Archaeological Watching Brief Report on Geotechnical Works



Ref: 72600.03 TTNCM 221/2009 October 2009

Archaeological Watching Brief Report on Geotechnical Works

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TTNCM 221/2009 Report reference: 72600.03

October 2009

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Summary

Wessex Archaeology (WA) was commissioned by the Environment Agency to undertake an archaeological Watching Brief on geotechnical works on the Steart Peninsula, Somerset, centred on NGR 326643 144766 (hereafter 'the Site'). The Watching Brief was conducted on a total of twenty two geotechnical test pits located in an area of potential archaeological survival defined by a previous Desk Based Assessment.

No archaeological features were encountered during the watching brief, although a small number of finds were recovered from the topsoil of five of the test pits. These finds date from the Late Medieval to the Modern periods and are a typical of materials deposited as the result of manuring of fields or similar activity.

The soil sequence identified during the Watching Brief was in the main a sequence of alluvial clays laid down by coastal and river deposition. Traces of peat, mixed within one band of blue alluvial clay and sealed by another alluvial deposit were identified in one test pit (Test pit 8) at a depth of 2.90m below current ground level. This is consistent with observations noted elsewhere in the intertidal zone.

Three test pits (Test pits 1, 3 and 17) on the line of the northern shore contained sandy deposits, likely to have been deposited, either by tidal or wind deposition, before the modern coastal defences had been established.

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Acknowledgements

The Watching Brief was commissioned by the Environment Agency and Wessex Archaeology would like to thank Scott McHardy and Adam Canton from Fugro Engineering Services Ltd for their assistance and co-operation.

The project was managed for Wessex Archaeology by Caroline Budd and the fieldwork was undertaken by Matt Kendall. This report was written by Matt Kendall with finds assessed by Lorraine Mepham. Environmental samples were processed by Marta Perez-Fernandez with the bulk and waterlogged samples were assessed by Dr Chris J. Stevens and Sarah F. Wyles. Illustrations were prepared by Kenneth Lymer.

Archaeological Watching Brief Report on Geotechnical Works

1 INTRODUCTION

1.1 Project Background

- 1.1.1 Wessex Archaeology (WA) was commissioned by the Environment Agency (EA) to undertake an archaeological Watching Brief on geotechnical works on the Steart Peninsula, Somerset centred on NGR 326643 144766 (hereafter 'the Site'). The work was required to meet EA standing requirements for dealing with archaeological constraints. The Watching Brief was conducted on a total of twenty two geotechnical test pits, all located in an area of potential archaeological survival spanning the Prehistoric to Modern periods that was identified by a Desk Based Assessment of the area (WA 2008). All ground work was monitored and recorded by an experienced archaeologist during the weeks of the 5th and 12th of October 2009.
- 1.1.2 At the time of writing there was no fixed design option for the proposed ecological scheme. However, the scheme will include groundworks for the excavation of tidal creeks and works associated with the construction of setback coastal defences. In addition to this, the process of creating the saltmarsh, whereby some existing fresh and brackish water will be replaced by saline habitats, may be necessary.

1.2 The Site, Topography and Geology

- 1.1.1. The Site is situated within the Central Somerset Levels, in an area of low lying, flat, artificially drained land, generally used as pasture.
- 1.1.2. In 1954, Steart Flats was designated as a National Nature Reserve, primarily as a wildlife refuge. In 1976, in recognition of its importance for wintering wildfowl and waders, the bay was designated a RAMSAR site (under the terms of the Convention on Wetlands of International Importance held at Ramsar, Iran in 1971). The whole of Bridgwater Bay, including the National Nature Reserve, was designated a Site of Special Scientific Interest in 1989 and a Marine Consultation Area in 1993 (McDonnell 1995: 89).
- 1.1.3. The solid geology of the area around Steart consists of Keuper Marl with Rhaetic and Dolomitic conglomerate. To the west, around Stolford, the solid geology is Lower Lias (Geological Survey 1957). For the majority of the Site, the solid geology is overlain by alluvial deposits, with the area around Wall Common overlain by blown sand (Institute of Geological Sciences 1977). The coast consists of shingle storm beaches, dune sands and salt marsh.

2 ARCHAEOLOGICAL BACKGROUND

2.1 Palaeolithic to Bronze Age (500,000 – 700BC)

2.1.1 Palaeolithic finds in Somerset are generally limited to secondary contexts; the artefacts have been moved by water or soil transport and have then

been redeposited in a new location, often mixed with artefacts of earlier and later dates.

