

Archaeological Services & Consultancy Ltd

ARCHAEOLOGICAL EVALUATION: ELY WT TO HADDENHAM WT CAMBRIDGESHIRE

NGR: TL 49061 77317 - TL 52134 79041

on behalf of Anglian Water Services Ltd



A J Hancock BSc PgDip

April 2006

ASC: 737/EHP/3

Letchworth House Chesney Wold, Bleak Hall, Milton Keynes MK6 1NE Tel: 01908 608989 Fax: 01908 605700 Email: office@archaeological-services.co.uk Website: www.archaeological-services.co.uk



Site Data

ASC project code	e:	EHP		ASC Proj	iect No:	737			
County:			Cambrid	Cambridgeshire					
Village/Town:			Witchfor	d					
Civil Parish:			Witchfor	d					
NGR (to 8 figs):			TL 4906	1 77317 - 🛛	FL 52134 79	9041			
Present use:			Arable la	nd					
Planning proposal:			Water main						
Date of fieldwork	k:		13/3/2006 - 29/3/2006						
Client:			Anglian Water Services Ltd						
			Thorpe Wood House						
			Peterborough						
			Cambridgeshire						
			PE3 6WT						
Contact name:			Felix Assiamah						
Telephone			Fax:						

Internal Quality Check

Primary Author:	A J Hancock	Date:	12 th May 2006
	-		
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CONTENTS

Su	mmary	5
1.	Introduction	5
2.	Aims & Methods	8
3.	Archaeological & Historical Background	9
4.	Results.	. 12
5.	Conclusions	. 21
6.	Acknowledgements	. 22
7.	Archive	. 22
8.	References	. 23

Appendices:

1.	Trench Summary Tables	.24
2.	Excavation Summary Tables	.48
3.	Finds Concordance	.49
4.	Photo List	.50
5.	Specialist Reports	.52
6.	ASC OASIS Form	.58

Figures:

1.	General location	3
2.	Trench location plan	7
3.	Plan of features, trenches 12, 13 and 16 (1:500)	16
4.	Plan of features in extension at centre of Trench 12 (1:100)	17
5.	Plan of features in southwestern extension of Trench 12 (1:50)	17
6.	Sections across features (1:20)	18

Plates:

Cover: Witchford

1.	Modern pit [153]. Trench 1b	.19
2.	Post hole [804]. Trench 8	19
3.	Post hole [806]. Trench 8	.19
4.	Gully/ditch [1303]. Trench 13	.19

5.	Ditch [1203]. Trench 12	. 19
6.	Ditch [1209] with ditch/gully [1211] in foreground. Trench 12	. 19
7.	Ditch [1209] with section [1206] in background. Trench 12	.20
8.	Section [1206]. Trench 12	.20
9.	Southern extension of Trench 12 showing features	.20
10.	Slot/gully [1224] and post hole [1226]. Trench 12	.20
11.	Section [1217]. Trench 12	.20
12.	Curvilinear gullly/ditch [1605]. Trench 12	.20



Figure 1: General location (scale 1:25,000)

Summary

In March 2006 Archaeological services and Consultancy Ltd carried out an evaluation on the proposed route of a water pipeline. A total of 1.8 linear kilometres of trenching were excavated. Ditches and pits/postholes containing early Romano-British pot sherds were discovered in trenches 12, 13 and 16, located at the centre of the site of the disused Witchford Airfield.

The discoveries confirm that Romano-British ditches of a low status rural settlement, located by earlier archaeological work during the construction of Lancaster Way Business Park, extend east and southeast into the airfield. Recovery of mid Iron Age and late Iron Age pot sherds indicate that continuity of settlement may have occurred.

1. Introduction

- 1.1 In March 2006 Archaeological Services and Consultancy Ltd (ASC) carried out an evaluation along the proposed route of a water pipeline located between TL 49061 77317 and TL 52134 79041 (Fig. 1). The project was commissioned by Anglian Water Services Ltd, and was carried out according to a project design prepared by ASC (Hawtin and Rouse 2006) and a brief (Thomas 2005) prepared for the local planning authority (LPA), Cambridgeshire County Council, by their archaeological advisor (AA), Cambridgeshire Archaeology (CAPCA).
- 1.2 Planning Background

The evaluation was required, in response to proposals for the construction of a replacement water main.

1.3 Location

The route of the pipeline ran between NGR TL 49061 77317 and TL 52134 79041 (Fig. 1) south and east of the town of Witchford through arable farmland of the Cambridgeshire Fens. The eastern end of the pipeline lies in the parish of Wilburton, although the route lies mostly within the parish of Witchford, which is located on a ridge between Ely and Sutton in the Isle of Ely.

- 1.4 Description
 - 1.4.1 The western part of the route followed a dyke located on the southern side of Pools Road in an arable field containing a recently germinated crop.
 - 1.4.2 The route diverged from Pools Road and traversed an area of uncultivated low lying land, known as *Valley Bottom* or *The Pools*, containing areas of standing surface water until meeting Grunty Fen Road.
 - 1.4.3 It crossed Grunty Fen Road and a substantial road side ditch to traverse a grassed field and the Grunty Fen Catchwater dyke. The route climbed a slight rise east of the dyke, crossing an unmanaged (set a side?) field until it met an east-west aligned unmetalled track.

- 1.4.4 The route followed the east-west aligned unmetalled track for *c*.150m until it intersected Bedwell Hey Lane.
- 1.4.5 After crossing Bedwell Hey Lane the route entered the disused site of Witchford Airfield and continued east-west for *c*.400m beside a concrete airfield track in a field containing a recently germinated crop. It then turned to run southsouthwest-northnortheast through a recently ploughed field and ran at the side of another concrete airfield track, which in turn ran alongside the boundary of Lancaster Way Business Park.
- 1.4.6 The final 300m of the route turned to run southwest-northeast through recently ploughed fields between Lancaster Lodge and Paradise Farm until terminating at Witchford Road

1.5 *Geology & Topography*

The proposed route of the pipeline crosses soils of the Peacock Association (872a), the Hanslope Association (411d) and the Milford Association (541a) from west to east. The route lies at elevations between c.0m at the west and c.15m AOD at the east. The soil associations are respectively described as:

- "deep humose calcareous clayey and non calcareous fine loamy over clayey soils. Some peat soils. Groundwater controlled by ditches and pumps". (Soil Survey 1983, 872a). The underlying geology consists of Jurassic and Cretaceous clays, till and associated superficial drift.
- "consisting of slowly permeable calcareous clayey soils. Some slowly permeable non-calcareous clayey soils. Slight risk of water erosion". (Soil Survey 1983, 411d). The underlying geology is chalky till.
- *"Well drained fine loamy reddish soils over rock"* (Soil Survey 1983, 541a). The underlying geology consists of Devonian sandstone, siltstone, mudstone and slate.



2. Aims & Methods

2.1 Aims

In line with the requirements of the Brief (Section 3.1), the aims of the evaluation were:

• To determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development

2.2 Standards

The work conformed to the requirements of the *Brief* and to the relevant sections of the Institute of Archaeologists' *Standard & Guidance Notes* (IFA 2001) and *Code of Conduct* (IFA 2000a). It also conformed to the Association of Local Government Archaeological Officers East of England Region *Standards for Field Archaeology in the East of England* (ALGAO 2003), to current English Heritage guidelines (EH1991), and to the relevant sections of ASC's own *Operations Manual*.

2.3 Methods

In line with the requirements of the Brief (Section 2.4), the methods adopted for this project were:

- A programme of linear trial trenching and test-pitting to adequately sample the threatened available areas
- All features were investigated and recorded unless otherwise agreed with CAPCA
- A minimum of 5% sample of the area affected by the pipeline was subject to trial trenching.

2.4 *Constraints*

Significant depths of alluvium were revealed in trenched 1 - 6a and the presence of a network of land drains prevented excavation of the full length of the trenches to a suitable depth to test for presence of archaeological remains. After agreement from CAPCA, sondages were excavated through the alluvial sequences at each end of trenches 1- 6a.

3. Archaeological & Historical Background

The local and regional settings of archaeological sites are factors taken into consideration when assessing the planning implications of development proposals. The proposed pipeline lies within an area of archaeological and historical interest and the site has the potential to reveal evidence of a range of periods. The following sections summarise the findings of ASC's desk-based research, which was included within the project design (Hawtin and Rouse 2006). *HER* = *Historic environment record*.

3.1 Prehistoric (before 600BC)

In contrast with many other Fenland areas, evidence of prehistoric activity is limited. The underlying geology of the area is heavy clay, a natural deposit that probably discouraged cultivation and settlement during prehistoric periods. Other types of prehistoric activity are suggested by two hoards of Bronze Age metal work which were discovered in the 19th century at locations close to the proposed route of the pipeline.

