

# EnviTec Biogas AD Site, Horsey Toll Whittlesey, Cambridgeshire

Test-Pit Survey



Mark Knight and Elizabeth Middleton

**EnviTec Biogas AD Site, Horsey Toll,  
Whittlesey, Cambridgeshire**

*Test-pit Survey*

**Mark Knight & Elizabeth Middleton**

**UNIVERSITY OF CAMBRIDGE**  
Cambridge Archaeological Unit  
July 2015  
Report No.1296  
Event No. ECB 4447

*Fourteen machine excavated test-pits recorded a deep sequence of fen-related deposits (2.80-4.70m in depth) associated with the buried floodplain of the prehistoric River Nene. The test-pits were excavated to evaluate the archaeological potential of a small block of land situated immediately north of King's Dyke and close to the south-western edge of the Flag Fen Basin. The exposed deposit sequence comprised a familiar succession of Lower Peat, Fen Clay and Upper Peat along with a basal layer of blue silty-clay and intermediary layers of organic muds and alluvial sediments. Aside from revealing a near complete Flandrian sequence, the test-pits also provided negative evidence in relation to the projected passage of the Nene roddon and its accompanying freshwater palaeochannel. None of the test-pits produced archaeological remains nor was a buried land surface revealed. In short, the evaluation exposed a developed stratigraphy consistent with the mid-Holocene succession identified elsewhere in the deeper parts of the Flag Fen Basin and the Fenland Basin.*

## **Introduction**

An archaeological evaluation was carried out at the proposed Biogas AD Site at Horsey Toll, Whittlesey, Cambridgeshire (TL 2242 9642). The evaluation was completed over two days (23<sup>rd</sup> and 24<sup>th</sup> of April 2015) and comprised fourteen machine-excavated test-pits arranged within a 50m grid. The test-pit methodology was designed specifically to explicate the deep fen sediments known to be present within the proposed development area (PDA) and is detailed in the written scheme of investigation (Gibson 2015). This addressed a specification issued by the Historic Environment Team at Cambridgeshire County Council (Gdaniec 2015).

## **Landscape Context**

The PDA was located within the south-western margins of the Flag Fen Basin and 120m north of King's Dyke. Detailed deposit modelling and palaeoenvironmental assessments of the southern half of the basin (including the south-western margins) describe peats, mineral rich clay and silt sediments deposited within a former channel and associated floodplain of the River Nene (Cooper 2005; Geary et al. 2009a & 2009b). The extended depth and composite character of these deposits stand in contrast with the shallower deposit sequence recorded across the northern half of the Flag Fen Basin, where the cover comprised mostly peats above a buried land surface (French 2003).

Extensive archaeological investigations situated at Must Farm (located immediately to the north and west of the PDA) have elucidated the interrelationship between the basins' contrasting 'halves' and revealed a tiered landscape that became increasingly saturated over time (Evans et al 2005; Tabor 2010; Knight & Murrell 2011a). In summary, a succession of freshwater and marine derived sediments effectively transformed a river valley and adjoining floodplain into a fen basin, with the change from valley to basin being commensurate with the later part of the Neolithic and most of the Bronze Age. Throughout the transformation,

the River Nene cut fresh routes through the accruing sediments and included marine as well as freshwater phases. Preserved sections of the Nene palaeochannel and its distributaries have also been investigated at Must Farm and found to contain the remains of several Bronze Age logboats, fishweirs and fish traps (Knight & Murrell 2011b and Robinson et al 2015) as well as a pile dwelling or timber platform complete with whole pots and carbonised textiles (Gibson et al 2010).

### **Test-Pit Survey - Results and Conclusion**

Fourteen test-pits (spaced at 50m intervals) recorded a consistent sequence of ploughsoil (0.2-0.6m), upper peat (0.3-0.9m), pale grey silty clay (0.2-0.8m), green-brown organic 'peaty' muds (0.5-1.1m), fen clay (0.3-1.1m), lower peat (0.2-1.4m) and dark blue silty clay (0.1-0.8m). The deepest test-pit was 4.70m (TP 1) and the shallowest was 2.80m (TP 10). All of the test-pits reached the gravel/sand base (natural) which was recorded between -1.14m (TP 2) and -2.75m OD (TP 4).