- 2.1.2 In the wider area of Somerset, the majority of Palaeolithic material is confined to caves, such as Westbury-sub-Mendip, where a number of flint artefacts were recovered and where faunal remains were dated to 500,000BP; and the Hyena Den in Wookey, where handaxes of flint and chert were recovered, thought to belong to Middle to Upper Palaeolithic assemblages (Cook 1982).
- 2.1.3 On the Steart Peninsula, extensive peat deposits have been recorded in the intertidal zone north of Stolford. Previous research has examined the peat for information about the submerged forest and has analysed sea level changes (Heyworth & Kidson 1982; Kidson & Heyworth 1978). The sequence clearly shows four bands of peat separated by bands of blue silty clays containing abundant macroscopic remains of phragmites (reed) in the upper levels. These peats have been radiocarbon dated, and the dates range from 7,000-3,500BP, and indicate that in the early Holocene, the Steart Peninsula habitat creation area would have been forested.
- 2.1.4 There is little evidence of human activity from the area during the Mesolithic and Neolithic, although water worn flint flakes and cores have occasionally been found along Stolford Beach, suggesting the possibility of future finds. The flint provides evidence for prehistoric trade; since flint does not occur naturally in Somerset, all of the finds would have been obtained from elsewhere (Minnitt 1982: 25).
- 2.1.5 Excavations, at Brean Down to the north, and south of Weston-Super-Mare, have revealed a well preserved Bronze Age settlement (Bell 1990; Bell 2000). Various activities were carried out at this site, including salt extraction.
- 2.1.6 Overall, the evidence suggests that human activity in this landscape during the prehistoric period was probably migratory and/or seasonal, with exploitation of the marshland and coastal zone for its resources.

2.2 Iron Age and Romano British (700BC – AD410

- 2.2.1 The majority of evidence of human activity during the Iron Age has come from the excavations at the lake villages of Glastonbury and Meare and whilst little evidence is recorded from the vicinity of the Site it is likely that activities such a wild fowling and salt manufacture would have been carried out in order to exploit the rich natural resources of the coastal margins.
- 2.2.2 A Roman settlement and port has been identified at Combwich, and Combwich Pill would have provided a natural harbour. A ferry is known to have crossed the river from Combwich to Pawlett from Roman times to the early 1800s. The location of a port at Combwich suggests not only trade across the river, but also possibly from further afield. The main means of long distance trade were the sea, rivers and major roads (Leech and Leach 1982: 72) and Combwich had access to the sea, the River Parrett and a Roman road. There were two additional Roman ports further upstream, at Crandon Bridge on the east bank, although due to changes in the course of the River Parrett, no longer on the river, and at Ilchester. The Roman road passes through Combwich and continues past Pawlett on the other side of

the River Parrett. The considerable amount of pottery recovered during excavations in Combwich indicates that the settlement was occupied throughout the Roman period.

2.2.3 In addition to the finds from Combwich, Roman material has also been discovered at a number of other locations in the vicinity of the Site.

2.3 **Saxon to Post-medieval (AD 410 – 1799)**

- 2.3.1 It is likely that in much of Somerset, little would have changed in the years around 400 AD (WA 2008); and the archaeological evidence suggests continuity rather than significant changes at the end of the Roman period. Most people continued farming, either on large estates in the east or on smaller holdings in the west.
- 2.3.2 In some areas along the Severn estuary, there is evidence that all of the coastal wetlands were affected by a period of post-Roman inundation (Rippon 2000: 89), and the Romano-British landscape south of Mendip was buried under c. 0.7m of alluvium due to subsequent tidal flooding (Rippon 2000: 88). Although the low lying marshes comprising the majority of the Steart Peninsula would have been particularly vulnerable, evidence from Combwich indicates continuity of settlement, so it appears that some areas of the Levels were less affected than others.
- 2.3.3 By the 11th century, even the coastal marshes that had been abandoned due to marine transgression were extensively re-occupied, and evidence suggests that in many areas in Somerset, these areas were being protected from tidal inundation by one or more sea walls (Rippon 2000: 89). From the 13th century, the landscape was being used with increasing intensity. Not only were the Levels used for grazing sheep and cattle, but farming and fishing became more important. By the 13th century, 'almost all of the higher coastal clay-lands were embanked, drained and settled (Rippon 2000: 90).
- 2.3.4 However, the danger of flooding and the threat this posed to settlements and farms continued well into the medieval period.

3 AIMS AND OBJECTIVES

3.1 General

- 3.1.1 To determine or confirm the presence/absence and the specific nature and depth below current ground surface of any archaeological remains present on the Site.
- 3.1.2 To determine or confirm the character, condition, approximate date or date range, distribution and potential of any remains, by means of artefactual or other evidence where development is proposed.
- 3.1.3 To determine the degree of complexity of the horizontal and/or vertical stratigraphy present.
- 3.1.4 To provide information on which to base future decisions concerning the treatment of any archaeological remains on the Site.

3.2 **Specific**

- 3.2.1 To establish the presence or absence of any features characteristic of salt manufacture such as troughs or hearths and, where possible within the constraints of the trial pits, to characterise any such features.
- 3.2.2 To establish the potential for survival / presence of organic remains.

4 METHODOLOGY

- 4.1.1 Twenty two geotechnical test pits each measuring approximately 1.80m long and 0.50m wide were excavated to a maximum depth of 3m (See Appendix 1) using a JCB excavator.
- 4.1.2 All excavation was carried out under constant archaeological supervision by an experienced archaeologist and each was recorded using the Wessex Archaeology pro forma recording system.
- 4.1.3 All excavated material was routinely inspected for artefacts.
- 4.1.4 Due to the depth to which the test pits were excavated it was impossible, due to Health and Safety constraints, to gain access to facilitate the cleaning of any sections by hand. Therefore, all sediment assessments and written records were compiled from the surface.
- 4.1.5 All test pits were recorded using Wessex Archaeology's *pro forma* recording system. A photographic record, which included high resolution digital images, was maintained. The test pits were mapped in relation to the construction footprint and the Ordnance Survey by the use of a Global Positioning System (GPS).
- 4.1.6 The Watching Brief was undertaken between the 5th and 12th of October 2009