A mid Bronze Age hoard (HER 05785) was discovered in 1844 in the area known as Valley Bottom or The Pools. The hoard consisted of three palstaves and a "*fine gold torc made of a twisted rod coiled into a helix*" (Hall 1996, 71). The location of the findspot was shown on the Ordnance Survey first edition map of 1889 – 1891.

A late Bronze Age hoard of 163 items including spearheads, axes, swords, scabbard ends and a palstave were discovered in Grunty Fen in 1882 (Hall 1996, 71). Salway *et al.* (1970, 63) suggested that these hoards may represent votive offerings deposited "*in this secluded marsh, environed by forest*" alongside a possible trade route.

The Cambridge HER lists other isolated prehistoric finds in the Witchford area. A Neolithic axe was recovered c.500m from the western end of the pipeline (HER 01907). Two Bronze Age copper axes were found c.150m south of the pipeline (HER 06196) and a Bronze Age perforated stone macehead was found c.500m to the southeast (HER 16911). Lithic artefacts such as cores, blades and scrapers (HER 06912A, 06929 and MCB16255) are also recorded.

The cropmark of a possible ploughed-out Bronze Age barrow ring ditch (HER 05827) is recorded c.800m to the southwest of the proposed route.

3.2 Iron Age (600BC-AD43)

Late Iron Age sites (Hall 1996, 41 & 44) are present northeast of Witchford. However, finds or sites of this period have not previously been discovered within 500m of the proposed pipeline.

3.3 Romano-British (AD43-c.450)

The Ordnance Survey first edition map of 1889 – 1891 shows a find spot of Romano-British pottery northwest of the proposed pipeline and a Roman camp is marked to the east. The Cambridge HER also lists isolated find spots of Romano-British pottery (HER 05726, 06912, 06965, 11801, MCB16256 and MCB16259). A watching brief in Lancaster Way Business Park in 1995 uncovered a small amount of redeposited Romano-British pottery (Robinson 1995). Subsequent work in Lancaster Way Business Park revealed three Romano-British ditches (Crank 2000; HER 06912). The ditches contained fragments of 2nd to 4th century pottery, coins, animal bone and tile, and were interpreted as indicating settlement rather than agricultural activity.

Later excavation revealed further $1^{st}-3^{rd}$ century Romano-British ditches, mid-late 4^{th} century aligned pits and postholes, a $3^{rd}-4^{th}$ century gully containing redeposited human bone and a curvilinear enclosure ditch with a suggested mid 4^{th} to 5^{th} century date (Ralph 2003). The recovered artefacts suggest that the features belong to a mid-high status settlement that may extend into the airfield (*Ibid.*).

The route of a Roman road known as Akeman Street, may lie between Stretham village and Ely *c*.650m south and east of the proposed pipeline (Salway *et al.* 1970, 225; Jackson & Potter 1996, 22).

3.4 Saxon (*c.450-1066*)

The village of Witchford probably originated in the Saxon period and is a good example of a planned village. Oosthuizen (1996, 31) states that: "*As the church site is an integral part of the plan, the settlement probably dates to around AD 970, when Witchford was given to the Abbey at Ely*". Witchford remained a possession of the abbey until it formed part of the grant of free warren in 1252. (Pugh 1953, vol. 4, 176-7).

A Saxon cemetery dating to the 5th to 7th centuries was revealed near the southeast corner of Witchford Aerodrome during levelling work in 1947 (HER 02104). Approximately 30 inhumations were uncovered, some with grave goods such as buckles, beads, brooches, spearheads and a sword (Hall 1996, 36). A farmer discovered an 8th-century Christian pendant made of crystal, gold, coloured glass and precious stones near the airfield in 1952 (*ibid.* HER 03159). Two early Saxon bronze brooches were also found *c*.900m to the southeast of the proposed pipeline (HER MCB16257).

The alleged location of the lost village of Cratendune, the supposed forerunner to Ely, is located south of the former airfield (HER 06935). The cemetery discovered at the airfield could belong to this village.

3.5 Medieval (1066-1500)

The Domesday Survey states that Witchford or Wiceford(e) was held by the Abbot of Ely and was valued at £10 (Williams & Martin 2003, 526).

3.6 Post-Medieval (1500-1900)

Excavations at the Lancaster Way Business Park in 2000 uncovered two parallel postmedieval ditches, interpreted as pre-inclosure field boundaries dating to the 18th-19th centuries (Ralph 2003). The area had been part of Ely's westerly open fields and was enclosed during the early 19th century (Robinson 1995). With the exception of a few minor boundary changes, the landscape changed little during the later nineteenth century.

3.7 Modern (1900-present)

The proposed pipeline runs through Witchford Aerodrome, a disused WWII RAF bomber base (HER numbers 11102 & CB15156). An evaluation at Lancaster Way Business Park found a Second World War service pipe and debris caused by demolition of the airfield (Leith 1996).

4. Results

4.1 General

Twenty three trenches with a combined total length of 1.8 linear kilometres were excavated. The trenches were machine excavated to the natural strata or the level of archaeological features under close archaeological supervision. The evaluation findings are summarised below. Detailed descriptions of the trenches are provided in Appendix 1 and detailed descriptions of the finds are provided in Appendix 5. A plan of the trenches containing archaeological features and location of sections excavated across them is shown in Figure 3. Drawings of the sections across the features are shown in Figure 6.

4.2 Fenland

Nine trenches numbered 1-6a were located in low lying, c 0m AOD, fenland at the west of the proposed pipeline route (Fig 2). Alluvial sediments were revealed in all nine trenches below the top and subsoil.

Fen pools, extensive peat deposits and significant archaeology were absent although a single possible pit [152] was recorded in Trench 1b. Dating evidence was not recovered from the fill of the pit although it was cut through the upper levels of the alluvial sequence and it may be relatively modern. An environmental sample taken from the fill of pit [153] contained very little material suitable for analysis and no evidence that would suggest its age.

The presence of active field drains meant that it was impracticable to machine excavate the complete length of the trenches down to drift deposits. Two sondages were machine excavated through the alluvium in each of the nine trenches to test depth and examine it for evidence of human activity. The alluvial sequence proved to be a maximum of 1.35m deep and thin lenses of peat were noted in two of the sections. Evidence of archaeological activity was not observed in the sondages.

At least four phases of drainage work were identified in the fenland trenches. The depths of the drains ranged from c. 0.5 - 1.3m below the ground surface.

The evaluation has suggested that the natural profile of the fen is fairly consistent and indicates four major silting events.

4.3 The southern periphery of the disused airfield

Trenches 6b, 7 and 8 ascended a gradual slope that climbed from the fen to a small plateau lying at c. 15m AOD. Trench 9 lies on the plateau west of Bedwell Hey Lane and trenches 10 and 11 are located within the southwestern perimeter of the disused airfield (Fig 2).

Trench 6b was 33m long and lay toward the base of the slope. The natural deposits were brown/orange/grey mottled clay plus a deposit of mid yellowish brown silty clay which filled a natural hollow located at the centre of the trench. One east-west aligned field drain crossed the northern half of the trench. Archaeological finds or features were not observed.

Trench 7 was 100m long and was located at the mid part of the slope. Ten field drains, aligned east-west, traversed the width of the trench. The natural strata was heterogeneous consisting of orange/grey mottled clay at the southwest, a central band of gravel and a deposit of colluvium at the northeast. No archaeological finds or features were observed.

Trench 8 was 100m long and straddled the upper part of the slope and plateau. The natural stratum was an orange/yellow grey mottled clay. Two shallow, sub-circular (0.3m diameter) mid yellowish brown silt filled post holes were observed at the centre of the trench. A small sherd of modern blue and white transfer printed china was noted in the upper part of the fill of [806] which also contained frequent burnt clay inclusions. Finds were not recovered from the fill of [804] although the similarity of the fills and recovered finds could suggest that both post holes are relatively modern. An environmental sample taken from the fill of post hole[806] contained very little material suitable for analysis and no evidence that would suggest its age.

Trench 9 was 100m long. Areas of brick rubble were present under the topsoil and two field drains cut the natural mid reddish brown sandy clay at the southwestern end of the trench. No archaeological finds or features were observed.

Trench 10 was 100m long and brick rubble was present under the topsoil at the eastern end of the trench. Six north - south aligned field drains cut the natural mid reddish brown sandy clay. Archaeological finds or features were not observed.

Trench 11 was 100m long and 0.4m of overburden was stripped revealing natural mid reddish brown sandy clay. Archaeological finds or features were not observed.

4.4 The centre of the disused airfield

Trenches 12–16 were located at the central part of the disused airfield (Fig 2). Archaeological work during the construction of Lancaster way Business Park revealed Romano-British ditches and pits and suggested that the evaluation trenches located in this area could reveal archaeological features. Sectional clay field drains were identified in all the trenches.

Trench 12 was machine stripped through topsoil, airfield demolition rubble and an apparently undisturbed mid reddish brown silty clay subsoil. Five ditches were observed cut into the natural reddish brown clayey sand (Fig 3).

