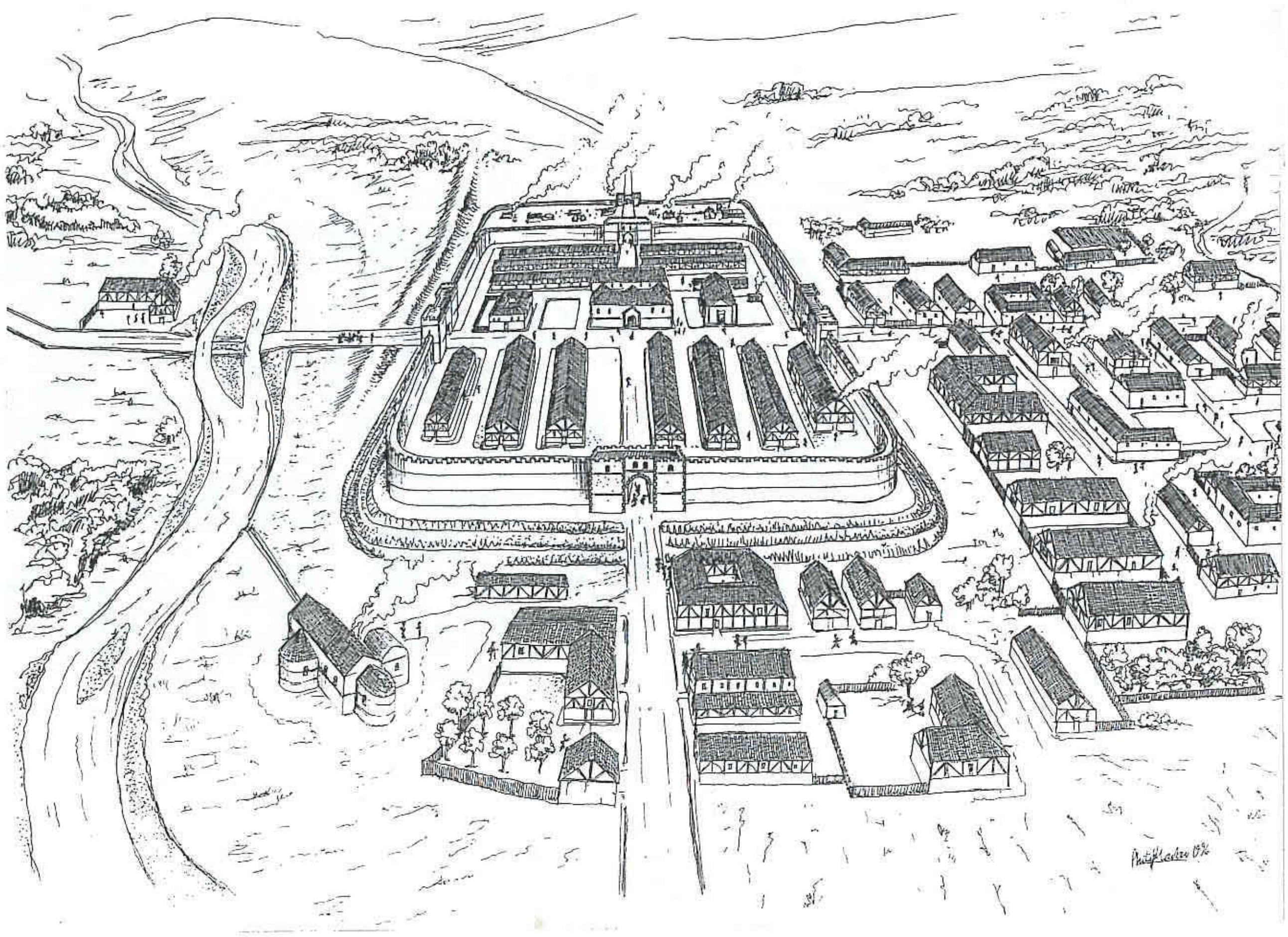
THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

Caersws to Machynlleth Gas Pipeline (Roman Road at Caersws)

ARCHAEOLOGICAL EXCAVATION

Final Report



CPAT Report No 291.1

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Final Report

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May 1999

Report for RSK Environment Ltd

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CONTENTS

1 INTRODUCTION

1.1 In July 1998, the Contracts Section of the Clwyd-Powys Archaeological Trust (hereafter CPAT Contracts) was asked by RSK Environment Ltd of Helsby, Cheshire, acting as environmental consultants for British Gas Transco, to provide a quotation for the excavation of a Roman road in the vicinity of Caersws, Powys (at SO 0220 9186; fig. 1). The excavation was undertaken in advance of the installation of a new gas pipeline from Caersws to Machynlleth, and had been recommended by the Curatorial Section of CPAT, acting as archaeological advisors to British Gas Transco, based on the results of an archaeological assessment of the pipeline undertaken in May 1998 (Bognar and Hankinson 1998).

1.2 The CPAT Contracts quotation was accepted by RSK Environment at the beginning of August 1998, and the excavation undertaken within the same month. This report is an interim, presenting the results of the excavation and the assessment of pollen obtained from a peat deposit sealed beneath the Roman road. It contains recommendations for further analysis of the pollen sample, the results of which will be incorporated within the final report.

2 GEOGRAPHICAL BACKGROUND

2.1 The pipeline crosses the Roman road at SO 0220 9186 (fig. 2), 0.8km to the west of Caersws, on the flood plain at the confluence of the Rivers Severn, Cerist/Trannon, and Carno. Caersws is located some 8km to the west of Newtown in Central Powys.

2.2 The soils in the vicinity of the excavation are deep, stoneless, fine silty and clayey soils, derived from river alluvium, belonging to the Conway Soil Association. Immediately to the west the soils are well drained fine loamy soils over gravel, derived from glaciofluvial or river terrace gravel, of the Rheidol Soil Association (Soil Survey map of Wales, 1983).

2.3 Underlying the area are Silurian rocks belonging to the Telychian phase of the Llandovery Period (British Geological Survey map of Wales 1994), although in this immediate locality they are covered by a significant thickness of alluvium.

3 ARCHAEOLOGICAL BACKGROUND

3.1 Two of the largest Roman auxiliary forts in Wales are sited at Caersws, close to the River Severn. Caersws I fort, which is presumed to be of pre-Flavian date, or effectively pre-70 AD (Jones 1993, 85), lies in a good strategic position overlooking the Severn to the north-east of the village. The later fort known as Caersws II is situated on a low terrace only just above the flood-plain, near the confluence of the rivers Severn and Carno. Caersws II occupies an area of 3.1 hectares with an annex to the north, and was probably founded during the early to mid 70s A.D., continuing in use until the early 3rd century. To the south and east of the fort there is considerable evidence for an extensive civilian settlement, or *vicus*, of at least 3 hectares (Jones 1993).

3.2 To the west of Caersws II fort a section of Roman road and several former river channels were identified by geophysical survey, lying between the fort and the River Carno (Jones 1993, 15). This indicated that the Carno formerly ran closer to the fort. Excavations in 1966 revealed a former river channel and investigated the Roman flood bank along the west side of the fort (Daniels *et al.* 1966,112). The site of the Roman bridging point across the Carno has yet to be determined. To the west of the river, sections of the Roman road (PRN 13337; Bognar and Hankinson 1998, Site 7) still survive as upstanding earthworks. The road has been traced as far as Trefeglwys village, but has not been identified further to the west; it is possible that it served lead mines in the vicinity of Van and Dylife in the west, or was en-route to the minor fort of Cae Gaer (PRN 230; SN 82368189), some 12km to the west-south-west of Llanidloes.