5 RESULTS

5.1 **Introduction**

5.1.1 A catalogue of trench descriptions, giving brief soil and feature descriptions can be found in Appendix 1. More detailed descriptions are available in the archive. The locations of the twenty two test pits are shown on **Figure 1**. Although all excavated material was carefully scanned for artefacts by the attending archaeologist, the only finds encountered were recovered from the topsoil of Test Pits 1, 4, 9, 20, and 22. No archaeological features were recorded and the soil sequence identified during the watching brief largely conforms to the results found by the Desk Based Assessment (WA 2008)

5.2 The Deposit Sequence

5.2.1 The natural bedrock was encountered in one test-pit (Test Pit 7) at a depth of 1.80m below current ground level (at approximately 4.0m above Ordnance datum (aOD) (**Figure 2**, Transect 2). This test pit occupied an area of higher ground at the south-western edge of the Site and no further

- evidence of the bedrock was encountered in the remaining test-pits, all of which were excavated to approximately 3m below the current ground surface (approximately 2.6-2.8m aOD).
- 5.2.2 Overlying the bedrock in Test pit 7, and comprising the majority of the stratigraphic sequence in the remaining test pits, was a deep deposit of alluvially deposited blue clay, between 2.2-1.6m in depth. On closer examination, this thick alluvial deposit could be divided into bands of similar deposits, discernable only by slight colour changes (See **Appendix 1**).
- 5.2.3 Peat deposits were present in only one test pit (Test pit 8, context **805**) at a depth of 2.90m below current ground level. The peat was found mixed within the lower deposit of the alluvial blue clay. A sample was taken for environmental analysis.
- 5.2.4 The alluvial clay deposit was overlain by topsoil, with the exception of three test pits along the northern edge of the Site (Test-pits 1, 3 and 17) where deposits of sand were noted overlying the alluvial clay and sealed by topsoil. The sand deposits were thicker at the western end of the Site (approximately 1.38m in Test pit 1) thinning rapidly further to the east (0.31m in Test pit 3) before thickening again at the northern limits of the Site (1.05m in TP17) (**Figure 2**).
- 5.2.5 All the test pits were covered by a layer of grey brown silty clay topsoil which varied in depth depending whether the surrounding land was being used for pasture or agriculture.

6 FINDS

- 6.1.1 A small quantity of finds was recovered during the watching brief, deriving from five of the test pits excavated; all finds came from topsoil (**Table 1**). Datable finds are of medieval to post-medieval date.
- 6.1.2 Medieval finds comprise five sherds of pottery, which came from test pits 9 (two sherds) and 22 (three sherds). All five sherds are coarsewares, containing prominent inclusions of flint or chert and quartz; one sherd from test pit 22 is glazed over horizontal incised rilling, and probably came from a jug. The likely date for these sherds ranges from 11th to 13th century.
- 6.1.3 The remaining two sherds, from test pit 20, are in post-medieval redware. Also of post-medieval date are the single pieces of ceramic building material (air brick) and glass (wine bottle).
- 6.1.4 The animal bone (cattle vertebra) is undatable.

Table 1: All finds by context (number / weight in grammes)

			<u> </u>	
Context	Animal Bone	СВМ	Glass	Pottery
1001			1/24	
4001	1/174	1/58		
9001				2/2
20001				2/37
22001				3/21
TOTAL	1/174	1/58	1/24	7/60

7 PALAEOENVIRONMENTAL EVIDENCE

7.1 Introduction

- 7.1.1 Three bulk samples were taken from Testpits on Site and processed for the recovery and assessment of waterlogged material, charred plant remains, charcoals and molluscs.
- 7.1.2 One sample came from a layer of peat mixed with blue clay at a depth of 2.9m within Test-pit 8 (8005). The remaining two samples both came from Test-pit 7 (7004) from a sandy-clay layer towards the base at 1.2-1.44m depth and a further sandy-clay layer at the base (7006) at 1.58-1.8m depth directly above the bedrock.
- 7.1.3 The samples were all tested for potential waterlogged material, only that from Testpit 8, the closest to the present coastline (8004) was seen to contain any potential waterlogged material. The remaining two samples from the base of Testpit 7 were devoid of such remains.

7.2 Charred Plant Remains and Wood Charcoal

- 7.2.1 The two bulk samples from Testpit 7 were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 5.6 mm, 2mm and 1mm fractions and dried. The coarse fractions (>5.6 mm) were sorted, weighed and discarded. Flots were scanned under a x10 x40 stereo-binocular microscope and the presence of charred remains quantified (Table 2) to record the preservation and nature of the charred plant and wood charcoal remains. Preliminary identifications of dominant or important taxa are noted below, following the nomenclature of Stace (1997).
- 7.2.2 The flots were both very small with little to no material within them other than a very small amount of wood charcoal.

7.3 Waterlogged plant and insect remains

7.3.1 The sample from test pit 8 contained generally very little readily identifiable waterlogged plant remains, being composed mainly of fine-root type material. Those that were seen included very infrequent seeds of nettle (*Urtica dioica*), celery-leaved crowfoot (*Ranunculus sceleratus*) and seeds of rush (*Juncus* sp.) along with very occasional fragments of Chenopodiaceae seeds that includes several maritime species, e.g. *Atriplex* sp., *Suaeda maritima* etc.