Ditches [1203] and [1211] were cut through the undisturbed subsoil and appear relatively modern. Romano-British and Medieval pot sherds were recovered from the fill of ditch [1203] although its location and orientation is similar to an inclosure ditch shown on 1st Ed. OS mapping, consequently the sherds may be residual. Dating evidence was not recovered from ditch [1211].

The south-eastern terminal end of a southeast-northwest orientated ditch [1209] was partially revealed under the northeastern limit of the trench The trench was extended to reveal the full width of the ditch and a further section [1206] was excavated across

it (Fig 4). Late Iron Age and early Romano-British pot sherds were recovered from the fills of both sections.

Bulk soil samples were taken from the primary and secondary fill of section [1206]. Environmental analysis of the samples showed that both contained wheat chaff which suggests nearby processing of cereal crops. Animal bone from domestic refuse and the natural fauna of the surrounding area were also recovered from both samples and the secondary fill (1207) contained the remains of a house mouse, a species which is synonymous with settlement.

Curvilinear feature [1213] was sealed by the undisturbed subsoil. Dating evidence was not recovered from a section excavated across it although its relationship with the undisturbed subsoil suggests that it is an archaeological gully/ditch.

Linear ditch/gully [1215] was c.0.4m wide and c.0.3m deep. Dateable finds were not recovered from its mid reddish brown sandy silt fill.

The trench was extended 5m southwest and four further features were revealed (Fig 5). The fill of north-south aligned ditch [1217] contained Iron Age pot sherds. An environmental sample from one of its fills contained cereal grains, wheat chaff and the molluscan assemblage indicated an open grassland environment. Two sections were excavated across a possible rectilinear feature [1224, 1226]. Early Romano-British pot sherds were recovered from the fill of [1226]. Two possible pits [1220, 1222] were partially revealed under the limits of the trench, dating evidence was not recovered during investigation of these features.

Trench 13 was excavated to the natural mid orangeish brown clayey sand. A c.0.3m wide and 0.3m deep linear ditch/gully [1303] was present in the northern half of the trench (Fig 3). No finds were recovered from a section excavated across the gully/ditch and its antiquity is uncertain. No other archaeological finds or features were observed.

Trench 14 was machine stripped through topsoil, airfield demolition rubble and disturbed silty clay overlying the natural mid orangeish brown sandy clay. No archaeological finds or features were observed.

Trench 15 was machine stripped through topsoil, airfield demolition rubble and disturbed silty clay overlying the natural mid orangeish brown sandy clay. No archaeological finds or features were observed.

Trench 16 was machine stripped through topsoil, airfield demolition rubble and disturbed silty clay overlying the natural mid orangeish brown sandy clay. Two archaeological gullies/ditches were revealed (Fig 3).

The terminal end of a shallow, c. 0.2m wide, curvilinear gully/ditch [1605] ran approximately northeast-southwest in the central part of the trench. A c. 1.0m wide and 0.3m deep northwest to southeast orientated linear ditch [1608] was also identified at the central part of the trench. mid Iron Age and late Iron Age pot sherds were

recovered from [1605] and late Iron Age/ early Roman pot sherds were recovered from both of these features.

An environmental sample taken from the fill of [1608] suggests cereal crops may have been processed nearby and the weed seed and molluscan evidence suggest an open, seasonally wet, grassland environment.

4.5 The northern periphery of the disused airfield

Trenches 17a, 17b and 18 were located at the northern end of the proposed pipeline near Lancaster Lodge and Witchford Road. North - south aligned field drains were present in all three trenches.

Trench 17a was 35m long. A ditch was observed cut into the natural orangeish brown gravelly/sandy clay at the northeastern end of the trench. Fragments of modern brick were noted in the surface of the ditch fill and tip lines were evident in a section excavated across it. The modern material and tip lines suggest that this is a relatively recent ditch deliberately backfilled in the second half of the 20th century. Archaeological finds or features were not observed.

Trench 17b was 65m long. Underlying areas of the topsoil were 0.2m thick patches of asphalt, it is probable that this material defines the location of part of the apron or hard standing of the airfield. The natural stratum was an orangeish brown sandy silt. No archaeological finds or features were observed.

Trench 18 was 100m long. The natural stratum was a mid orangeish brown sandy clay with moderate sub-angular gravel inclusions. A deposit of reddish brown silt filled a natural hollow and was cut by a modern service pipe at the northern end of the trench. Archaeological finds or features were not observed.



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Figure 4: Plan of features in extension at centre of Trench 12 (1:100)



Figure 5: Plan of features in southwestern extension of Trench 12 (1:50)

Evaluation



Figure 6: Sections across features (1:20)



Plate 1: Modern pit [153]. Trench 1b



Plate 2: Post hole [804].Trench 8



Plate 3: Post hole [806]. Trench 8



Plate 4: Gully/ditch [1303]. Trench 13



Plate 5: Ditch [1203]. Trench 12



Plate 6: Ditch [1209] with ditch/gully [1211] in foreground. Trench 12

Evaluation



Plate 7: Ditch [1209] with section [1206] in background. Trench 12



Plate 8: Section [1206]. Trench 12



Plate 9: Southern extension of Trench 12 showing features.



Plate 10: Slot/gully [1224] and post hole [1226]. Trench 12



Plate 11: Section [1217]. Trench 12



Plate 12: Curvilinear gully/ditch [1605]. Trench 16

5. Conclusions

5.1 The Fenland

Significant archaeology was not revealed in any of the nine fenland trenches. A solitary pit was present in Trench 1b although the balance of evidence suggests that it may be a modern feature. A sequence of alluvial sediments was observed in sondages excavated at each end of the nine trenches. Evidence of erosion caused by past agricultural activity may be contained within these sediments. However such evidence may be ephemeral and was not visible within the recorded profiles. Archaeological finds or features were absent from the sondages. The summarised evidence suggests that the Fenland has low archaeological potential.

5.2 Northern and Southern Periphery of the Airfield

Trenches excavated at the northern and southern periphery of Witchford Airfield did not reveal significant archaeology. Two post holes were present in Trench 8 although the balance of evidence suggests the these features may be modern. Trenches 6b - 9were located on a gradual slope that rises from the fenland to meet the southeastern perimeter of the disused airfield. The trenches at the base of the slope could contain ephemeral eroded evidence of past agricultural activity although none was visible to the naked eye. The summarised evidence suggests that these areas have low archaeological potential.

5.3 The Centre of the Airfield

Trenches excavated at the centre of the airfield revealed archaeological ditches and pits/post holes containing late Iron Age and early Romano-British pot sherds sealed under deposits of airfield demolition rubble. Two possible clusters of archaeological activity are indicated by the discovered features, which were located in trenches 12, 13 and 16. The recovered pot sherds and environmental evidence suggest the presence of a low status rural site. The results of the evaluation show that Romano-British features located during earlier archaeological work at Lancaster Way Business Park extend east and southeast into the airfield and illustrates that earlier Iron Age activity is also present. The summarised evidence shows that the archaeological potential of this area is high.

6. Acknowledgements

The writer is grateful to Felix Assiamah of Anglian Water Ltd for commissioning ASC Ltd to carry out the evaluation and for arranging access and excavating plant. Thanks are also due to Kasia Gdaniec and Andy Thomas of CAPCA for monitoring the fieldwork

The fieldwork was carried out by Nigel Wilson HND AIFA and M. Cuthbert BA. This report was prepared by Alastair Hancock and edited by Bob Zeepvat BA MIFA.

7. Archive

- 7.1 The project archive will comprise:
 - 1. Brief
 - 2. Project Design
 - 3. Initial Report
 - 4. Clients site plans
 - 5. Site records
 - 6. Finds records
 - 7. Finds
 - 8. Sample records
 - 9. Site record drawings
 - 10. List of photographs/slides
 - 11. B/W prints & negatives
 - 12. Original specialist reports and supporting information
 - 13. CDROM with copies of all digital files.
- 7.2 The archive will be deposited with Cambridgeshire Archaeological Store.