3.3 The route of a further Roman road, RR643, to the north-west of Caersws II is not clearly defined, although it must be presumed to follow the valley north-westwards towards Carno. Beyond Carno, a section of the road was recorded during a watching brief at Pont y Sarn (Jones 1996).

3.4 Further roads constructed in the Roman period are present in the vicinity of Caersws. Recent excavations at Mynydd Argoed, Llanwyddelan (SO 045988), on the line of the road which heads northward from Caersws, revealed a kerbed road, 4.7m wide, with a metalled surface composed of broken stone laid directly onto the yellow clay subsoil. Flanking the road on either side were ditches 0.6m wide x 0.3m deep (Putnam 1998).

4 EXCAVATION (figs 3 and 4)

4.1 The area in which the pipeline wayleave crossed the line of the Roman road was initially excavated by machine, with subsequent cleaning and investigation being carried out by hand. An average thickness of 0.35m-0.4m of topsoil (Context 1) and silty clay (Context 2) was removed from the area to leave an excavation trench measuring 14.5m north/south x 13.0m east/west, overall (see fig. 3).

4.2 Excavation of the trench was carried out in three phases, as a result of the site contractor's working requirements, which demanded that machines be able to pass the area of the excavation as soon as possible. The initial phase of the excavation therefore consisted of cleaning and recording the eastern part of the trench, measuring approximately 13.5m north/south x 4.0m-4.2m east/west. Once this part of the trench had been cleaned and recorded it was covered with a layer of soil to a depth of approximately 0.25m, to protect that part of the site from damage by contractor's machinery.

4.3 The second phase of the excavation consisted of cleaning and recording the remaining part of the trench; this was followed by the excavation of a section through the remains of the Roman road, in an attempt to determine its construction and recover any dating material which was present.

4.4 A layer of approximately 0.2m of topsoil (Context 1), followed by 0.15m-0.2m of grey silty clay (Context 2) was removed by machine. Underlying the topsoil and silty clay were the basal remains of the Roman road, approximately 0.1m in thickness, which consisted of a series of probably contemporary dumps of material comprising orange-grey clay (Context 6), grey-brown mixed clay with small to medium-sized, rounded stones and wood (Context 12), greyish-brown clay (Context 13), and brown clayey loam (Context 16). The wood present in (Context 12) showed evidence of being cut at an acute angle by a sharp, bladed, tool, but there was no evidence that the cut material had been deliberately placed to form the base of the road makeup. Overlying the basal remains of the road were two areas of orange-grey clay (Context 5) and (Context 11), each approximately 0.1m thick, containing many small stones, which appeared to define the edges of the former road surface. Contexts 5, 6, 11, 12, 13, & 16 have been combined on fig. 3 to define the extent of the surviving road make-up.

4.5 The appearance of the surviving road make-up suggested that much of the upper layers of the road had been removed, perhaps by agricultural improvement or by levelling. No definite evidence of a road surface or flanking ditches was apparent, and it is possible that the road was constructed without ditches. Overlying the road make-up on its north and south sides were layers of smooth grey clay (Context 3) and orange-grey clay (Context 4) which are presumed to represent post-Roman accumulations of material of fluvial origin. Cutting all the material, apart from the topsoil (Context 1) and silty clay (Context 2), were former land drains, Contexts 7, 9, 14, & 18, generally 0.25m wide; these features are presumed to be related to 18th or 19th-century agricultural improvement.

4.6 The section excavated through the road on the course of the pipeline demonstrated that the surviving road make-up overlies layers of peat and peaty clay, Contexts 22, 23, 24, 25, 26, 28 & 29, which at this point totalled approximately 0.55m in depth. Underlying the peaty material was grey stony clay (Context 27), presumed to be of glacio-fluvial origin. The upper surface of the peaty layers had been disturbed to produce mixed clay and peat layers (Contexts 20 and 21), presumably at the time of road construction.

4.7 Following the discovery of the peat deposits, with their obvious palaeo-environmental potential, Mrs A. Caseldine of the University of Wales, Lampeter, was contacted for advice on potential sampling methods. The sampling strategy adopted consisted of bulk sampling of the upper 0.25m of the peat deposit at 0.05m vertical intervals, and the removal of a 0.5m soil monolith which spanned the full depth of the peat deposit beneath the Roman road.

4.8 Following discussions between CPAT Contracts, RSK Environment, and representatives of British Gas Transco, a site meeting was held on 18th August 1998 to discuss the palaeo-environmental deposits sealed by, and extending beyond, the Roman road. It was agreed that Mrs Caseldine would undertake an assessment on the pollen from the monolith, covered under the original CPAT Contracts quotation, and provide recommendations for further reporting (see Section 5). It was also agreed that CPAT Contracts would undertake a limited programme of augering/surveying to determine the extent of the peat deposit and identify the deepest part of the deposit with a view to conducting further sampling.

4.9 The augering programme (fig. 5) revealed that the northern extent of the main peat deposit coincided with the northern end of the excavation trench. The southern extent of the main deposit was encountered approximately 125m to the south-south-east of the excavation trench, between auger holes 18 & 19, although a layer of peat at between 121.8m OD and 122.0m OD was seen to continue beyond the main deposit to the south-east, beneath a 1m-thick layer of clay. The upper surface of the main peat deposit varied between 123.05m OD and 122.89m OD in auger holes 3 to 9, before dipping gradually to a level of approximately 122.50m OD in auger holes 12 to 16; auger holes 17 & 18 showed the upper level of the peat to be at approximately 122.25m OD. The base of the deposit dipped rapidly from 122.68m OD in auger hole 3 to 121.66m OD in auger hole 5, thereafter the base of the deposit varied between a maximum of 121.82m OD in auger hole 8 and a minimum of 121.36m OD in auger hole 13. Bands of clay and peaty clay were identified within the deposit, most notably in auger holes 10 to 16, which may suggest that the area of the deposit was prone to occasional flooding, interspersed with periods of peat growth. The rapid dip in the base of the peat deposit from its northern end may suggest that it represents an accumulation within a palaeochannel.

5 POLLEN ANALYSIS ON PEATS FROM BENEATH THE ROMAN ROAD by M.J.C. Walker, J.H. James & A.E. Caseldine, Palaeoenvironmental Research Centre, University of Wales, Lampeter

5.1 Introduction

5.1.1 The following section describes the pollen analytical investigations, augmented by two radiocarbon dates, on a sediment monolith from a section excavated beneath the Roman road. The data provide a record of vegetational developments in the vicinity at a time prior to the construction of the road. A provisional assessment had been undertaken by A.E.Caseldine and J.H.James to determine whether or not the quality of the pollen preserved within the peat deposit justified further detailed analysis. The conclusion was that the pollen was sufficiently well preserved and frequent enough to justify a more detailed analysis of the pollen column. The pollen record from this site is of importance for two main reasons. Firstly, it is directly associated with archaeological remains, and secondly, there is a lack of information about the vegetational history and landscape development of this lowland area. The nearest pollen record is from Carneddau (Walker 1993), an upland site 8km to the north-north-west.