7.3.2 While the sample wasn't rich enough to provide a detailed ecological picture, it did indicate a mixture of species probably indicative of rough coastal grassland cut by ditches/saltmarsh, although from the limited amount of material available such an interpretation is very tentative. The date of the material is unknown, and such peats date from the Mesolithic to the present. However, given that it is overlies and is overlain by alluvium it is more probably of recent e.g. Roman to 11th century date than Mesolithic.

7.4 Land and fresh/brackish water molluscs

- 7.4.1 While no samples were taken specifically for mollusc remains that, from 7006 contained some fragments and of fragmentary probably mainly marine molluscs, including a whole shell of periwinkle (*Littorina* sp.) and a small marine bi-valve, cockle, carpet-shell type etc. These remains were particularly abundant in the residue.
- 7.4.2 The finds of marine molluscs some 2 kilometres from the seacan be related to two possible events. The first is the inundation of the area, most probably associated with the marine transgression dating from the Romano-British period to the 11th century (Rippon 2000a). Given the low-lying nature of the deposit at 4m aOD and that the molluscs look relatively fresh; this would seem the more probable explanation. The second is whether they relate to a residual "raised-beach" deposit former Pleistocene coastline during higher sea-level.

Table 2: Assessment of the charred plant remains and charcoal

Samples				Flot				Resi	idue			
Feature	Context	Sample	Ltrs	Flot (ml)	% roots	Grain	Chaff	Charred other	Charcoal >4/2mm	Other	Charcoal >4mm	Analysis
Testpit 8												
Peat 2.9m	8005	1	1	200ml	n/a							
Testpit 7												
Sandy- clay 1.2- 1.44m	7004	2	1	5ml	0	-	-	-	-	-	-	-
Sand- clay 1.58- 1.8 m	7006	3	1	3ml	0	-	-	-	-	Moll- m (B)	-	-

Key: A^{***} = exceptional, A^{**} = 100+, A^{*} = 30-99, A = >10, B = 9-5, C = <5, sab/f = small animal/fish bones, Moll-t = terrestrial molluscs, Moll-f = freshwater molluscs; Analysis: C = charcoal, P = plant, M = molluscs, C14 = radiocarbon

8 DISCUSSION

8.1 **Discussion**

8.1.1 The main sediment sequence identified during the watching brief comprised of deep banded blue clay alluvial deposits. The banding within this deposit can be explained through a number of factors; the proximity to the man-

- made drainage channels, when the associated field was reclaimed from the sea, and how susceptible each area is to tidal flooding.
- 8.1.2 Traces of peat, mixed within one band of blue alluvial clay and sealed by a subsequent band of similar material, was identified in one test pit (Test pit 8) at a depth of 2.90m below current ground level. As noted in the archaeological background, this is consistent with observations noted elsewhere in the intertidal zone ((Heyworth & Kidson 1982; Kidson & Heyworth 1978). However, due to the limited depth of the test pit, the peat was found only within the lower part of the visible sequence. Any evidence for multiple banding of peats and alluvial clay may still exist below the level of the excavated test pit.
- 8.1.3 Three test pits (1, 3 and 17) contained sandy layers to a moderate depth and is unsurprising due to the fact that these three test pits are located near to the northern shore and would have experienced sand deposition (either by tidal or wind deposition) before the modern coastal defences had been established.

9 ARCHIVE

- 9.1.1 The project archive was prepared in accordance with the guidelines outlined in Appendix 3 of *Management of Archaeological Projects* (English Heritage 1991) and in accordance with the *Guidelines for the preparation of excavation archives for long term storage* (UKIC 1990). It comprises a ringbound file containing a watching brief attendance form, site 'day book', trench record sheets, photographic register and *Written Scheme of Investigation*.
- 9.1.2 The archive is currently held at Wessex Archaeology's office building under the site code72600, but will ultimately be deposited for permanent storage at the Somerset County Museum, Taunton, where the archive will be deposited under the accession code **TTNCM: 221/2009**).
- 9.1.3 Given the small quantity of finds recovered, and their date range, retention for long-term curation is not recommended, and these finds will be discarded prior to archive deposition.

10 BIBIOGRAPHY

- Bell, M., 1990, *Brean Down: Excavations 1983-1987*, English Heritage, Archaeological Report No. 15: 115-144.
- Bell, M., 2000, 'Environmental Archaeology in the Severn Estuary: Progress and Prospects', in (Rippon, S. ed.), *Estuarine Archaeology: The Severn And Beyond, Archaeology in the Severn Estuary 11*, The Severn Estuary Levels Research Committee.
- Cook, J. 1982, 'Traces of Early Man 600'000 50;000 BC' in Aston, M., & Burrow, I. (eds.) *The Archaeology of Somerset*, Somerset County Council: 5-10.

Geological Survey, 1957, Geological Map of Great Britain.