8. References

Standards & Specifications

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Appendix	1:	Trench	Summary	Tables
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Trench 1a									
Max Dimensions (m)									
			Width	1.8		Length	51.0		
		1 AN	Depth	0.50)	Level (top)			
				N	GR C	o-ordinate	es		
No. 54 Night			TL 49111 77309 (W) TL 49163 77317 (E)			77317 (E)			
Orientati	ion	ENE-WSW							
Reason f	or Trench	Proposed water pipelin	e evaluation	1.					
Context	Туре	Description and Interpr	etation		Max M		Depth		
					Wid	th Thck	n BGL		
100	T '1		•1		(mn	<u>n) (mm</u>	(mm)		
100	Topsoil	Mid brownish grey to	opsoil			400			
101	Subsoil	Mid greyish brown silty clay				200			
102	Layer	Mid brownish grey silty clay				200			
103	103 Layer Mid greyish brown clayey silt					220			
104	Layer	Orange sandy silt	Orange sandy silt						
105	Layer	Mid brownish grey si	ilty clay			-			



Sondage at western end of trench 1a

Trench 1b										
and the second second	Max Dimensions									
Salar a			Width	1.8		Len	gth	50.0		
the state of the s			Depth	0.50 Lo(t		Lev (to	vel p)			
* 24	1 4 5		NGR Co-ordinates							
A. C.A.	All		TL 49232	77314 (W)		TL 4	19283 773	00 (E)		
Orientat	ion	ESE-WNW								
Reason f	or Trench	Proposed water pipeline evaluation.								
Context	Туре	Description and Interpr	etation		Ma: Widt (mn	x 1 th 1 n)	Max Thckn (mm	Depth BGL (mm)		
150	Topsoil	Mid brownish grey to	opsoil				500			
151	Subsoil	Mid brownish orange	silty clay				200			
152	Layer	Light brown sandy cl	ay				500			
153	Cut	Sub-circular pit.					-			
154	Fill	Fill of [153]. Mid brown organic silt					400			
153	Layer	Greyish orange sandy	Greyish orange sandy silt				100			
154	Layer	Mid reddish brown sa	andy silt				100			
155	Layer	Light greyish brown	clayey silt				-			



Sondage at western end of trench 1b

Trench 2									
Sec.m.	Max Dimensions (m)								
	And a state of the second		Width	1.8		Length	l	100	
		Maria a	Depth	0.50)	Level (top)			
	Serv.	- Hu - Harris		N	GR C	o-ordina	ates		
		N	TL 49431	77350 (W))	TL 495	04 774	13 (E)	
Orientat	ion	SW-NE							
Reason f	or Trench	Proposed water pipelin	e evaluation	n.					
Context	Туре	Description and Interpr	retation		Ma Wid (mn	x Ma th Th n) (m	ıx ckn m	Depth BGL (mm)	
200	Topsoil	Mid greyish brown to	opsoil.			45	0		
201	Subsoil	Mid greyish brown silty clay				10	0		
202	Layer	Mid greyish yellow s	Mid greyish yellow silty clay			20	0		
203	Layer	Mid greyish orange s	ilty clay.			30	0		
204	Layer	Mid grey clay.				-			



Sondage at western end of trench 2

Trench 3a								
Max Dimensio							m)	
Sector Naconne		Width	1.8		Length		51.0	
3		A BAS	Depth	0.55	6	Level (top)		
150		A CONTRACTOR		Ν	GR C	o-ordinate	es	
X in			TL 49583	77462 (W)		TL 49632	774	79 (E)
Orientat	ion	ENE-WSW						
Reason f	or Trench	Proposed water pipelin	e evaluation	1.				
Context	Туре	Description and Interpr	retation		Ma Wid (mn	x Max th Thck 1) (mm	n	Depth BGL (mm)
300	Topsoil	Mid brownish grey to	opsoil.			300		
301	Subsoil	Mid brown organic st	ilt			100		
302	Layer	Light greyish yellow	Light greyish yellow silty clay			80		
303 Layer Mid greyish orange sandy c						120		
304	4 Layer Mid brownish grey clay.					500		
305	Layer	Mid blueish grey clay	Y			-		



Sondage at western end of trench 3a

Trench 3b									
-	- and the s			Ma	ax Din	nensions ((m)		
			Width	1.8		Length		49.0	
				Depth 0.50 Leve (top)		Level (top)			
			NGR Co-ordinates						
the se				TL 49708 77539 (W) TL 49753 77557 (E)			57 (E)		
Orientat	ion	SW-NE							
Reason f	or Trench	Proposed water pipelin	e evaluatior	۱.					
Context	Туре	Description and Interpr	etation		Ma	x Max		Depth	
					Wid	th Thek	n	BGL	
350	Topsoil	Mid brownish grow to	moil		(1111)	<u>1) (IIIII</u> 250		(mm)	
251	Carlage	Mid brownish grey to	<u>pson.</u>			100			
351	Subsoll	Mid greyish brown of	rganic silt			100			
352	Layer	Light yellowish grey	silty clay			100			
353 Layer Mid greyish orange sandy clay.					200				
354	Layer	Mid brownish grey cl			300				
355	Layer	Mid blueish grey clay	Aid blueish grey clay						



Sondage at eastern end of trench 3b

Trench 4									
-	-			Ma	ax Din	nensions	(m)		
Met to		a state of the second	Width	1.8	Length			100	
	70	the second	Donth	0.45		Lovol			
		The A	Deptii	0.4.)	(top)			
*		Proventie -	N		JGR Co-ordinat		tes		
			TL 49836 77604 (W))	TL 49912 77		666 (E)	
	ALL ADD								
Orientat	ion	SW-NE							
Reason f	or Trench	Proposed water pipelin	e evaluation	1.					
Context	Туре	Description and Interpr	pretation		Ma	x Max	K	Depth	
					Wid	th The	kn	BGL	
400	T 11	M: 1 1			(mn	(mn) (mn)	<u>1</u>	(mm)	
400	Topsoil	Mid brownish grey to	opson.			350)		
401	Subsoil	Mid greyish brown c	layey silt			100)		
402	Subsoil	Mid brownish grey c	lay.			50			
403	Layer	Orange clay with iron	n pan.			150)		
404	404 Layer Mid yellowish brown clay.					200)		
405	Layer	ayer Mid orange grey silty clay.				100)		
406	Layer	yer Mid blueish grey clay. Natural.							



Sondage at western end of trench 4

Trench 5a										
IN THE OWNER	AND ASSESSED AND			Ma	ax Din	nensions	(m)			
T			Width	1.8		Length		49.0		
				0.60 La		Level (top)				
Orientation ENE WSW			TL 50031 77699 (W) TL 50080 77712 (12 (E)			
Orientat	ion	ENE-WSW								
Reason f	or Trench	Proposed water pipelin	e evaluation	1.						
Context	Туре	Description and Interpr	etation		Ma: Widt (mn	x Max th Thel 1) (mm	kn I	Depth BGL (mm)		
500	Topsoil	Brownish black plou	ghsoil			400				
501 Subsoil Dirty orange/grey/brown clay silt, some peat bands				ilt,		80				
502 Layer Orangeish grey clay, some iron pan			pan		50					
503	503 Layer Greyish orange sandy clay.					200				
504	Layer	Light greyish brown			250					
502	Layer	Dark blueish grey cla	Dark blueish grey clay							



Sondage at eastern end of trench 5a

	Trench 5b										
			Max Dimensions (m)								
			Width	Width 1.8				49.0			
			Depth	0.50)	Level (top)					
			NGR Co-ordinates								
			TL 50137	77709 (W))	TL 5018	9 776	96 (E)			
Orientat	ion	ESE-WNW									
Reason f	or Trench	Proposed water pipelin	e evaluatio	n.							
Context	Туре	Description and Interpr	etation		Ma Wid (mn	x Max th The 1) (mr	kn N	Depth BGL (mm)			
550	Topsoil	Brownish black silty	topsoil			300					
551 Subsoil Dirty orange/grey/brown clay			200								
552	Natural	Waterlogged orange	Waterlogged orange grey clay			-					

		Tr	ench 6	a					
	and the second second	Comment of the second		Ma	ax Dim	ensions (m)		
1			Width	1.8		Length	100		
		- Ca	Depth	0.45	5	Level (top)			
		and the second second	NGR Co-ordinates						
Orientat	ion	ENE-WSW	TL 50378	77706 (W)		TL 50279 7	7694 (E)		
Reason f	or Trench	Proposed water pipeline	e evaluation	ı.					
Context	Туре	Description and Interpre	etation		Max Widt (mm	k Max h Thckn) (mm	Depth BGL (mm)		
601	Topsoil	Light brownish grey t	opsoil			300			
602	Subsoil	Dirty orange/grey/bro clay	Dirty orange/grey/brown mottled silty clay			300			
603	Layer	Dark blueish grey clay				300			
604	Layer	Light grey clay, some occasional lenses of sand.				-			



Sondage at eastern end of trench 6a

	Trench 6b									
				Ma	ax Din	nensions ((m)			
			Width	1.8		Length		33.0		
			Depth	0.35	5	Level (top)				
				Ν	GR C	o-ordinat	es			
		TL 50443 77715 (SV				W) TL 50475 77721 (NE				
Orientat	ion	ENE-WSW								
Reason f	or Trench	Proposed water pipelin	e evaluatio	n.						
Context	Туре	Description and Interpr	retation		Ma Wid (mn	x Max th Thel 1) (mm	sn	Depth BGL (mm)		
650	Topsoil	Black topsoil				350				
651	Layer	Yellowish brown silt filling a hollow, mod	Yellowish brown silty clay, possibly filling a hollow, modern.			-				
652	Natural	Brownish orange to g	rownish orange to grey clay							