5.2 The sediment monolith

5.2.1 A monolith measuring 10 x 10 x 50 cm was obtained from sediments exposed in an excavated section (fig. 4). The stratigraphy of the sequence was as follows:

0-6/8 cm	Very compact, light-brown peat
6/8-18 cm	Well-compacted, grey-brown peat/organic mud; wood fragments at *c.* 7 cm
18-24/5 cm	More fibrous, dark-brown peat, with grey-brown inclusions
24/5-29/cm	Lighter grey peaty-silt/clay
29-46/8 cm	Dark brown, fairly compact peat, with grey silt-clay lenses
46/8-50 cm	Grey silty clay with angular stones

5.3 Laboratory methods

Pollen analysis

5.3.1 Samples for pollen analysis were prepared using standard techniques, including digestion in 10%KOH, followed by acetolysis (Moore *et al.* 1991). Residues were mounted in safranin-stained glycerine jelly and analysed using a Vickers M15C microscope at x400 magnification, with critical identifications under oil at x1000. Pollen and spores were categorised on the basis of the key in Moore *et al.* (1991). Pollen was relatively abundant in most levels, and preservation was generally good. Slightly lower concentrations were encountered in the 25 cm level, however, and markedly lower concentrations occurred in samples from 45 and 50 cm. Nevertheless, a pollen sum of 300 land pollen was achieved at all levels. The counting interval was 2.5 cm for the top 20 cm of the profile, and 5 cm for the section from 25-50 cm. The pollen diagram (Table 1) has been drawn using the TILIA and TILIA-GRAPH programs of Grimm (1991).

Radiocarbon dating

5.3.2 Two samples, each spanning a vertical interval of 1.5 cm, were taken from the profile for radiocarbon dating. The uppermost sample was taken from the 2.5 cm level in order to provide an age estimate for the top of the sequence, while a second sample was taken from 32.5 cm where there is a fall in *Alnus* and an increase in *Corylus avellana* pollen (see below). The two samples, each weighing in excess of 200 gm wet weight, were despatched to BETA Analytic in Florida, USA, for radiometric dating. The results of the dating programme are presented in Table 1, where the initial age estimates, corrected age estimates (for isotopic fractionation, based on the $d^{13}C$ values), and calibrated age ranges are all shown. Calibrations were obtained using the INTCAL98 Radiocarbon Age Calibration of Stuiver *et al*. (1998).

5.4 The pollen diagram

5.4.1 The diagram (Table 1) has been divided into four local pollen assemblage zones on the basis of fluctuations in the principal pollen taxa. These are as follows:

C-1 Poaceae-*Corylus*-Cyperaceae

5.4.2 This biozone, which was obtained from the basal minerogenic sediments in the profile, comprises only one record. It is dominated by Poaceae (grass), although Cyperaceae (sedge) and *Corylus avellana* (hazel) comprise important elements of the pollen spectrum. Of the remaining arboreal pollen, *Alnus* (alder), *Pinus* (pine), *Quercus* (oak) and *Ulmus* (elm) are all present, while herbaceous taxa are represented by, *inter alia*, *Aster* (daisy), *Filipendula* (meadowsweet) and Caryophyllaceae (pinks). Spores of Pteropsida (ferns) and *Pteridium*(bracken) are also relatively abundant.

C-2 *Alnus-Quercus-Corylus*

5.4.3 A biozone dominated by *Alnus*, which rises to 60% of the total land pollen (TLP) at one level. *Corylus* and *Quercus* are also well-represented, and there are low counts for *Ulmus*, *Pinus* and *Tilia* (lime). Poaceae, Cyperaceae and other herbaceous taxa are less abundant than in the previous zone. Pteropsida and *Pteridium* are present in significant quantities, although the curve for the latter declines towards the upper boundary of the zone.

C-3 a: *Corylus-Alnus-Quercus*
b: *Alnus-Corylus-Quercus-Pinus*

5.4.4 This biozone, which is dominated by *Corylus* and *Alnus*, can be divided into two subzones. In C-3a counts for *Corylus* reach almost 40% TLP, and comparable values are attained at the beginning and end of the subzone by *Alnus*. *Quercus* occurs throughout, while *Pinus*, *Ulmus*, *Tilia* and *Salix* (willow) are also present. Poaceae and, particularly, Cyperaceae are more strongly represented than in the previous zone, while there are comparable frequencies of Pteropsida and *Pteridium*. The spectra in subzone 3b are broadly similar, but there is a marked increase in *Pinus* and a complementary drop in *Alnus* at the beginning of the subzone. Both *Corylus* and *Pinus* decrease towards the upper boundary, while *Alnus* increases. The first record for *Fraxinus* (ash) is found at the top of this subzone.