The gridded distribution of test-pits revealed a gentle north-south gradient consistent with the pre-Flandrian terrain model that shows a deep trough/buried floodplain associated with earlier courses of the River Nene (Gearey et al 2009a). No buried soil was encountered and no channel sediments were recognised.

In summary, the test-pit exercise identified a mid-Holocene sediment sequence equivalent to that recorded at the adjacent Must Farm, Magna Park and King's Delph investigations.

### *References*

- Cooper, A., 2005. Must Farm, Whittlesey: Archaeological Desk Based Assessment – King's Dyke Application Site 2005. Cambridge Archaeological Unit Report No. 613.
- French, C.A.I., 2003. *Geoarchaeology in Action*. London, Routledge.
- Gearey, B.R., E.-J. Hopla, H. Chapman, D. Smith, R. McKenna, A. Howard, & E. Kitchen, 2009a. *Deposit Modelling and Palaeoenvironmental Assessment at Magna Park, Whittlesey, Cambridgeshire: Final Report*. (Unpublished report.) Birmingham Archaeo-Environmental.
- Gearey, B.R., E.-J. Hopla, H. Chapman, D. Smith, R. McKenna, A. Howard, I. Boomer & E. Kitchen, 2009b. *Deposit Modelling and Palaeoenvironmental Assessment at Kings Delph, Whittlesey, Cambridgeshire: Final Report*. (Unpublished report.) Birmingham Archaeo-Environmental.
- Gdaniec, K. 2015 *Brief for Archaeological Evaluation at EnviTec Biogas AD site, Horsey Toll, Whittlesey. CHET*
- Gibson, D., M. Knight & M. Allen, 2010. *The Must Farm Timber Alignments: An Archaeological and Environmental Evaluation. Post-excavation Assessment Vols. 1 & 2 (CAU Report 935.)* Cambridge Archaeological Unit.

Gibson, D. 2015 **A Written Scheme of Investigation for a Programme of Archaeological Evaluation at EnviTec Biogas AD site, Horsey Toll, Whittlesey**

Knight, M. & Brudenell, M. forthcoming, Pattern & Process: Landscape Prehistories from Whittlesey Brick Pits – The King’s Dyke and Bradley Fen Excavations 1998-2004 (CAU Flag Fen Basin Depth & Time Series – Volume 1). Cambridge Archaeological Unit.

Knight, M. & K. Murrell, 2011a. Must Farm, Whittlesey 2010, Phase 3, Archaeological Investigations, Interim Statement. (CAU Report 990.) Cambridge Archaeological Unit.

Knight, M. & K. Murrell, 2011b. Must Farm, Whittlesey 2010, Palaeochannel Investigations, Interim Statement. (CAU Report 989.) Cambridge Archaeological Unit.

Robinson, I., M. Knight & K. Murrell, 2015. Must Farm Palaeochannel Investigations 2009–2012. Post-excavation Assessment. (CAU Report 1266.) Cambridge Archaeological Unit.

Soils	TP 1	TP 2	TP 3	TP 4	TP 5	TP 6	TP 7	TP 8	TP 9	TP 10	TP 11	TP 12	TP 13	TP 14
Ploughsoil	0.6m	0.5m	0.5m	0.3m	0.5m	0.2m	0.2m	0.3m	0.2m	0.4m	0.4m	0.3m	0.3m	0.2m
Upper peat	0.6m	0.6m	0.6m	0.5m	0.9m	0.5m	0.4m	0.5m	0.3m	0.5m	0.3m	0.6m	0.3m	0.7m
Pale grey silty clay	0.2m	0.3m	0.3m	0.6m	0.2m	0.8m	0.3m	0.4m	0.7m	0.2m	0.5m	0.5m	0.7m	0.3m
Green-brown organic muds	0.7m	0.7m	0.7m	0.7m	0.5m	0.5m	1.1m	0.7m	1.1m	0.5m	1.0m	0.7m	0.8m	0.5m
Fen clay	1.0m	1.0m	0.7m	0.8m	0.5m	0.6m	1.1m	0.9m	0.6m	0.3m	0.6m	0.8m	1.0m	0.7m
Lower peat	1.4m	-	0.4m	0.8m	0.9m	1.0m	0.2m	0.5m	0.8m	0.5m	0.6m	0.7m	0.6m	0.5m
Blue silty clay	0.2m	-	0.6m	0.8m	-	0.8m	0.7m	0.5m	0.4m	0.4m	0.2m	0.3m	0.1m	0.2m
<i>Gravel/Sand (depth)</i>	<i>4.70m</i>	<i>3.10m</i>	<i>3.80m</i>	<i>4.50m</i>	<i>3.50m</i>	<i>4.40m</i>	<i>4.00m</i>	<i>3.80m</i>	<i>4.10m</i>	<i>2.80m</i>	<i>3.60m</i>	<i>3.90m</i>	<i>3.80m</i>	<i>3.10m</i>
<i>Height OD</i>	<i>-2.58m</i>	<i>-1.14m</i>	<i>-1.86m</i>	<i>-2.75m</i>	<i>-2.04m</i>	<i>-2.76m</i>	<i>-2.47m</i>	<i>-2.32m</i>	<i>-2.67m</i>	<i>-1.70m</i>	<i>-1.85m</i>	<i>-2.40m</i>	<i>-2.33m</i>	<i>-1.67m</i>