		Т	rench 7	7			
				Ma	ax Dim	ensions (n	n)
			Width	1.8		Length	100
		the second					
NUR 2 Salar	a sound in some		Depth	0.45	5	Level	
	Charles and					(top)	
CAN BE	""			N	GR Co	-ordinates	5
A Company		The state of the	TL 50583	77784 (SW	/)	TL 50661 7	77844 (NE)
	All Prin	- Contractor					
	N AL						
S.		and the second second					
A CAN	103						
	1	Star Star					
	1 Carlo						
	and the second	- the					
	A STATE						
1		A. 200					
Service and	and the second	A CONTRACT OF A					
Orientat	ion	NF-SW					
Reason f	or Trench	Proposed water pipelin	e evaluation	n.			
Context	Туре	Description and Interpr	etation		Max	Max	Depth
					Widt	h Thckn	BGL
700	Tanaail	Mid and dish has	lanah as'i		(mm) (mm 250	(mm)
700	1 Opsoil	Dirty reddish orse as	silty alor			350	
701	Subsoll?	Mid grouish orange	sitty clay			100	
702	Inatural	Collugium of SW	lidy			-	
103	Laver	T Conuvium at SW end	i of trench			-	

		Tre	ench 8	3			
				May	Dimen s	sions (m)	
			Width	1.8	Le	ngth	100
Alter and		and the second sec					
He with			Depth	0.40	L	evel	
Serie Co		Part Proven			(t	op)	
and the second		V Providence		NG	R Co-oi	dinates	
and the se		T	L 50775	77913 (W)	TL	50865 77	'952 (E)
		No. S. N.					
、 你们的问题							
	T.						
		A Carlos Ala					
	the train field	2 2 2 2					
		A AND A AND					
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al an		and the se					
		A STATE OF A					
Bina .							
tela -		STREET, NO					
A CONTRACT							
Orientat	ion	NE-SW			•		
Reason f	or Trench	Proposed water pipeline e	valuation	n.		-	
Context	Туре	Description and Interpreta	tion		Max	Max	Depth
					Width	Thekn	BGL
801	Topsoil	Mid brown plough soil			(mm)	(mm 200	(mm)
802	Subsoil?	Dirty orange brown silt	v clav			100	
803	Natural	Orange/ vellowish grev	clay			-	
804	Cut	Post-hole? 0.15m diam	eter			_	
805	Fill	Yellowish brown silty of	lav			40	
806	Cut	Post-hole? 0.2m diame	Post-hole? 0.2m diameter			-	
807	Cui	1 ost noie: 0.2m utalle	Vellowish brown silty clay frequent			1	1
007	Fill	Yellowish brown silty c	lav fred	quent		150	
	Fill	Yellowish brown silty c	alay, free mall she	quent and of		150	

		Т	rench 9)						
			Max Dimensions (m)							
			Width	1.8	L	ength	100			
			Depth	0.40		Level (top)				
- Andrews		A THE AND A WAY		Ν	GR Co-a	ordinates				
			TL 51045	77993 (SW	7) T	'L 50949 779	981 (NE)			
Orientat	on	ENE-WSW								
Reason f	or Trench	Proposed water pipeling	e evaluation	n.						
Context	Туре	Description and Interpretation			Max Width (mm)	Max Thckn (mm	Depth BGL (mm)			
900	Topsoil	Mid reddish Brown p	Mid reddish Brown plough soil			300				
901	Layer	Modern rubble. SW end of trench		ch		100				
902	Subsoil?	Dirty orange brown silty clay				100				
903	Natural	Orange brown sandy	Drange brown sandy clay			-				

Trench 10								
				Ma	ax Dime	ensions (I	m)	
			Width	1.8]	Length	100	
	- COLORED STREET	ACTION AND A						
-	A STATE OF THE	North Contraction	Depth	0.50 -	0.8	Level		
de se	A STREET	1 - CE 2 2				(top)		
		and the second second		Ν	GR Co-	ordinate	2S	
	it with		TL 51374	78018 (SW	/) [TL 51281	78007 (NE)	
		A TRACE						
								ļ
	15.							
	A Providence							
	North Contraction							
Sau 1								
R. Carlos								
	14 M	135						
AL AN								
to the tag								
ALC: AL		C. M. Carrow Mar						
15.8.4	ST WE Y							
18190								
A Set								
Orientati	ion	E-W	I					
Reason f	or Trench	Proposed water pipeline	e evaluation	n.				
Context	Туре	Description and Interpr	etation		Max	Max	Depth	
					Width	1 Thek	n BGL	
1000	T '1		•1		(mm)	(mm	(mm)	
1000	Topsoil	Dark brown plough se	011			500		
1001	Layer	Modern rubble. Easte	Modern rubble. Eastern end of trench.			100		
1002	Subsoil?	Dirty orange brown silty clay				200		
1003	Natural	Orange brown silty cl	lay some a	reas of		-		
		blue grey clay						

		Т	rench 1	1			
				Ma	x Dimer	nsions (m)	
		Sector States	Width	1.8	L	ength	100
-	and and all	A State					
	ALC: NOT	A Barrow	Depth	0.40		Level	
					((top)	
				N	GR Co-a	ordinates	
		TL 51125	78008 (W)	Т	L 51217 780	00 (E)	
Orientat	ion	E-W					
Reason f	or Trench	Proposed water pipeline	e evaluation	1.			
Context	Туре	Description and Interpr	etation		Max	Max	Depth
					Width (mm)	Thckn	BGL (mm)
1100	Topsoil	Dark grevish brown r	nongh soil		(mm)	300	
1100	Subsoil?	Dirty orange brown s	and silt			100	
1102	Natural	Yellowish orange sar	dy clay gr	avel		-	

		T	rench 1	2				
				Ma	ax Dime	nsions (m))	
			Width	1.8]	Length	100	
WY.								
REAL		Ter I to and the second second second	Depth	0.60)	Level (top)		
PADER PROPERTY	To Logo I	Contraction of the				(top)		
The second second	AP. Marker	State All Conserves		N	GR Co-	o-ordinates		
			TL 51487	78038 (SV	V) 1	ГL 5152678	3152 (NE)	
		NNE COW						
Driental Docon f	10fl for Tronch	ININE-35 W Proposed water pipelin	a avaluatio	n				
Context	Туре	Description and Interpr	retation		Max	Max	Depth	
					Width	Thckn	BGL	
1200	Topsoil	Mid reddish brown o	roanic silt		(mm)	(mm 450	(mm)	
1200	Subsoil	Dirty orange brown o	andy silt			150		
1201	Natural	Mid orangeish brown	n clavev sa	nd		-		
1202	Cut	Linear ditch	i ciayey sa	ilu				
1203	Fill	Secondary fill of [12]	031 Light	reddish		300		
1201	1 111	brown silty clay	ooj. Eigit	readisii		500		
1205	Fill	Primary fill of [1203]	1			600		
1206	Cut	Linear ditch	1			-		
1207	Fill	Primary fill of [1206]]. Dark bro	own		400		
		clayey silt.	-					
1208		Secondary fill of [12	08]. Light			400		
		yellowish brown clay	/					
1209	Cut	Cut at terminal end o	of ditch. Sa	me as		-		
		[1206]						
1210	Fill	Fill of [1206]. Same	as (1207).	Dark		400		
		brown clayey silt.					_	
1211	Cut	Linear ditch.				-		
1212	Fill	Fill of [1212]. Mid g	f [1212]. Mid greyish brown			300		
1010		sandy silt.						
1213	Cut	Curvi-linear ditch				-		

1214	Fill	Fill of [1213]. Mid reddish brown	250	
		clayey silt		
1215	Cut	Linear ditch	-	
1216	Fill	Mid greyish brown clayey silt.	300	
1217	Cut	Linear ditch	-	
1218	Fill	Primary fill of [1217]. Mid reddish	100	
		brown sandy silt		
1219	Fill	Secondary fill of [1217]. Mid greyish		
		brown clayey silt.		
1220	Cut	Sub-circular pit ?. Partially revealed		
		under limit of trench		
1221	Fill	Fill of [1220]. Mid reddish brown		
		sandy silt.		
1222	Cut	Sub-circular pit ?. Partially revealed		
		under limit of trench		
1223	Fill	Fill of [1222]. Mid reddish brown		
		sandy silt.		
1224	Cut	Cut of slot/gully.		
1225	Fill	Fill of [1224]. Mid reddish brown		
		sandy silt		
1226	Cut	Cut of post hole / pit		
1227	Fill	Fill of [1226]. Mid reddish brown		
		sandy silt		