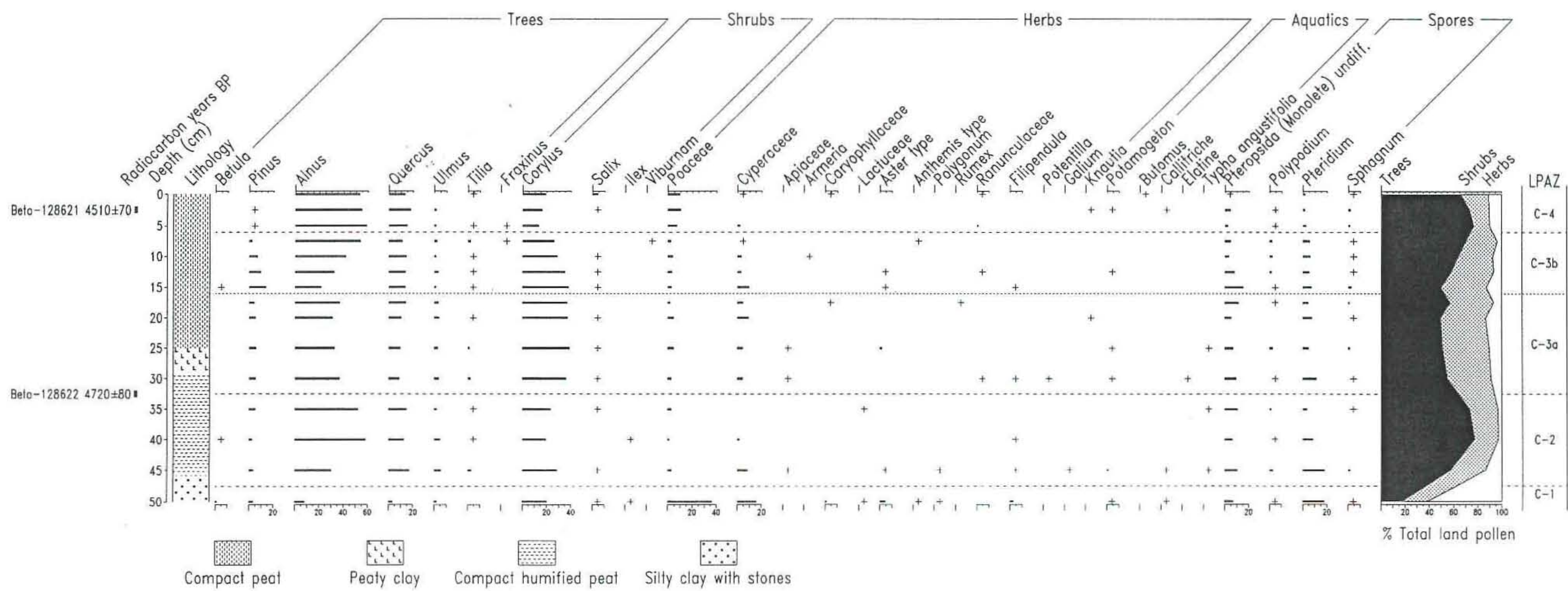
C-4 *Alnus-Corylus*-Poaceae

5.4.5 The uppermost biozone is dominated by *Alnus*, with *Quercus* and *Corylus* well represented. *Pinus*, *Ulmus* and *Tilia* decline to very low values, while Poaceae increases significantly. Lower counts are also recorded for Pteropsida and for *Pteridium*.

Table 1 Percentage Pollen Diagram

CAERSWS ROMAN ROAD

Percentage pollen diagram



5.5 **Chronology**

5.5.1 The radiocarbon dates (Table 2) suggest that the peats accumulated during the early part of the fifth millennium BP (in ^{14}C years), or around the middle or later parts of the sixth millennium BP as measured in calendar years (calibrated age range). In an archaeological context, therefore, the peats are of mid-Neolithic age. Moreover, the dates suggest that the accumulation episode was relatively short-lived, for an age-depth curve through the two dated points indicates a timespan of no more than 300 years for the entire peat profile. The dates also show that there was a time interval of at least 2000 years between the accumulation of the uppermost peats and the construction of the Roman road.

Table 2: Radiocarbon dates from peats beneath the Caersws Roman Road

Depth cm)	Laboratory number	Measured ^{14}C age (yr BP)	$\delta^{13}C$ ‰	Corrected ^{14}C age (yr BP)	Intercept values (yr BP)	Calibrated age range (yr BP)
2.5	Beta-128621	4580 ± 70	-29.5	**4510 ± 70**	5280	**5440-5415**
					5165	**5325-4880**
					5130	
					5105	
					5075	
32.5	Beta-128622	4790 ± 80	-29.7	**4720 ± 80**	5465	**5605-5300**

5.6 **Vegetational history**

5.6.1 The basal pollen spectrum with the high counts for Poaceae and Cyperaceae pollen probably reflects an episode of grass and sedge growth under waterlogged conditions that led eventually to peat accumulation at the site. Other wetland taxa include *Filipendula* (almost certainly *F. ulmaria*), *Potamogeton* (pond-weed) and species of fern (Pteropsida). The transition from open-waterlogged habitat to fen carr dominated by *Alnus glutinosa* is evident in local pollen assemblage zone C-2. The accumulating peats also register the regional pollen signal from the surrounding vegetation of mixed-oak woodland, in which oak, hazel, lime, pine and also some alder appear to have been the principal components. The relatively low representation of open-habitat herbaceous taxa throughout this and, indeed, throughout the succeeding zone, suggests that large areas of relatively closed wood and scrub persisted in the vicinity of the site.

5.6.2 During the period represented by local pollen assemblage zone C-3, slightly drier conditions may have obtained as indicated perhaps, by an initial decline in *Alnus* and a rise in *Corylus*, and especially by the increase in *Pinus* and accompanying sharp drop in *Alnus* at the C-3a/C-3b biozone boundary. *Pinus*, in particular, will not regenerate on waterlogged substrates (Rackham, 1980), and the increase in pine pollen suggests a short-lived shift to drier conditions in the vicinity. It is interesting to note that the first decline in *Alnus* and complementary rise in *Corylus* is accompanied by a stratigraphic change from well-humified fen peat to a peaty clay between 25-30 cm. The origin of this more minerogenic horizon is difficult to establish on present evidence, but it does seem to reflect a break in fen peat accumulation, perhaps as a result of local hydrological (fluvial) changes.

5.6.3 The upper part of the sequence sees a further expansion of *Alnus* at the expense, in particular of *Corylus* and *Pinus*. Again, this reflects the local re-establishment of alder carr but by now there were significantly fewer hazels and pines growing on the site. Local mixed oakwoods persisted around the fen, although elm, pine and lime were less well-represented in these woodlands. The increase in Poaceae seems likely to reflect local grass and reed growth, rather than an expansion in open grassland areas within the woodland, for there is no significant increase in the pollen of grassland herbs, a trend that might have been expected if the latter was the case.

5.6.4 Perhaps the most significant feature of the pollen record, from an archaeological point of view, is that there is no evidence whatsoever for human interference in the vegetation cover, and all of the pollen-stratigraphic changes can be explained purely in terms of natural processes. There is, for example, no record in the peats of *Plantago lanceolata*, which is a common indicator of pastoral activity in many pollen diagrams from this time period (Behre 1986), or indeed of other weeds of cultivation (e.g. *Urtica dioica*). Similarly, there were no finds of cereal-type pollen. If the lowermost sediments do indeed date from around 4800 ^{14}C yrs BP (see above), peat initiation would have occurred at the time of, or shortly after, the 'elm decline'. This event, which is a feature of all mid-Holocene pollen diagrams from western Europe, has been widely attributed to disease (cf. Dutch Elm Disease), almost certainly augmented in some areas by human activity (Peglar & Birks 1993). It is possible that the elm decline is registered in the Caersws sequence by the small decline in elm pollen values in local paz C-2, but it is notable that *Ulmus* continues to be recorded in low frequencies throughout the remainder of the profile. This is a feature that was also apparent in post-elm decline deposits at sites in the nearby Carneddau area to the north-west of Caersws (Walker 1993).

6 CONCLUSIONS

6.1 The excavation of the Roman road revealed that only the base survived: the upper part, including the road surface, had presumably been removed by agricultural improvement or levelling. There was no evidence to suggest the existence of flanking ditches on either side of the road. The road had mainly been constructed mainly of dumps of clay, occasionally containing concentrations of small rounded stones within a clay matrix. A layer (12), forming part of the road base, contained many small to medium-sized, rounded stones, together with a significant quantity of wood in the form of twigs or small branches, some of which showed evidence of having been cut. However, there was no indication that the wood had been deliberately laid to form a foundation for the road.

6.2 A substantial peat deposit was revealed, partly sealed beneath the road, and a programme of augering was undertaken to investigate the nature and extent of the deposit. The results suggest that the peat extends for at least 125m to the south-south-east, with a maximum thickness of *c*.1.5m. Beneath the Roman road the peat deposit was no more than 0.5m thick. It would seem likely that the peat formed in a palaeochannel, which the Roman road crossed towards its north or north-western edge.

6.3 The peat sequence beneath the Roman Road at Caersws dates from early in the fifth millennium BP (in radiocarbon years) or from the sixth millennium BP (in calendar years), with the period of peat accumulation lasting for no more than *c.* 300 years. However, there was no evidence from the excavated section to suggest whether or not the peat had been truncated during the construction of the Roman road. The pollen record indicates the existence of a local alder carr within a landscape of mixed oak woodland. Short-lived fluctuations between wetter and drier conditions may be reflected in the sequence of pollen-stratigraphic changes recorded in the peat profile. There are no indications of human interference in the vegetation cover at that time, and all of the inferred vegetational changes are explicable in terms of natural processes.