**Table 1:** Test-pit soils, depths and basal altitudes.

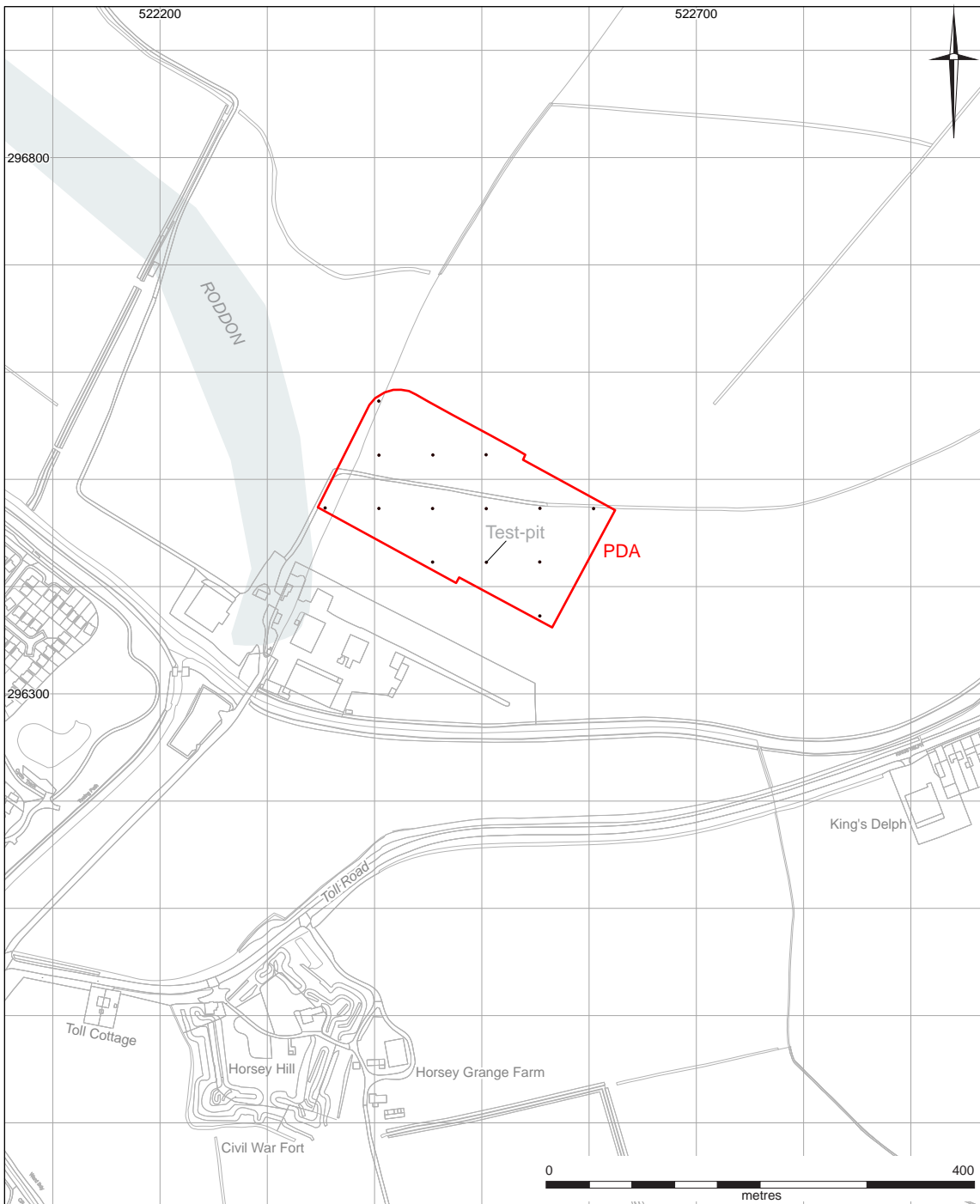
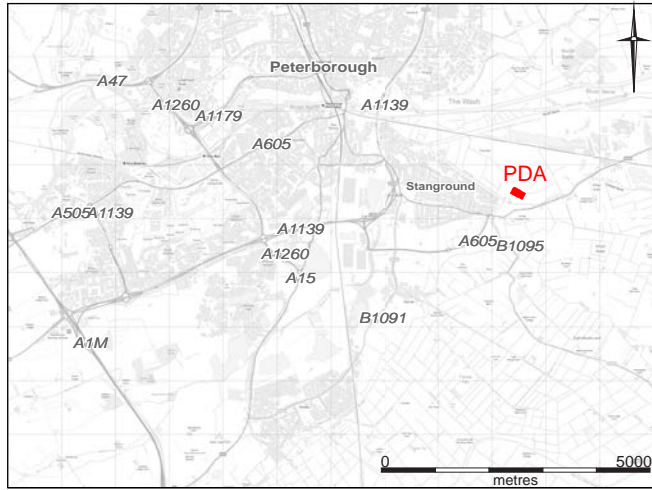
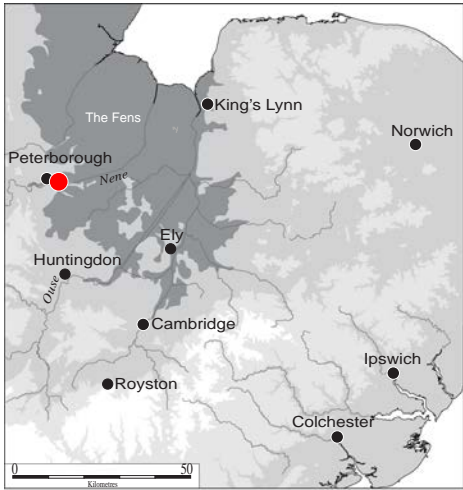