		Τι	rench 1	3			
				Ma	ax Dimer	nsions (m)	
		-	Width	1.8	L	ength	100
	the state of the s	in succession in the second	Depth	0.50) I	Level	
and the second	and the states	William Providence				(top)	
1 ANTA		C Barris		N	GR Co-a	ordinates	
		TL 51550	78181 (SV	/) T	L 51606 78	270 (NE)	
Orientat	ion	ENE-WSW	•				
Reason f	or Trench	Proposed water pipelin	e evaluation	n.		-	
Context	Туре	Description and Interpr	etation		Max Width	Max Theke	Depth BCI
					(mm)	(mm	(mm)
1300	Topsoil	Dark greyish brown	plough soil	1		350	
1301	Subsoil?	Dirty orange brown s	silty clay			150	
1302	Natural	Orange brown sandy	gravel		-		
1303	Cut	Linear gully/ditch				-	
1304	Fill	Fill of [1303]. Mid b	clay		200		

Trench 14									
				Ma	ax Dimer	nsions (m)			
			Width	1.8	L	ength	100		
		The second							
	Manhaman Internal		Depth	0.5	Ι	Level			
3 2 3	Carles State			ļ	(top)				
and and a	Ser le		Ν	GR Co-a	ordinates				
		1 3 网络公司	TL 51655	78358 (SW	/) T	L 51686 784	45 (NE)		
		i al Million							
	N . 1								
		the the state							
	and the second second								
	1 1 100								
		THE THE MAN							
		·公子/二子留料的/微							
		mention and the second							
		1. 1. 1. 2 m							
	Sec.	专业学生 一个个人							
-									
Orientat	ion	NNE-SSW							
Reason f	or Trench	Proposed water pipelin	e evaluation	n.					
Context	Туре	Description and Interpr	etation		Max	Max	Depth		
					Width (mm)	Thckn (mm	BGL (mm)		
1400	Laver	Dark grevish brown	plough soil	re-	(mm)	350			
1.00	24,01	deposited	prough boli						
1401	Subsoil?	Dirty orange brown silty clay				150			
1402	Natural	Yellowish orange sandy clay				-			

		Т	rench 1	5				
				Ν	Aax Din	nensions		
2	- Alance	Andreas - College	Width	1.8	L	ength	100	
1.40 M		1 tot	Depth	0.60		Level (top)		
A State		No. Constant		Ν	GR Co-o	ordinates		
			TL 51742	78542 (SW	/) T	L 51798 78	624 (NE)	
Orientat	ion	ENE-WSW						
Reason f	or Trench	Proposed water pipelin	e evaluation	1.				
Context	Туре	Description and Interpretation W			Max Width (mm)	Max Thckn (mm	Depth BGL (mm)	
1500	Layer	Dark greyish brown plough soil re- deposited				250		
1501	Layer	Modern rubble				200		_
1502	Subsoil?	Dirty brownish orange silty clay				150		
1503	Natural	Orange yellow clayey sand				-		

		Trench 16			
			Max I	Dimensions	
		Width	1.8	Length	100
	Acres	and the second			
		Depth 0).45	Level (top)	
	A States		NGR (o-ordinates	
The second	CLEAR C	TL 51837 78691 ((SW)	51870 7878	9 80 (NE)
Orientat	ion	NNE-SSW			
Reason f	or Trench	Proposed water pipeline evaluation.			
Context	Туре	Description and Interpretation	Ma Wid (mr	x Max hth Thckn n) (mm	Depth BGL (mm)
1601	Topsoil	Mid reddish brown plough soil		300	
1602	Layer	Modern rubble		100	
1603	Subsoil?	Dirty yellowish brown sandy clay silt	5	50	
1604	Natural	Yellowish brown sandy clay silt		-	
1605	Cut	Curvi-linear gully/ditch		-	
1606	Fill	Primary fill of [1605]. Reddish grey		200	
1607	Fill	Secondary fill of [1605]. Greyish brown silty clay		100	
1608	Cut	Ditch		-	
1609	Fill	Fill of ditch. Pale yellowish brown sandy clay silt		200	

		Tr	ench 17	'a				
	Max Dimensions							
Kenne	Cardination and and and and and and and and and an			1.8	L	ength	35	
	120		Depth	0.50) L (evel top)		
			Ν	GR Co-o	rdinates			
			TL 51909	78812 (SW	7) TI	2 51932 78	842 (NE)	
Orientat	ion	ENE-WSW						
Reason f	or Trench	Proposed water pipelin	e evaluation	n.		-	Γ	
Context	Туре	Description and Interpretation			Max Width (mm)	Max Thckn (mm	Depth BGL (mm)	
1700	Topsoil	Dark greyish brown	olough soil	l		300		
1701	Layer	Modern rubble				150		
1702	Subsoil?	Dirty orange brown s	andy clav			50		
1703	Natural	Orange brown sandy	clay			-		

		Tr	ench 17	'b				
				Ν	/lax Dim	ensions		
		-	Width	1.8	L	ength	63	
		1 CHAS	Depth	0.60	I	Level (top)		
NGR Co-or							rdinates	
Image: Normal state in the state i							879 (E)	
Orientat	ion	E-W						
Reason f	or Trench	Proposed water pipelin	e evaluation	n.				
Context	Туре	Description and Interpretation			Max Width (mm)	Max Thckn (mm	Depth BGL (mm)	
1750	Topsoil	Dark greyish brown p		300				
1751	Layer	Layer of asphalt				200		
1752	Subsoil?	Dirty orange brown sandy silt				100		
1753	Natural	Orange brown sandy silt -						

				0			
			rench 1	8			
				Ι	Max Din	nensions	
-		a Alka	Width	1.8	L	ength	100
	in 1	Contraction of the second	Depth	0.55	5]	Level (top)	
er . 2	THE RE			N	GR Co-	ordinates	
			TL 520383	3 78942 (S	W) T	<u>L 52128 79</u>	029 (NE)
Orientat	ion	NNE-SSW					
Reason f	or Trench	Proposed water pipelin	e evaluation	n.			
Context	Туре	Description and Interpretation			Max Width (mm)	Max Thckn (mm	Depth BGL (mm)
1800	Topsoil	Dark greyish brown	Dark greyish brown plough soil				
1801	Subsoil	Reddish brown sandy	y silt			250	
1802	Fill	Reddish brown fine s a hollow towards the trench.	ilt deposit NE end o	, filling f the		-	
1803	Natural	Orange brown sandy			-		

Appendix 2: Excavation Summary Tables

Plan Register

Sheet No	Drawing No	Scale	Details
1	1	1:100	Trench 12 and features
1	2	1:100	Trench 13 and feature
1	3	1:100	Trench 16 and features

Section Register

Sheet No	Drawing No	Scale	Contexts
1	1	1:10	[1203] (1204, 1205)
1	2	1:10	[1206] (1207, 1208)
1	3	1:10	[1209] (1210)
1	4	1:10	[1211] (1212)
1	5	1:10	[1213] (1214)
1	6	1:10	[1215] (1216)
1	7	1:10	[1217] (1218, 1219)
1	8	1:10	[1220] (1221)
1	9	1:10	[1222] (1223)
1	10	1:10	[1224] (1225)
1	11	1:10	[1226] (1227)
1	12	1:10	[1605] (1606, 1607)
1	13	1:10	[1608] (1609)

Bulk Finds Register

Context	Pott	ery	Bone		Flint	Shell	Stone	Other	
	No.	Wt (g)	No.	Wt (g)	No.	Wt(g) No.	type	No/Wt(g)
1204	16	102							
1207	85	775							
1208	2	57							
1210	21	228							
1211	3	40							
1225	10	70							
1227	1	23							
1606	51	330							
1607	5	39							
1609	27	202							

Sample Register

Sample No	Context No	Sample Type	Quantity
1	1609	Bulk sample of ditch fill [1608]	16 litres
2	1218	Bulk sample of ditch fill [1217]	9 litres
3	1207	Bulk sample of secondary ditch fill [1206]	20 litres
4	1208	Bulk sample of primary ditch fill [1206]	7 litres
5	154	Bulk sample of pit fill [153]	8 litres
6	807	Bulk sample of post hole [806]	1.5 litres

Appendix 3: Finds Concordance

Context	Pottery		Bone		Flint	Shell	Shell Stone	Other Finds		
	(no)	(g)	(no)	(g)	(no)	(g)	(no)	Туре	(no)	
1204	16	102								
1207	85	775								
1208	2	57								
1210	21	228								
1211	3	40								
1225	10	70								
1227	1	23								
1606	51	330								
1607	5	39								
1609	27	202								

