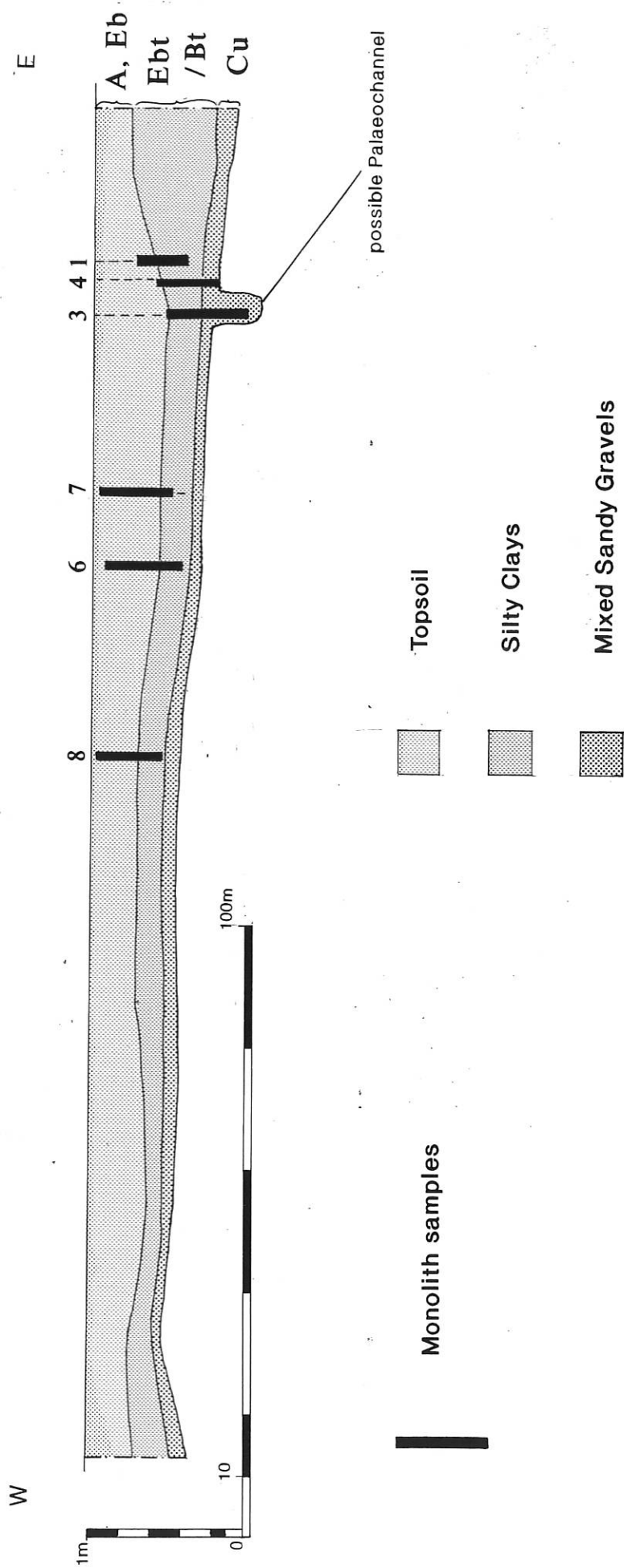


Fig.3