- Heyworth, A. and Kidson, C., 1982, Sea Level Changes in southwest England and Wales. *Proceedings of the Geologists' Association*. 93(1): 91-111.
- Institute of Geological Sciences, 1977, Quaternary Map of UK South. Ordnance Survey 6 inch series 1890 and 1904
- Kidson, C. & Heyworth, A., 1978, Holocene eustatic sea level change. *Nature*. 273: 748-750.
- Leech, R., and Leach, P., 1982, 'Roman Town and Countryside 43-450 AD' in Aston, M., & Burrow, I. (eds.) *The Archaeology of Somerset*, Somerset County Council: 63-82.
- McDonnell, R., 1995, 'Bridgwater Bay: A Summary of the Geomorphology, Tidal Characteristics and Intertidal Cultural Resource', in *Archaeology of the Severn 1994*, Annular Report of the Severn Estuary Levels Research Committee: 87-114
- Minnitt, S., 1982, 'Farmers and Field Monuments 4,000 2,000 BC' in Aston, M., & Burrow, I. (eds.) *The Archaeology of Somerset*, Somerset County Council: 22-28.
- Rippon, S., 2000, 'Clayland colonisation: recent work on Romano-British and medieval reclamation in the Somerset Levels' in Webster, C.J. (ed.) Somerset Archaeology: Papers to mark 150 years of the Somerset Archaeological and Natural History Society, Somerset County Council: 85-91.
- Stace, C, 1997, *New flora of the British Isles* (2nd edition), Cambridge: Cambridge University Press
- Wessex Archaeology, 2008, Steart Peninsula, Somerset, Proposed Ecological Habitation Creation, Heritage Assessment, Unpublished client report ref 69320.02

APPENDIX 1: Test Pit Summaries

Test Pit -1		NGR: 323780.17, 14545	1.57
Dimensions - 1.80	n x 0.50m x 3.00m	Machine Excavated	
Context No.	Descript	ion	Depth below ground surface
1001	Topsoil – Dark brown sand intervention and occasional components (<0.05m)		0 – 0.13m
1002	Subsoil – Mid greyish brown abundant sub rounded pebble		0.12 – 0.80m
1003	Subsoil – Coarse mid yellow occasional sub rounded coars		0.8 – 1.50m
1004	Natural – Firm blue clay cont organic remains but no firm le		1.50m+

Test Pit -2	NGR: 327700.17, 14453	0.65		
Dimensions - 1.80	m x 0.50m x 3.00m Machine Excavated	Machine Excavated		
Context No.	Description	Depth below ground surface		
2001	Topsoil – Mid greyish brown clay silt containing no coarse components and moderate root intervention	0 – 0.17m		
2002	Subsoil – Mid greyish brown clay with moderate to abundant root channels and no coarse components	0.17 – 0.46m		
2003	Subsoil – Light greyish blue alluvially deposited clay containing no coarse components	0.46 – 1.55m		
2004	Subsoil – Mid greyish blue alluvially deposited clay containing no coarse components but slight organic inclusions	1.55 – 2.6m		
2005	Natural – Mid to dark blue clay containing no coarse components and occasional organic inclusions.	2.6m+		

Test Pit -3	95.22		
Dimensions - 1.80r	Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated		
Context No.	Description	Depth below ground surface	
3001	Topsoil – Mid grey brown silty sandy clay containing heavy root intervention and sparse sub rounded coarse components.	0 – 0.24m	
3002	Subsoil – Mid greyish brown silty sand containing occasional sub rounded coarse components (<0.06m)	0.24 – 0.55m	
3003	Subsoil – Pale greyish blue clay containing no coarse components.	0.55 – 2.10m	
3004	Natural – Blue clay containing no coarse components and slight organic remains.	2.10m+	

Test Pit -4 NGR: 324284.09, 143			5.93
Dimensions - 1.80m	x 0.50m x 3.00m	Machine Excavated	
Context No.	Context No. Description		
4001	Topsoil – Mid to dark grey cl to moderate CBM fragmen modern material.		0 – 0.20m
4002	Subsoil – Mid greyish brown sub angular to sub rounde Alluvially deposited.		0.20 - 0.58m
4003	Subsoil – Light greyish blue and components.		0.58 – 1.45m
4004	Natural – Mid blue clay components. Slight organic turns to a silty loam at around	inclusions and texture	1.45m+

Test Pit -5	NGR: 325012.35, 14484	NGR: 325012.35, 144841.53		
Dimensions - 1.80m	n x 0.50m x 3.00m Machine Excavated			
Context No.	Description	Depth below ground surface		
5001	Topsoil – Mid greyish brown silty clay containing no coarse components and heavy root intervention.	0 – 0.21m		
5002	Subsoil – Pale bluish grey alluvially deposited clay containing no coarse components.	0.21 – 1.78m		
5003	Natural – Mid bluish clay with slight grey gleying and no coarse components.	1.78 – 2.30m		
5004	Natural – Mid to dark blue clay containing no coarse components and occasional organic inclusions.	2.30m+		

Test Pit -6	NGR: 325112.65, 14	4216.97
Dimensions - 1.80m	x 0.50m x 3.00m Machine Excavated	
Context No.	Description	Depth below ground surface
6001	Topsoil – Mid bluish grey clay silt containing rare s rounded coarse components (<0.05m) and rare chainclusions.	
6002	Subsoil – Light bluish grey alluvially deposited of containing no coarse components.	ay 0.24 – 1.3m
6003	Natural – Mid blue clay containing no coar components.	rse 1.3 – 2.2m
6004	Natural - Dark blue clay with slight traces of organ remains and no coarse components.	nic 2.2m+