Appendix 4: List of Photographs

SITE NAM	/IE: Ely –	Haddenh	am Pipeli	ine ,Cambridgeshire SITE NO/CODE: 737/EHP
Shot	B&W	Slide	Digital	Subject
1	✓		✓	General working shot.
2	✓		✓	General working shot.
3	✓		✓	General working shot.
4	✓		✓	Trench 18 facing NE.
5	√		✓	Trench 17b facing ENE.
6	√		✓	Trench 17a facing NE.
7	√		✓	Trench 16 facing NNE.
8	√		✓	Trench 15 facing NE.
9	√		✓	Trench 14 facing NNE.
10	√		✓	Trench 13 facing NE.
11	√		✓	Trench 12 facing NNE.
12	√		✓	Trench 11 facing ENE.
13	√		✓	Trench 10 facing E.
14	√		✓	Trench 9 facing ENE.
15	✓		✓	Trench 8 facing NE.
16	✓		✓	Trench facing ENE.
17	✓		✓	Curvilinear gully [1605]
18	✓		✓	Ditch [1203]
19	✓		✓	Post hole [804]
20	✓		✓	Post hole [806]
21	✓		✓	Ditches [1206] and [1211]
22	✓		✓	Ditch [1304]
23	✓		✓	Section through ditch [1206], facing SSW.
24	✓		✓	Plan shot of extended area of trench around ditch [1206] showing section
				[1209]
25	✓		✓	Plan shot of extended area at southwestern end of trench 12 showing
				features [1217, 1220, 1222, 1226].
26	\checkmark		✓	Plan shot of features [1217, 1220, 1222, 1226].
27	~		✓	Trench 1a facing E.
28	~		✓	Trench 1b facing E.
29	\checkmark		\checkmark	Pit [153] facing N.
30	\checkmark		✓	Trench 1b facing E.
31	\checkmark		✓	Trench 2 facing NE.
32	\checkmark		✓	Trench 3a facing E.
33	\checkmark		✓	Trench 3b facing SE.
34	\checkmark		✓	Trench 4 facing SE.
35	\checkmark		\checkmark	View across Grunty Fen facing NW
36	\checkmark		✓	Trench 5b facing NE
37	\checkmark		\checkmark	Trench 6a facing ENE
38	\checkmark		✓	Trench 6b facing NE
39	\checkmark		✓	Curvilinear gully [1213] facing N.
40	✓		✓	Section through ditch [1217], facing N.
41	\checkmark		✓	Sondage section east end of Trench 1a
42	\checkmark		✓	Sondage section west end of Trench 1a
43	\checkmark		\checkmark	Sondage section east end of Trench 1b
44	\checkmark		\checkmark	Sondage section west end of Trench 1b
45	\checkmark		\checkmark	Sondage section east end of Trench 2

46	\checkmark	~	Sondage section west end of Trench 2
47	~	~	Sondage section east end of Trench 3a
48	~	~	Sondage section west end of Trench 3b
49	~	~	Sondage section east end of Trench 4
50	~	~	Sondage section east end of Trench 5a
51	~	~	Sondage section west end of Trench 5a
52	~	~	Sondage section east end of Trench 5b
53	~	~	Sondage section west end of Trench 5b
54	\checkmark	\checkmark	Sondage section east end of Trench 6a
55	\checkmark	✓	Sondage section west end of Trench 6a

Appendix 5: Specialist Reports

The Roman Pottery by A. R. Fawcett

Introduction

This report primarily provides dating evidence for each context that contained pottery from the evaluation work on the Ely to Haddenham pipeline in Cambridgeshire. Dating is based (where applicable) upon both the identification of fabric and form. Thereafter the report contains a brief summary of the results of analysis and recommendations for further research.

The assemblage from each context was given a brief examination and subjected to basic quantification (a sherd count and weight per context). No attempt at detailed fabric description or comparison with material of a similar nature has been undertaken. A date range is provided for each fill and where appropriate comments are made as to the condition of the pottery. Other data, such as obvious fabrics and form types, are also included for each context (the keys for these are listed below).

Fabric & Form Key

UNS OX = Unsourced oxidised ware, **BSW** = Black surfaced/Romanising grey ware, **GRS** = Unsourced sandy grey ware, **UNS GT** = Unsourced grog tempered ware, **UNS SO** = Unsourced sand and organic tempered ware, **UNS FT** = Unsourced flint tempered ware, **UNS ST** = Unsourced coarse sand tempered ware G = jar, ND = non-diagnostic, *italics* = uncertainty, very = very abraded, abr = abraded, sli = slightly abraded.

Conclusion

A total of 221 sherds with a weight of 1866g were recovered from the evaluation. The condition of the pottery may be described as between abraded and slightly abraded. All of the fabrics encountered represent localised production, some of which appear to be hand-made, however the diagnostic element of the assemblage is low.

The site lies outside of the main 'grog tempering' zone and sandy fabrics dominate during the late Iron Age and early Roman period. It is therefore difficult, without a detailed fabric analysis and a larger form assemblage, to be sure which side of the conquest period some of the fabrics belong. Nevertheless the site as whole is dated from the late Iron Age to c AD70; the best assemblage occurring in trench 12. The only identified form on the site is recorded in context (1207), a carinated jar with cordon and bulge decoration. Contexts (1218) and (1227) both contain sherds that indicate possible earlier Iron Age activity on the site.

Until further work is completed on the site it would be difficult to glean further information from this current assemblage. Nonetheless the majority of the pottery is certainly in its original place of deposition and likely represents low status rural activity.

Select Bibliography

Fawcett, A. R., 2000a *The Roman Pottery from Lancaster Way Business Park, Ely, Cambridgeshire* Hertfordshire Archaeological Trust Evaluation Report Hat 456.

Fawcett, A. R., 2000b *The Roman Pottery from West End, Haddenham, Cambridgeshire* Hertfordshire Archaeological Trust Evaluation Report Hat 453.

Thompson, I., 1982 Grog-tempered 'Belgic' Pottery of South-eastern England Parts I, II & III BAR British Series 108.

Pottery Catalogue

Trench	12
--------	----

Ditch [1203]			
1204 Roman & Medieval			
BSW, GRS, UNS OX	16	102g	B, G abr-sli
Ditch [1206, 1209]			
1207 LIA to <i>c</i> AD70			
UNS OX, UNS GT, BSW	85	775g	Gcar/c&b, Gx3 sli
1208 Roman			
GRS	2	57g	Gst abr
1210 LIA to c AD70			
UNS OX, UNS GT, BSW	21	228g	Gx1 abr-sli
Ditch [1217]			
1211 IA			
UNS ST, UNS FT, UNS OT	3	40g	ND, sli
Gully/ditch [1224]			
1225 Roman			
UNS OX, GRS, BSW	10	70g	ND, abr-sli
Post hole/pit [1226]			
1227 IA			
UNS FT	1	23g	ND, sli
Trench 16			
Curvi-linear gully/ditch [1605]			
1606 MIA to LIA			
UNS SO	51	330g	G/Urn sli
1607 LIA to <i>c</i> AD70	_	•	
UNS OX, BSW	5	39g	ND, sli
Ditch [1608]			
1609 Roman (early)			
GRS, BSW, UNS OX	27	202g	ND, sli
**************************************	******	*******	******

Environmental Archaeology Assessment

Introduction

During the construction of the Ely-Haddenham water pipeline, Archaeological Services and Consultancy Ltd conducted an archaeological evaluation, which revealed a series of ditches, pits and postholes dating to the Iron Age/Romano-British periods. A total of six environmental bulk-soil samples were taken and submitted to the Environmental Archaeology Consultancy for processing and assessment (Table 1).

Sample no.	Context	Area	Sample vol. in L.	Sample wt. in kg	Description/Provisional Interpretation	Provisional date
1	1609	Trench 16	16	17	Fill of ditch [1608]	IA/ROM
2	1218	Trench 12	9	9	Fill of ditch [1217]	IA/RB
3	1207	Trench 12	20	22	Secondary fill of ditch [1206]	IA/RB
4	1208	Trench 12	7	8	Primary fill of ditch [1206]	IA/RB
5	154	Trench 1b	8	8	Fill of pit [153]	Modern?
6	807	Trench 8	1.5	1.5	Fill of posthole [?806]	Modern?

Methods

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet sieve of 1mm mesh for the residue. Both the residues and flots were dried and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots was measured and the volume and weight of the residue recorded. A total of 61.5 litres of soil was processed in this way.

The residue was sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheet and bagged independently. A magnet was run through each residue in order to recover magnetised material such as hammerscale and prill but none was recovered. The residue was then discarded. The flot of each sample was studied using x10 magnifications and the presence of environmental finds (i.e. snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. The flots were then bagged and along with the finds from the sorted residue, constitute the material archive of the samples.

The individual components of the samples were then preliminarily identified and the results are summarised below in Tables 2 and 3.

Results

The samples washed down to leave residues ranging in volume between 20 and 900 millilitres, which comprise of angular flint, rounded pebbles, rounded chalk, limestone, sandstone, ironstone, sediment concretions, fossil shell fragments and coarse sand. The archaeological finds include small quantities of magnetised sediment and ironstone, nineteen sherds of pottery, very small quantities of animal bone and fired earth as well as two pieces of (worked?) flint. With the exception of the concentration of fired earth recovered from sample 6, the majority of the archaeological finds are associated with the Iron Age/Romano-British deposits, notably 1207 (sample 3).