7 ACKNOWLEDGEMENTS

7.1 The writer would like to thank the following for their co-operation and assistance: Wendy Hogben, RSK Environmental; John Nicholson, Glendee Engineering Ltd; M.Walker, J.James and A.Caseldine, University of Wales, Lampeter; Nigel Jones, Johnny Dempsey and Gareth Davies, CPAT.

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Cartographic Sources

1983 Soil Survey of England and Wales 1:250,000 map of Soils of England and Wales (Sheet 2 - Wales) with accompanying legend.

1994 British Geological Survey 1:250,000 Geological map of Wales (Solid edition).

APPENDIX 1

Auger Samples

1 0-55cm yellow clay, 55-61cm peaty clay, 55cm grey stony clay

2 0-45cm yellow clay, 45-82cm brown peaty clay, 82cm grey stony clay

3 0-41cm brown clay/peat, 41-66cm peat, 66cm grey stony clay

4 0-41cm yellow/grey clay, 41-66cm peat, 66-76cm yellow/grey clay, 76-125cm peat, 125cm grey stony clay

5 0-22cm yellow/brown clay, 22-90cm peat, 90-105cm yellow/grey clay, 105-158cm peat, 158cm grey stony clay

6 0-132cm peat then grey stony clay

7 0-5cm loam, 5-152cm peat then grey stony clay

8 0-5cm loam, 5-112cm peat then grey stony clay

9 0-3 cm loam, 3-115cm peat then grey stony clay

10 0-28cm peat, 28-40cm brown clay/peat, 40-50cm peat, 50-61cm brown clay peat, 61-121cm peat then grey stony clay

11 0-34cm brown clay-peat, 34-70cm peat, 70-77cm grey/brown clay, 77-84cm peat, 84-102cm grey/brown clay, 102-146cm peat, 146-160cm dark grey clay/peat then grey stony clay

12 0-55cm brown clay, 55-84cm peat, 84-110cm grey clay, 110-160cm peat, 160-174cm dark grey clay/peat then grey stony clay

13 0-26cm grey brown clay, 26-37cm peat, 37-51cm grey/brown clay-peat, 51-74cm peat, 74-96cm grey-brown clay-peat, 96-143cm peat, 143-158 dark grey clay/peat then grey stony clay

14 0-26cm grey brown clay, 26-65cm peat, 65-70cm grey/brown clay-peat, 70-78cm peat, 78-103cm grey-brown clay-peat, 103-138cm peat, 138-152 dark grey clay/peat then grey stony clay

15 0-18cm loam, 18-48 yellow/brown clay, 48-69cm peat, 69-78cm grey brown clay/peat, 78-87cm peat, 87-106cm grey brown clay/peat, 106-148cm peat, 148-156cm dark grey clay/peat then grey stony clay

16 0-32cm light grey clay, 32-45cm peat, 45-72cm grey/brown clay-peat, 72-88cm light grey clay, 88-100cm grey-brown clay-peat, 100-134cm peat, 134-146 dark grey clay/peat then grey stony clay

17 0-64 light grey clay, 64-84cm peat, 84-101cm grey brown clay/peat, 101-130cm peat, then grey stony clay

18 0-10cm loam, 10-64cm light grey clay, 64-73cm peat, 73-90cm grey brown clay/peat, 90-130cm peat, then grey stony clay

19 0-96cm clay, 96-118cm peat then grey stony clay

20 0-100cm clay, 100-122cm peat then grey stony clay

21 0-106cm clay, 106-123cm peat then grey stony clay

APPENDIX 2

SITE ARCHIVE

PHOTOGRAPHIC ARCHIVE

1 Colour slide film (CPAT CS 98/18)

1 Black & white print film (CPAT No 741)

EXCAVATION & SURVEY ARCHIVE

3 A1 Site drawings

29 Context record forms

EDM survey data

SAMPLES

Soil monolith of peat from beneath the Roman road

5 Bulk samples from the upper 0.25m of the peat deposit beneath Roman road

Bulk sample from Context 20 (including charcoal)

Wood sample from Context 12

Wood sample from peat deposit

APPENDIX 3

CAERSWS-MACHYNLLETH GAS PIPELINE: CAERSWS ROMAN ROAD. SPECIFICATION FOR AN ARCHAEOLOGICAL EXCAVATION BY THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

1 Introduction

1.1 The proposed development involves the construction of a new gas pipeline between Caersws and Machynlleth, Powys.

1.2 As a result of a previous archaeological assessment by CPAT Contracts (Report No.274) in May 1998, 101 sites were identified within the wayleave corridor of the pipeline. Of these sites, all may be avoided during construction work with the exception of the Caersws Green Roman Road which crosses the corridor and will be cut N-S at SO20209186.

1.3 The Curatorial Section of the Clwyd-Powys Archaeological Trust in their capacity as archaeological advisers to BG Transco have determined that an excavation is necessary to preserve the sites by record in advance of their destruction. Accordingly a brief (NoEXC 273, dated 15th July 1998) has been prepared by CPAT Curatorial which describes the scheme of archaeological works required.

2 Objectives

2.1 The objectives of the excavation are:

2.1.1 to reveal by means of total excavation the nature, condition, significance and, where possible, the chronology of the archaeology within the area of the proposed development in so far as these aims are possible;

2.1.2 to record any archaeology revealed in the excavation trench;

2.1.3 to undertake a programme of post-excavation research, incorporating specialist reports where necessary, securing the full analysis and interpretation of the sites affected;

2.1.4 to prepare an archive of the excavation and a report suitable for publication in which the results of the excavation are outlined and discussed;

3 Methods

3.1 The excavation will comprise a single trench the width of the topsoiling corridor (20m). The entire Roman road width will be cleaned, planned and photographed. A section through the road, conforming to the line of the pipe-trench will be excavated fully. This will be no more than 2m wide. The remainder will be covered with topsoil and protected prior to the pipe-laying work.

3.2 These areas will be laid out within a site grid which will be tied into the National Grid and OS datum and then mechanically stripped of their turf and topsoil down to the first recognisable archaeological horizon. They will then be cleaned by hand and all features/deposits planned and photographed.

3.3 Subsequent excavation of the archaeological features will all be undertaken by hand.

3.4 Significant archaeological deposits will be sampled for palaeoenvironmental data where appropriate.

3.5 All archaeological contexts recorded using the standard numbered context system employed by CPAT. All significant contexts to be planned and/or drawn in section at appropriate scales (as defined in the Curatorial Brief), and photographed in monochrome and colour. All drawn records will be related to control points depicted on modern maps.

3.6 All archaeological artefacts and environmental samples will be recorded and processed in a manner appropriate to the material involved. Those requiring conservation or other specialist treatment will be stored in a stable environment until such times as they can be examined by a specialist. All finds, except those deemed to be Treasure Trove, are the property of the landowner. It is anticipated that they will be donated to the appropriate local or regional museum, subject to agreement being reached with the landowner and the museum curator.