Test Pit -7	NGR: 325063.06, 14345	NGR: 325063.06, 143455.15		
Dimensions - 1.80m	x 0.50m x 2.00m Machine Excavated	Machine Excavated		
Context No.	Description	Depth below ground		
		surface		
7001	Topsoil – Dark brownish grey silty clay containing no	0 – 0.15m		
	coarse components and heavy root intervention.			
7002	Subsoil – Light bluish grey alluvially deposited clay	0.15 – 0.50m		
	containing occasional sub angular coarse			
	components.			
7003	Subsoil – Light greyish blue alluvially deposited clay	0.50 – 1.20m		
	containing sparse sub rounded coarse components.			
7004	Subsoil – Mid brownish orange sandy clay containing	1.20 – 1.44m		
	sparse charcoal (?) flecks with blue grey clay			
	inclusions.			
7005	Subsoil – Mid blue grey clay sand alluvially deposited	1.44 – 1.58m		
	and containing no coarse components.			
7006	Subsoil – Light whitish blue clay sandy silt containing	1.58 – 1.80m		
	occasional sub angular to sub rounded bedrock			
	components and shell remains			
7007	Natural - Bedrock	1.80m+		

Test Pit -8	NGR: 325437.4, 145092	.35
Dimensions - 1.80n	n x 0.50m x 3.00m Machine Excavated	
Context No.	Description	Depth below ground surface
8001	Topsoil – Mid brown silty clay containing heavy root intervention and sparse sub angular coarse components (<05m)	0 – 0.28m
8002	Subsoil – Mid greyish brown clay silt containing sparse to rare sub angular to sub rounded coarse components (<0.03m)	0.28 – 0.78m
8003	Subsoil – Light bluish grey clay containing very rare chalk marl inclusions.	0.78 – 1.78m
8004	Natural – Blue clay containing sparse organic remains and no coarse components.	1.70 – 2.90m
8005	Natural – Peat mixed with blue clay.	2.90m

Test Pit -9	NGR: 325589.48, 14434	2.39
Dimensions - 1.80m	x 0.50m x 3.00m Machine Excavated	
Context No.	Description	Depth below ground surface
9001	Topsoil – Mid greyish brown silty clay containing sparse CBM (<0.05m) and occasional ploughed in vegetation.	0 – 0.34m
9002	Subsoil – Light brownish grey clay containing no coarse components.	0.34 – 1.10m
9003	Subsoil – Light greyish blue clay containing no coarse components.	1.10 – 1.95m
9004	Natural – Mid blue clay containing sparse organic inclusions which increase with depth.	1.95m+

Test Pit -10 NGR: 325710.68, 14321		9.62
Dimensions - 1.80m	Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated	
Context No.	Description	Depth below ground
		surface
10001	Topsoil – Dark brownish grey clay containing very	0 – 0.30m
	rare coarse components and heavy root intervention	
10002	Subsoil – Mid brownish grey alluvially deposited clay	0.30 – 0.73m
	containing no coarse components.	
10003	Subsoil – Light greyish blue alluvially deposited clay	0.73 – 1.60m
	containing no coarse components.	
10004	Subsoil – Mid greyish blue alluvially deposited clay	1.60 – 2.00m
	containing slight organic inclusions and no coarse	
	components.	
10005	Natural – Mid blue clay containing no coarse	2.00m+
	components and slight organic staining.	

Test Pit -11 NGR: 326046.55, 14490		8.93	
Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated		Machine Excavated	
Context No.	Description		Depth below ground surface
11001	Topsoil – Dark grey clay containing occasional sub angular coarse components and CBM with heavy root intervention.		0 – 0.10m
11002	Made ground – Gravel layer used for a compound used during coastal defence construction. Hardcore layer.		0.10 – 0.22m
11003	Subsoil – Dark grey clay containing occasional sub rounded to sub angular CBM and modern pot sherds.		0.22 – 0.61m
11004	Subsoil – Mid greyish blue clay with reddish brown mottling and containing no coarse components.		0.61 – 1.40m
11005	Natural – Mid blue clay components and light organic		1.4m+

Test Pit -12 NGR: 326128.84, 14415		1152.75
Dimensions - 1.80n	Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated	
Context No.	Description	Depth below ground surface
12001	Topsoil – Dark grey clay containing sparse CB fragments (<0.05m) and slight root intervention.	M 0 – 0.26m
12002	Subsoil – Mid greyish brown alluvially deposited sil clay containing no coarse components.	ty 0.26 – 0.60m
12003	Subsoil – Pale yellowish brown alluvially deposite silty sandy clay containing no coarse components.	ed 0.60 – 1.00m
12004	Subsoil – Mid brownish grey alluvially deposited cla containing no coarse components.	
12005	Natural – Mid greyish blue clay containing greenis grey patches.	sh 1.65m+

Test Pit -13 NGR: 326157.04, 14348		2.36	
Dimensions – 1.80m x 0.50m x 3.00m Mag		Machine Excavated	
Context No.	Descript	tion	Depth below ground
			surface
13001	Topsoil – Mid greyish brown		0 – 0.10m
	coarse components and heav	y root intervention.	
13002	Subsoil – Mid brownish grey		0.10 - 0.70m
	containing no coarse compor	ents.	
13003	Subsoil - Light bluish grey alluvially deposited clay		0.70 – 1.80m
	containing no coarse compon		
13004	Subsoil - Mid greyish blue alluvially deposited clay		1.80 – 2.55m
	containing no coarse compor		
13305	Natural – Mid blue clay		2.55m+
	components and slight organ	ic inclusions.	