Figure 1. Location Plan

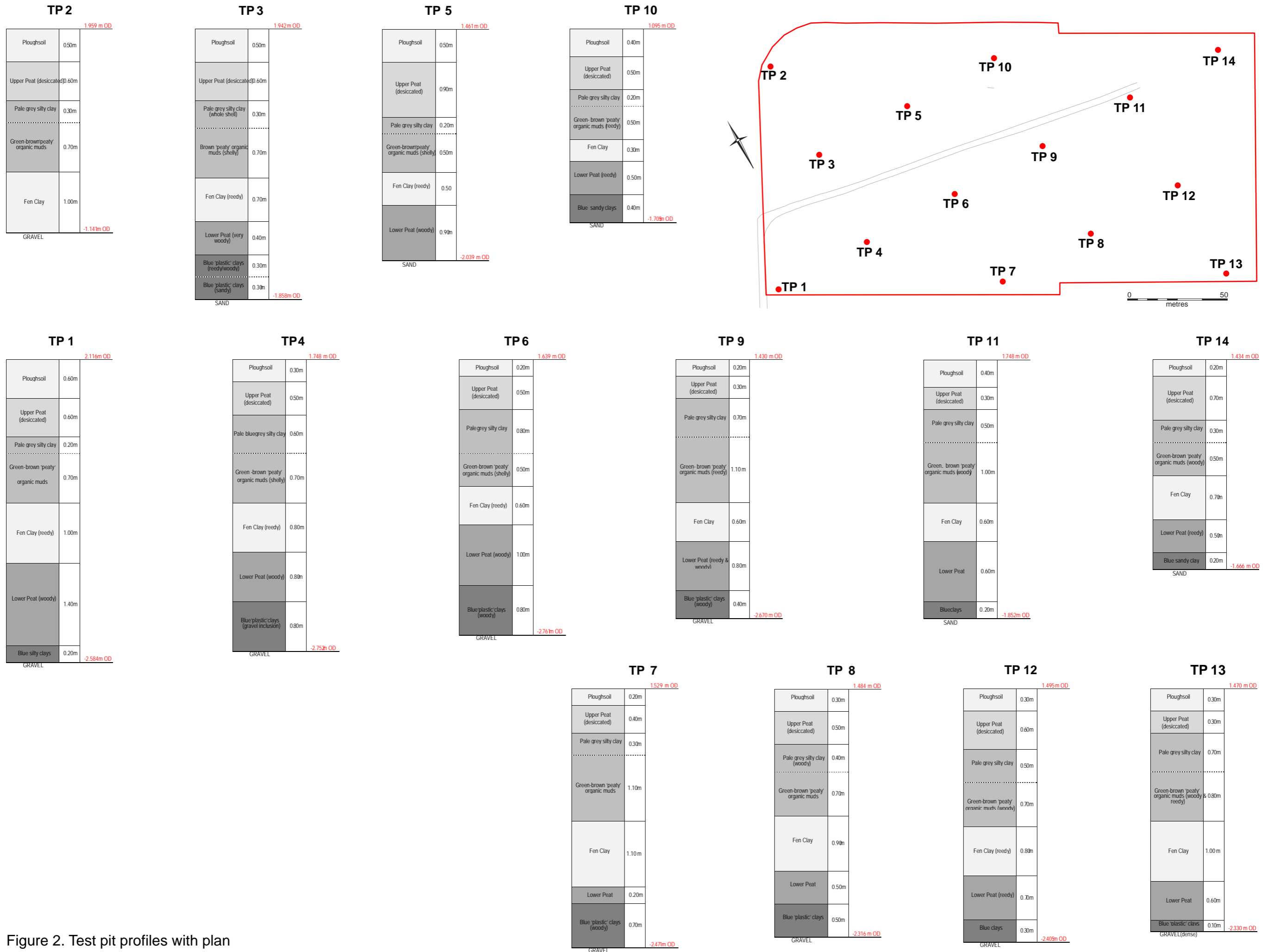


Figure 2. Test pit profiles with plan





TP 1



TP 2



TP 4



TP 9



TP 10



TP 12

Figure 3. Photographs of test-pits

# OASIS DATA COLLECTION FORM: England

[List of Projects](#) | [Manage Projects](#) | [Search Projects](#) | [New project](#) | [Change your details](#) | [HER coverage](#) | [Change country](#) | [Log out](#)

## Printable version

**OASIS ID: cambridg3-217748**

### Project details

Project name	EnviTec Biogas AD Site, Horsey Toll
Short description of the project	A test pit survey in advance of proposed development
Project dates	Start: 23-04-2015 End: 24-04-2015
Previous/future work	Yes / Not known
Any associated project reference codes	1296 - HER event no.
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 2 - Operations to a depth less than 0.25m
Monument type	NONE None
Significant Finds	NONE None

### Project location

Country	England
Site location	CAMBRIDGESHIRE FENLAND WHITTLESEY EnviTec Biogas Ad Site, Horsey Toll
Postcode	PE72PP
Study area	1.00 Hectares
Site coordinates	TL 2242 9642 52.5514653317 -0.19424343922 52 33 05 N 000 11 39 W Point
Height OD / Depth	Min: -2.75m Max: -1.14m

### Project creators

Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Planning Authority (with/without advice from County/District Archaeologist)
Project design originator	David Gibson
Project director/manager	David Gibson
Project supervisor	Mark Knight

Project supervisor	Lizzy Middleton
Type of sponsor/funding body	Developer
Name of sponsor/funding body	EnviTec

### Project archives

Physical Archive Exists?	No
Digital Archive recipient	Cambridgeshire County Archaeology Store
Digital Contents	"none"
Digital Media available	"Text"
Paper Archive recipient	Cambridgeshire County Archaeology Store
Paper Contents	"none"
Paper Media available	"Context sheet","Photograph","Plan","Report"

Entered by	D Gibson (Dg200@cam.ac.uk)
Entered on	20 July 2015

**OASIS:**

Please e-mail [Historic England](#) for OASIS help and advice

© ADS 1996-2012 Created by [Jo Gilham and Jen Mitcham](#), email Last modified Wednesday 9 May 2012  
Cite only: <http://www.oasis.ac.uk/form/print.cfm> for this page