3.7 Subsequent to the excavation, the research potential of the site archive will be assessed and a report and archive prepared accordingly. The full potential of the archive cannot be known at this stage and consequently contingency sums must be reserved for use against possible specialist needs.

3.6 The site archive will be prepared to specifications laid out in Appendix 3 in the Management of Archaeological Projects (English Heritage, 1991).

4 Resources and Programming

4.1 The excavation will be undertaken by a small team of 2 skilled archaeologists under the direct supervision of an experienced field archaeologist. Overall supervision will be by Mr Nigel Jones, a senior member of CPAT's staff who is also a member of the Institute of Field Archaeologists.

4.2 All report preparation and specialist liaison/integration will be completed by the same field archaeologist who conducted the excavation.

4.3 It is anticipated that the excavation will take no more than 5 days in all and that the subsequent report would be prepared immediately thereafter, dependent on the client's instructions and the arrangement of a suitable timetable. The date of commencement, at the time of writing, has yet to be agreed with the client, and will be dependent on the state of the site and agreed access. The archaeological curator will be informed of the detailed timetable and staffing levels when agreement has been reached with the client.

4.4 Requirements relating to Health and Safety regulations will be adhered to by CPAT and its staff.

4.5 CPAT is covered by appropriate Public and Employer's Liability insurance.

Dr A. M. Gibson
Projects Manager

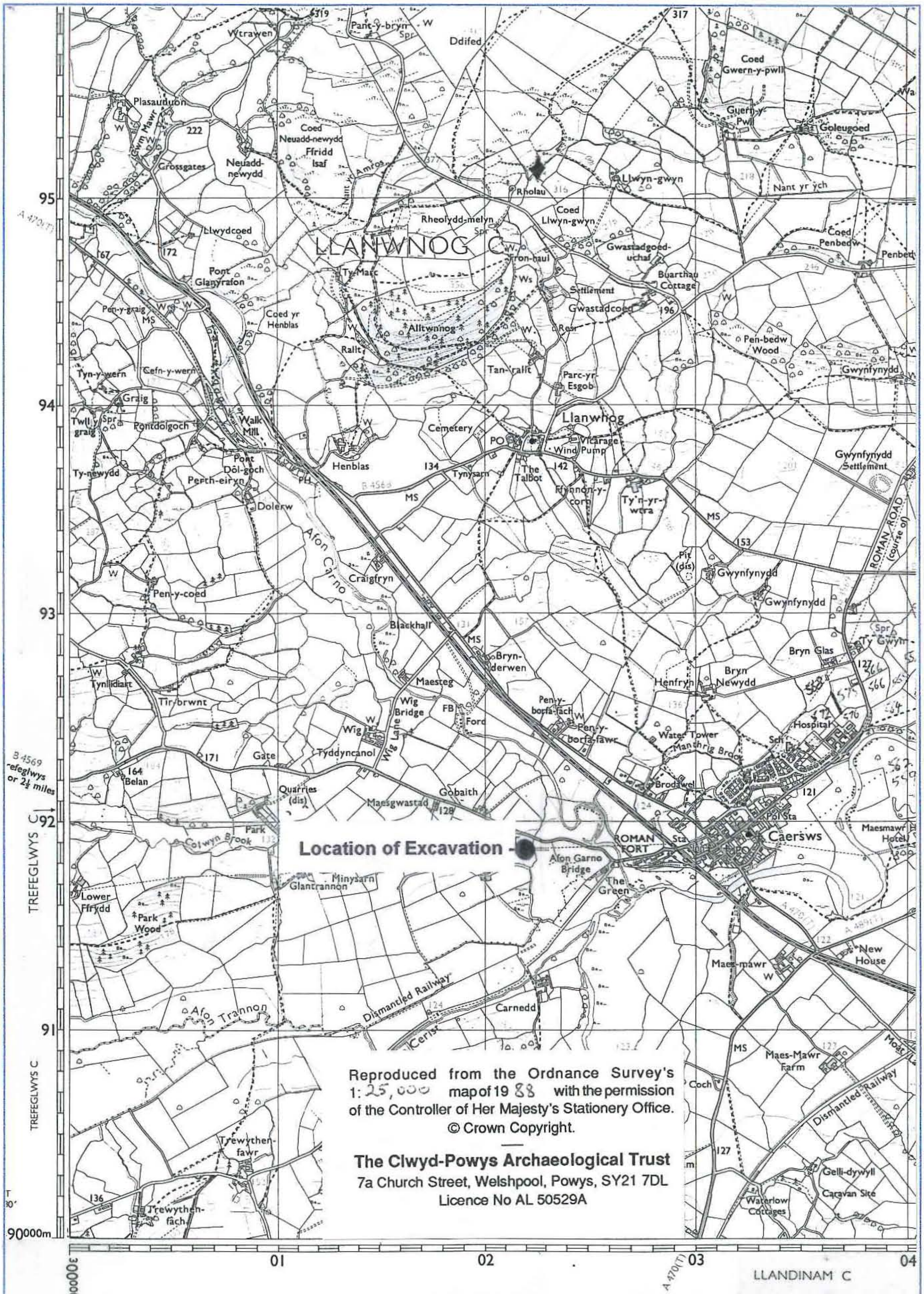

Fig. 1 Site location. Scale 1:25,000

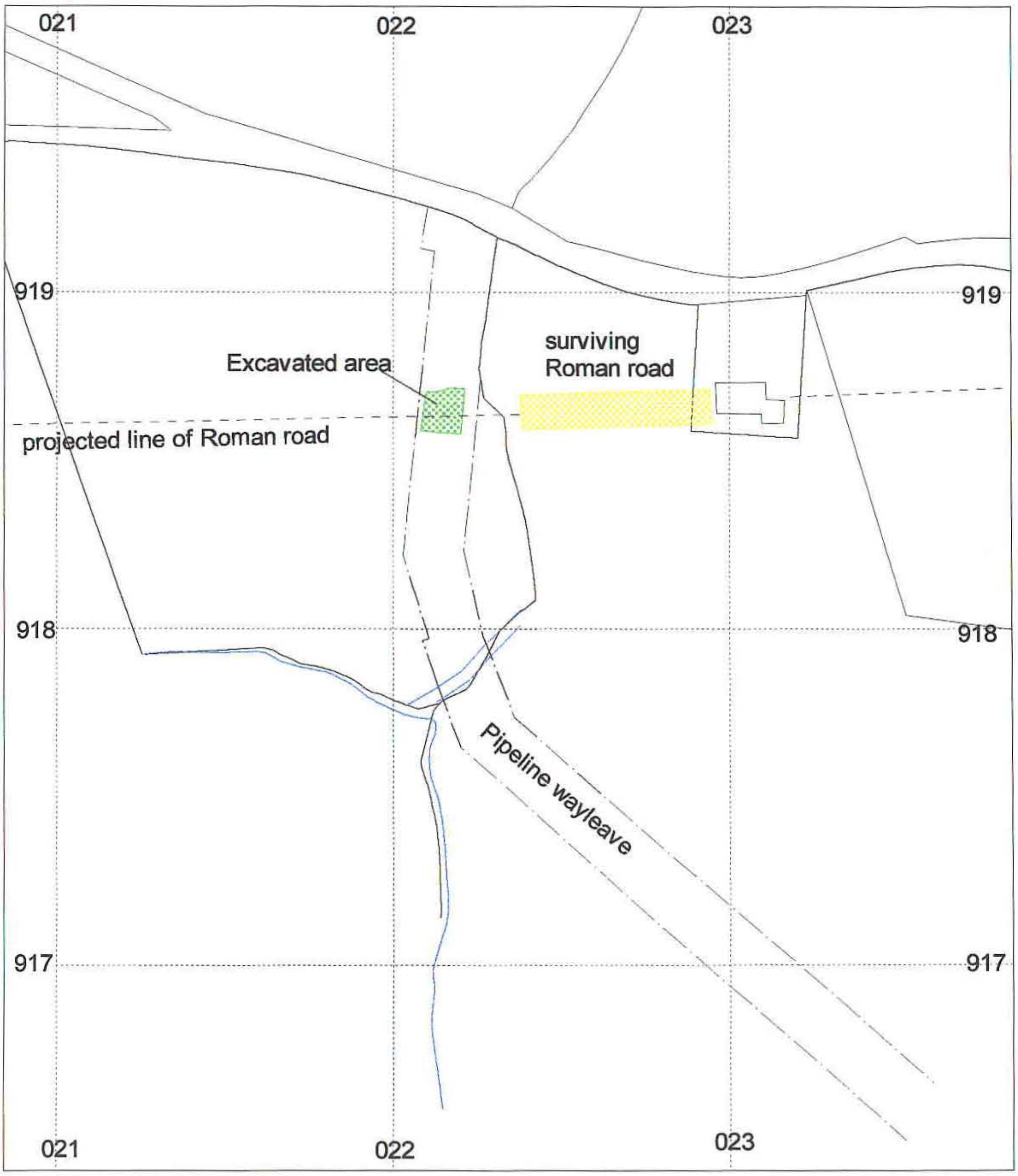

Fig. 2 Location of excavation. Scale 1:2,000
Redrawn from OS 1:2,500 (CPAT licence No AL 50529A) and CPAT ground survey