Test Pit -14 NGR: 326236.24, 14513		4.01
Dimensions - 1.80m	x 0.50m x 3.00m Machine Excavated	
Context No.	Description	Depth below ground surface
14001	Topsoil – Dark brownish grey silty clay containing no coarse components and heavy root intervention.	0 – 0.20m
14002	Subsoil – Dark brown alluvially deposited clay containing no coarse components.	0.20 – 0.58m
14003	Subsoil – Light greyish brown alluvially deposited clay containing no coarse components.	0.58 – 1.70m
14004	Natural – Mid blue clay containing no coarse components and sparse to occasional staining.	1.70m+

Test Pit -15		NGR:	
Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated			
Context No.	Descrip	tion	Depth below ground surface
15001	Topsoil – Dark greyish brown clay silt containing rare coarse components (<0.04m) and ploughed in vegetation.		0 – 0.18m
15002	Subsoil – Mid greyish brown alluvially deposited clay containing no coarse components.		0.18 - 0.46m
15003	Subsoil – Pale greyish brown alluvially deposited clay and containing no coarse components.		0.46 – 1.70m
15004	Subsoil – Pale bluish grey alluvially deposited clay containing no coarse components.		1.70 – 2.30m
15005	Natural – Dark greyish blue organic inclusions.	clay containing moderate	2.30m+

Test Pit -16	est Pit -16 NGR: 326648.23, 14415		5.18
Dimensions - 1.80m	x 0.50m x 3.00m	Machine Excavated	
Context No.	Descrip	tion	Depth below ground surface
16001	Topsoil – Dark greyish brown clay containing sparse CBM fragments (<0.03m) and ploughed in vegetation.		0 – 0.20m
16002	Subsoil – Mid greyish brown alluvially deposited clay silt containing no coarse components.		0.20 – 0.51m
16003	Subsoil – Pale brownish grey alluvially deposited clay containing no coarse components.		0.51 – 2.60m
16004	Natural – Mid greyish blue organic inclusions.	e clay containing slight	2.60m+

Test Pit -17 NGR: 326679.28, 1441		5.18	
Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated			
Context No.	Descrip	Description	
17001	1 0 1	Topsoil – Dark greyish brown sandy clay containing rare sub rounded pebbles (<0.07m) and heavy root intervention.	
17002		Subsoil – Light orange brown sandy clay containing sparse sub rounded coarse components (<0.04m)	
17003	Subsoil – Light orange brown sandy clay containing abundant sub rounded coarse components (<0.07m).		0.44 – 0.70m
17004	Subsoil – Mid yellowish brown silty sandy clay containing occasional coarse components and moderate manganese staining.		0.70 – 1.2m
17005	Natural – Mid blue clay components and slight dark b	•	1.20m+