Sample	Context	Feature type	Vol. in L.	Residue vol. in ml	Pot No/wt g.	Mag- netic wt. g.	Hamm 'scale	Flint No.	Fired earth wt. g.	Bone wt g.	Comment
1	1609	Ditch fill	16	700	5/2	1	-			<1	A little fuel ash slag
2	1218	Ditch fill	9	250	?2/1.5	<1	-			1	
3	1207	Secondaryditch fill	20	900	12/14	2	-		1.5	9	
4	1208	Primary ditch fill	7	400		<1	-	2		2	
5	154	Pit fill	8	20			-				Mortar?
6	807	Posthole fill	1.5	50		2	-		30		

 Table 2. Ely-Haddenham Pipeline - 737/EHP. Archaeological finds from processed samples.

* - count/weight of pot

Table 3. Ely-Haddenham Pipeline – 737/EHP. Environmental finds from processed samples.

Samp	Cont	Vol. in L.	Flot Vol	Char- coal \$	Char'd grain *	Char'd chaff *	Char'd seed *	Snail *	Egg shell	Comment
1	1609	16	12.5	1/2	1	2	2	5	wi.g	Wheat/barley, wheat chaff, indet. chaff, dock?, spike-rush, sedge family, rodent. Helicella itala, Vallonia costata, V. excentrica, Pupilla muscorum, Trichia hispida, Vertigo pygmaea, Cochlicopa sp., Carychium sp., Lymnaea truncatula, Punctum pygmaeum, Aegopinella pura, Oxychilus cellarius, Cepaea, sp., Planorbis leucostoma
2	1218	9	2	2/3	1	1	1	2		Wheat, wheat chaff, sedge, lamb, bank vole. Vallonia costata, V. excentrica, P. muscorum, T. hispida, Carychium sp., L. truncatula, Valvata cristata
3	1207	20	3	2/3	2	1	2	3	?	Wheat, barley, wheat chaff, vetch/vetchling, black bindweed, cleavers, brome?, grass family, spike-rush, sedge, sheep/goat, house mouse, field vole, shrew, vole, snake, frog/toad, small bird, small fish vertebrum. V. excentrica, V. costata, P. muscorum, V. pygmaea, T. hispida, Cochlicopa sp., Cecilioides acicula, A. pura, O. cellarius, , Carychium sp., L. truncatula
4	1208	7	3	1/2	1	1	1	2		Indet. cereal, wheat chaff, small leguminous seed, grass family, sheep/goat, cattle, field vole. V. excentrica, V. costata, V. pygmaea, P. muscorum, T. hispida, P. pygmaeum, Cepaea nemoralis, Cochlicopa sp., Carychium sp., Aegopinella nitidula, A. pura, L. truncatula, P. leucostoma
5	154	8	3.5	2/3	1		1	1		Indet. cereal & seed, wood? V. excentrica, Carychium sp., L. truncatula
6	807	1.5	1	1/2						

* = abundance: 1=1-10, 2=11-50, 3=51-150, 4=151-250, 5=250+: \$ = abundance > 2mm/abundance < 2mm

The animal bones include fragments of sheep/goat, cattle, house mouse, field vole, bank vole, small bird, small fish, snake and frog or toad. Bone density is fairly low, but the presence of house mouse in ditch fill 1207 suggests habitation nearby.

Charred plant remains have been recovered from five of the six samples and consist of very small numbers of cereal grain, chaff and weed seeds. The state of preservation of the remains is variable ranging from the survival of very fragile awn fragments, to the corroded state of some grains, which prevent identifications beyond genus to be made. Where preservation permitted, grains of wheat were identified in two samples, one of which has been provisionally identified as emmer wheat (*Triticum* cf. *dicoccum* (Schrank.) Schübl). There is a trace of barley in ditch fill 1207 and, due to their corroded appearance, grains recorded as 'wheat/barley' (*Triticum/Hordeum* spp.) have been identified in ditch fill 1609. Wheat chaff of a glume wheat species, such as emmer or spelt wheat (*Triticum spelta* L.), is present in all of the Iron Age/Romano-British deposits. Of particular note are the survival of a small number of awn fragments recovered from ditch fill 1609 (sample1), although it is not certain at this stage of assessment which species of cereal they belong to.

The weed seed assemblages are small and include species associated with disturbed or arable ground, such as dock? (cf. *Rumex* spp.), vetch/vetchling (*Vicia/Lathyrus* spp.), black bindweed (*Polygonum convolvulus* L.), cleavers (*Galium aparine* L.) and brome? (cf. *Bromus* spp.). Other damp or wet habitats are indicated by the presence of spike-rush (*Eleocharis* spp.) and sedges (*Carex* spp.). The wild (weed) species identified are generally represented by one or two seeds only and provide extremely limited environmental and economic evidence.

Charcoal is ubiquitous, although very fragmented and in very small quantities and does not warrant further analysis.

One of the richest category of finds are the terrestrial snails. These occur in all samples except posthole fill 807, which produced very little material; other than fired earth. The snails are dominated by shells of taxa associated with open country and grassland environments or catholic in habit, *Vallonia excentrica, V. costata, Pupilla muscorum* and *Vertigo pygmaea,* but there are indications of damp ground with the presence of *Carychium sp. and Lymnaea truncatula*. The presence of *Planorbis leucostoma suggests* that the ditches were seasonally wet. A few shells of taxa more typical of shaded habitats also occur.

Discussion

The artefacts and ecofacts are concentrated to the four Iron Age/Romano-British deposits, particularly ditch fill 1207 (sample 3). Crop processing residues appear to have been incorporated into ditch fills 1609 and 1207, but in such small quantities that drawing direct interpretations as to which stages of crop processing are represented, or broader issues regarding economy, is problematic.

Samples 5 and 6 failed to produce any evidence for their age.

Conclusion

Low levels of domestic residues have been incorporated into the Iron Age/Romano-British ditch fills with the greatest concentration in ditch fill 1207 which may indicate the close proximity of a settlement, supported by the occurrence of house mouse.

Limited further work would be needed on these samples to complete their analysis. However with the survival of animal bones, snails and charred plant remains it is clear that the archaeological deposits in this part of the pipeline route have some environmental potential and if further archaeological work is envisaged then a programme of sampling should be instituted.

Acknowledgments

We should like to thank Trudi Maynard for the sample processing and sorting.

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The Environmental Archaeology Consultancy

Appendix 6: ASC OASIS Form

PROJECT DETAILS										
Project Name:	Ely – Haddenham Pipeline, Cambridgeshire									
Short Description:	Evaluation tren	iches along the r centre of the dist	route of a replace used Witchford A	ement water ma irfield.	ain revealed RB c	litches and pits				
Project Type: (indicate all that apply)	DBA	FW	Geophys	Survey	Bldg Rec	Post-Exc				
(· · · · · · · · · · · · · · · · · · ·	WB	Strip&Rec	Trenching	Test pits	Exc	Other				
Site status: (eg. none, SAM, Listed)	None		Previous work (ea. SMR refs	::)	None					
Current land use:	Arable		Future work:	(nown)	Yes					
Monument type:	-		Monument per	riod:	-					
Significant finds: (artefact type & period)	Mid Iron Age p	ot sherds. Late I	ron Age pot sher	rds. Early Roma	ano-British pot sh	erds				
		PROJECT	LOCATION							
County:	Cambridgeshir	e	OS reference: (to at least 8 fi	igures)	TL 49061 7731 79041	17 – TL52134				
Site address: (with postcode if known)				5 /						
Study area: (sq. m. or ha)			Height OD: (metres)		0m – 15m					
		PROJECT	CREATORS							
Organisation:	Archaeologi	cal Services &	& Consultancy	y Ltd						
Project brief originator:	A Thomas		Project design	originator:	T Hawtin and C Rouse					
Project Manager:	D Fell		Director/Supervisor: N Wilson							
Sponsor / funding body:	Anglian Water	Ltd								
	_	PROJE	CT DATE		1					
Start date:	March 2006		End date: March 2006							
		PROJECT	ARCHIVES							
	Location (Acc	ession no.)	Content (eg.	pottery, animal	bone, files/sheet	ts)				
Physical:	Cambridgeshir Archaeologica	e I Store	Pottery, animal bone, record sheets ,photo negatives							
Paper:	Cambridgeshir Archaeologica	e I Store	Recording sheets, project design, evaluation report							
Digital:	Cambridgeshir Archaeologica	e I Store	Photos, evaluation report, project design, sections, plans							
BIBLIOGRAF	YHY (Journal/me	onograph, publis	hed or forthcomi	ing, or unpublis	hed client report)					
Title:	Archaeological Ely WT to Had Water Main Ca	Evaluation: denham WT ambridgeshire								
Serial title & volume:	-									
Author(s):	A J Hancock									
Page nos	1 - 57		Date:							