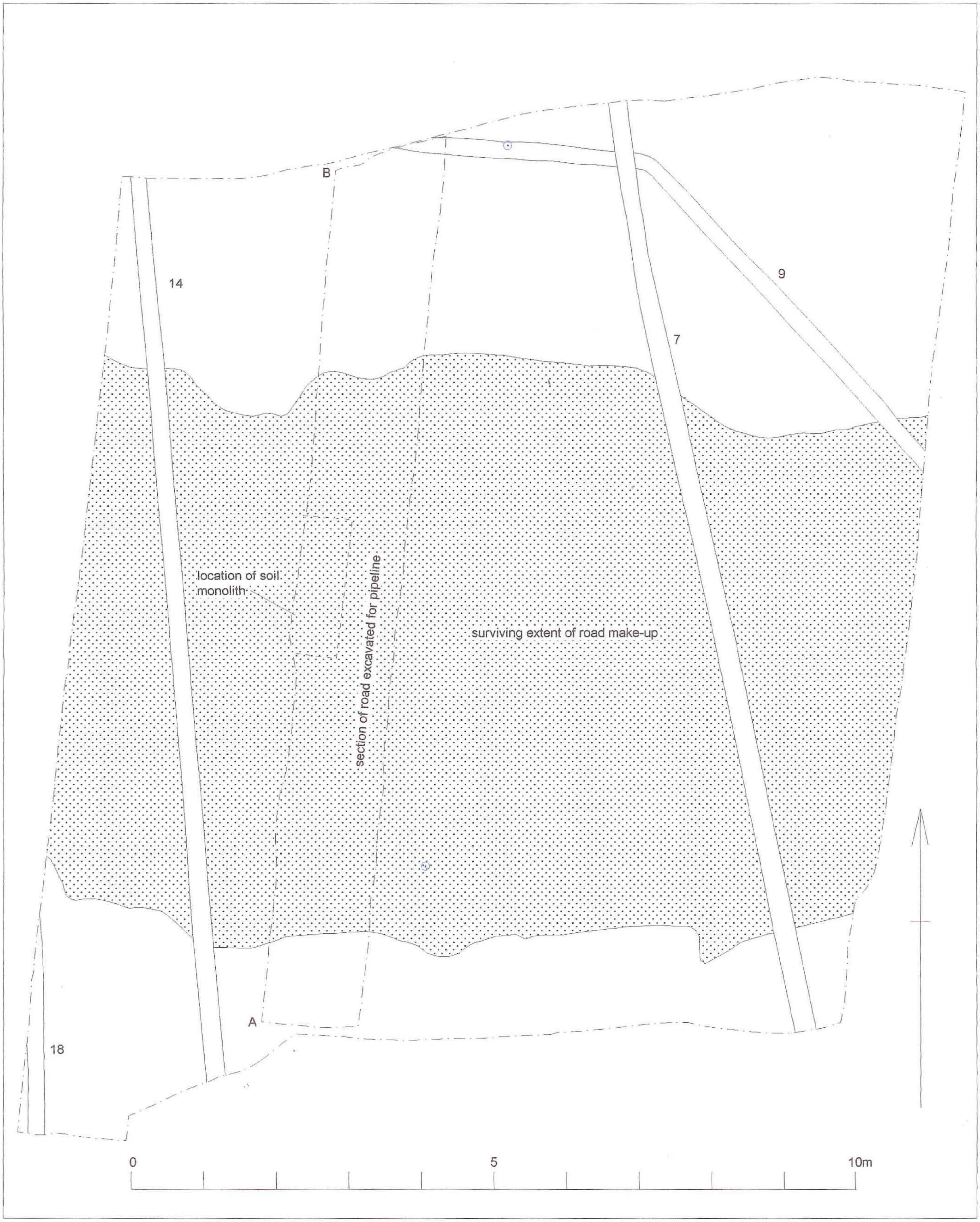

Fig. 3 Excavated area showing surviving extent of road make-up. Scale 1:50

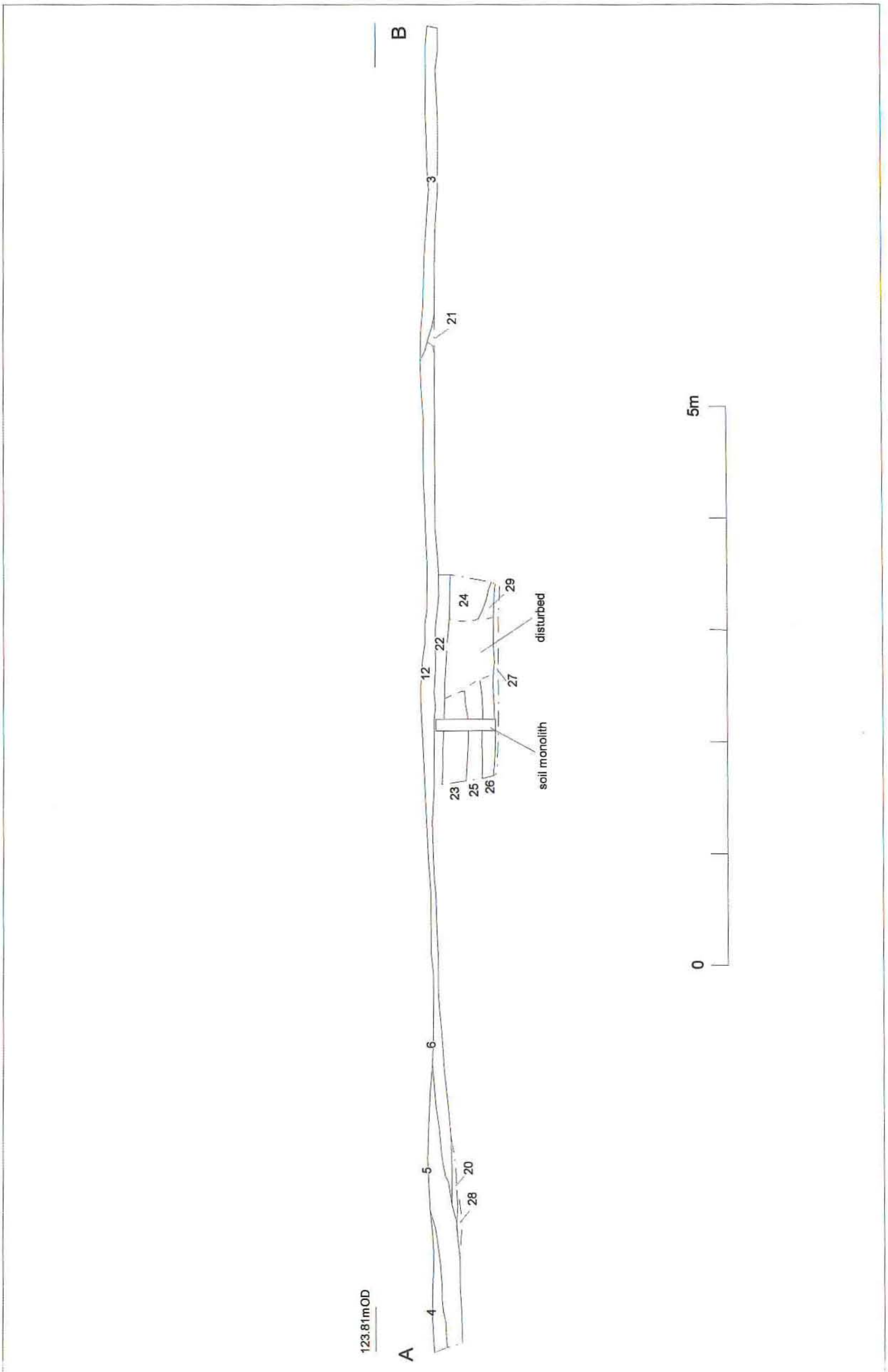

Fig. 4 Section A-B across Roman road, showing position of soil monolith. Scale 1:50

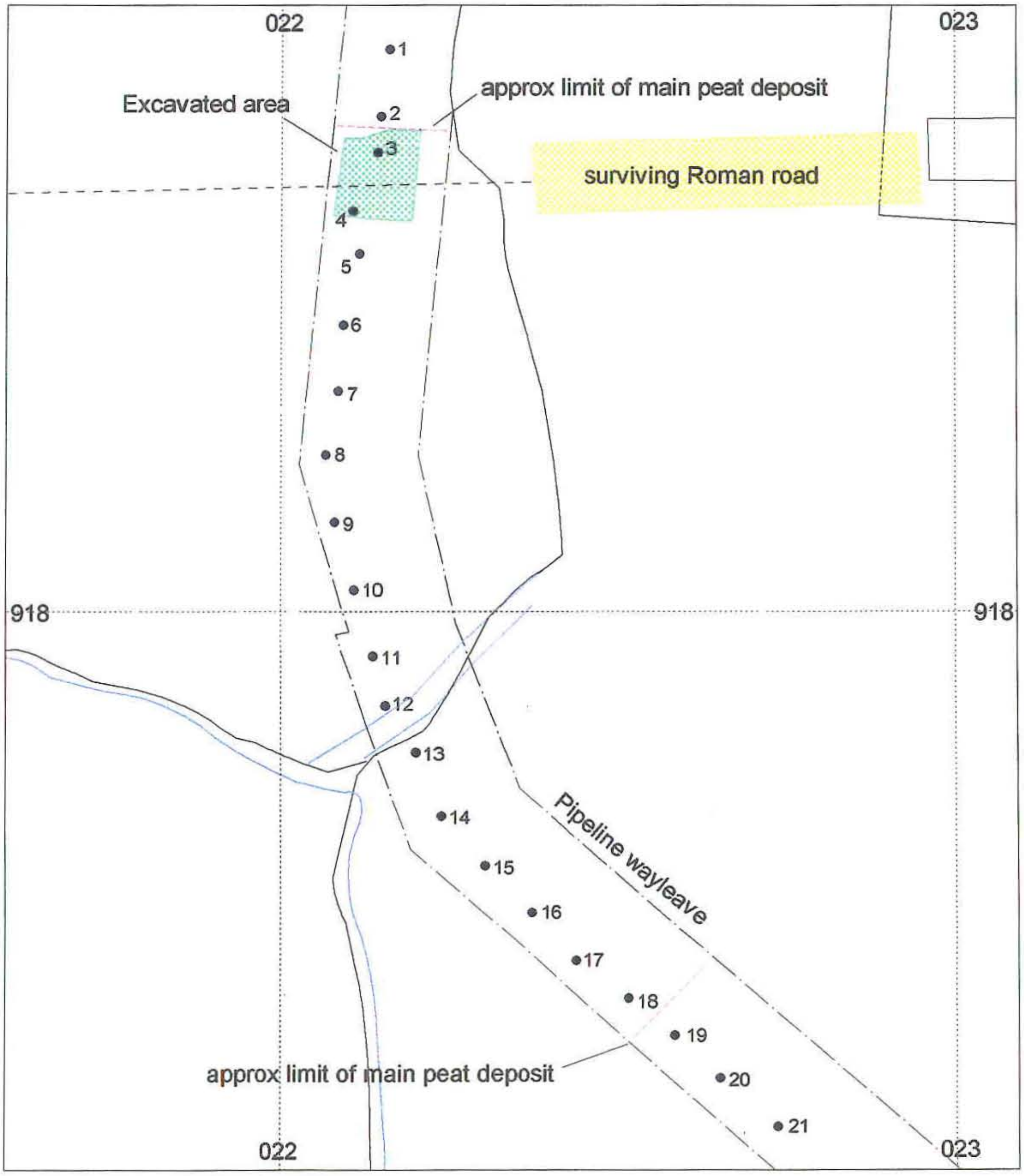

Fig. 5 Location of auger samples and extent of peat deposit. Scale 1:1,000
Redrawn from OS 1:2,500 (CPAT licence No AL 50529A) and CPAT ground survey

Plate 1. Surviving extent of Roman road from S. Photo CPAT CS 98/18/07

Plate 2. Excavated section of Roman road from N. Photo CPAT CS 98/18/17

Plate 3. Base of Roman road showing context 12 with wood in situ. Photo CPAT CS 98/18/22

Plate 4. Box section of peat deposit beneath Roman road. Photo CPAT CS 98/18/24