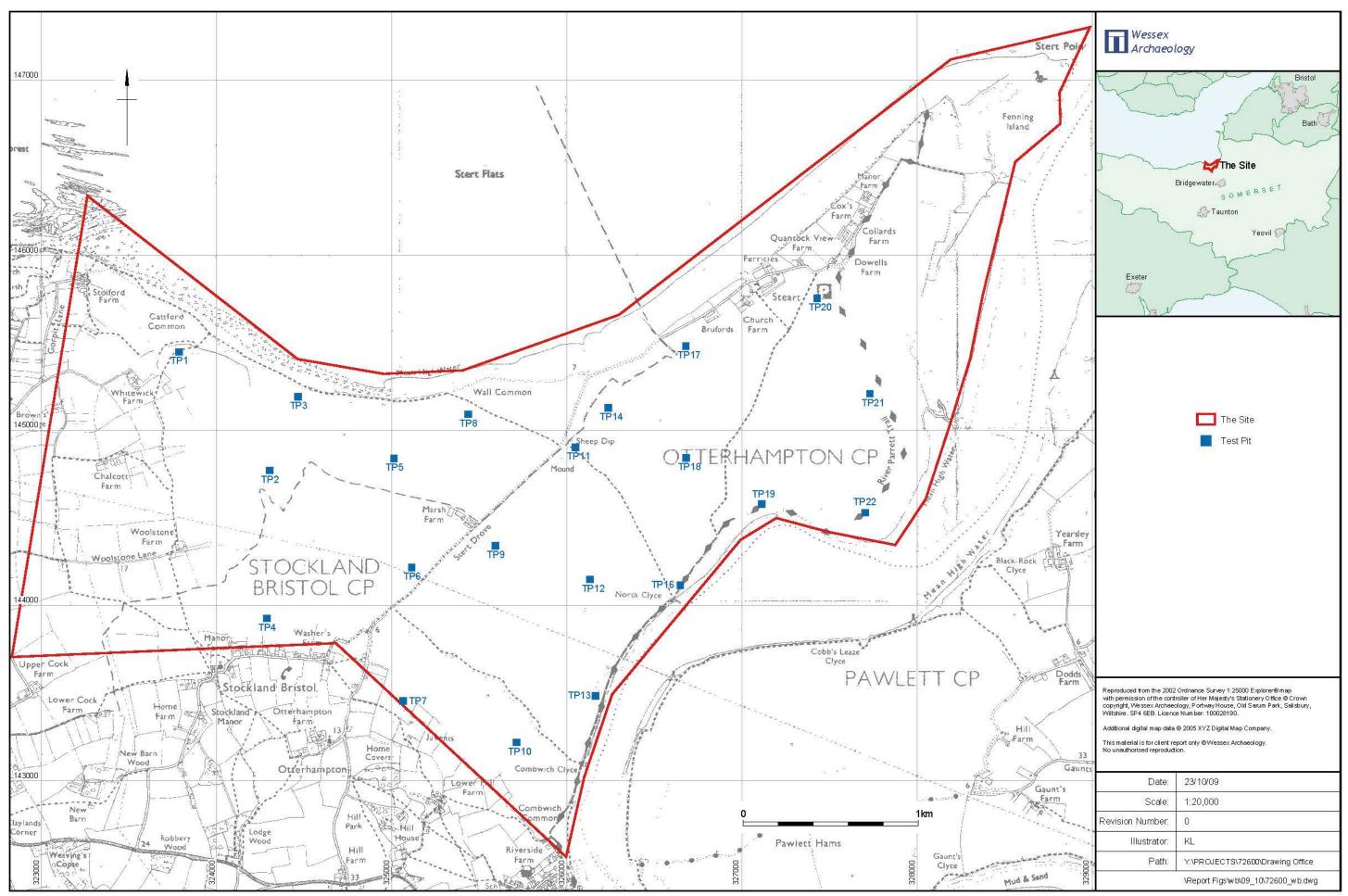
Test Pit -18 NGR: 326679.28, 14548		6.68	
Dimensions - 1.80m	Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated		
Context No.	Description		Depth below ground surface
18001	Topsoil – Mid brownish grey clay silt of coarse components and moderate root in		0 – 0.70m
18002	Subsoil – Pale brownish grey alluvially deposited clay silt with mid brown gleying and containing no coarse components.		0.70 – 1.65m
18003	Subsoil – Pale greyish blue alluvially deposited clay and containing no coarse components.		1.65 – 2.40m
18004	Natural – Dark to mid blue clay containing components and moderate patche inclusions.		2.40m+

Test Pit -19 NGR: 327109.71, 1445		9.94	
Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated		Machine Excavated	
Context No.	Descrip	Description	
19001	Topsoil – Mid brown silty cl components and heavy root i	intervention	0 – 0.14m
19002	Subsoil – Mid greyish brown alluvially deposited clay containing no coarse components.		0.14 – 0.54m
19003	Subsoil – Light greyish brown alluvially deposited clay and containing no coarse components.		0.54 – 1.60m
19004	Subsoil – Light bluish grey alluvially deposited clay containing no coarse components and slight brown gleying.		1.60 -2.15m
19005	Natural – Mid greyish blue c components and slight organ		2.15m+

Test Pit -20 NGR: 327431.65, 14575		54.83
Dimensions - 1.80m	Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated	
Context No.	Description	Depth below ground surface
20001	Topsoil – Dark brownish grey clay containing sparse coarse components (<0.06m) and moderate root intervention.	0 – 0.19m
20002	Subsoil – Light greyish brown alluvially deposited clay containing no coarse components.	0.19 – 0.54m
20003	Subsoil – Pale greyish blue alluvially deposited clay containing sparse chalky marl inclusions (<0.02m)	0.54 – 1.49m
20004	Subsoil – Mid bluish grey alluvially deposited clay containing no coarse components.	1.49 – 2.60m
20005	Natural – Mid blue clay containing no coarse components and slight organic inclusions.	2.60m+

Test Pit -21 NGR: 327726.34, 14521		1.51	
Dimensions - 1.80m	Dimensions – 1.80m x 0.50m x 3.00m Machine Excavated		
Context No.		Description	
21001	Topsoil – Mid brownish grey clay containing rare sub rounded coarse components (<0.05m) and ploughed in vegetation.		0 – 0.35m
21002	Subsoil – Mid greyish brown alluvially deposited clay containing no coarse components.		0.35 – 1.10m
21003	Subsoil – Light greyish blue alluvially deposited clay containing no coarse components.		1.10 – 1.80m
21004	Natural – Mid blue clay cont inclusions.	aining moderate organic	1.80m+

Test Pit -22	NGR: 327699.65, 14453	NGR: 327699.65, 144530.31	
Dimensions - 1.80	m x 0.50m x 3.00m Machine Excavated	Machine Excavated	
Context No.	Description	Depth below ground surface	
22001	Topsoil – Dark brownish grey clay containing occasional coarse components and CBM. Ploughed in vegetation.	0 – 0.40m	
22002	Subsoil – Light brownish grey alluvially deposited clay silt containing no coarse components.	0.40 – 1.30m	
22003	Subsoil – Light whitish grey alluvially deposited clay containing no coarse components.	1.30 – 2.55m	
22004	Natural – Mid blue clay containing no coarse components and slight organic inclusions.	2.55m+	



Site location plan

