



## Land South of Yeoford Way, Marsh Barton Trading Estate, Exeter

### Archaeological Evaluation Report





**LAND SOUTH OF YEOFORD WAY, MARSH BARTON  
TRADING ESTATE, EXETER**

**Archaeological Evaluation Report**

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## QUALITY ASSURANCE

SITE CODE	<b>77790</b>	ACCESSION CODE		CLIENT CODE	
PLANNING APPLICATION REF.	<b>10/0200/01</b>	NGR	<b>293199 089389</b>		

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**\* I= INTERNAL DRAFT E= EXTERNAL DRAFT F= FINAL**

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**LAND SOUTH OF YEOFORD WAY,  
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**Archaeological Evaluation Report**

**Summary**

Wessex Archaeology was commissioned by RWP Construction and Property Consultants on behalf of Prego Developments Limited c/o Eagle One Limited to undertake a programme of archaeological evaluation prior to development on land south of Yeoford Way on the Marsh Barton Trading Estate, Exeter, centred on NGR 293199, 089389.

The evaluation comprised the mechanical excavation of four trial trenches and four test pits distributed across the site, and the excavation of twelve boreholes comprising two transects of six boreholes each. The trial trenches were targeted on anomalies identified through geophysical survey, whilst the test pits were located to investigate areas of potential organic remains identified in a previous geotechnical investigation. The borehole transects were located to investigate the locations of potential palaeochannels, the results of which will be presented in a separate report.

There is little evidence of human occupation on the Site, with the majority of the anomalies identified through geophysical survey most likely to be the result of alluvial processes during multiple flood events. Only one feature was identified as of archaeological origin and comprised a single pit recorded in Trench 3 in the north-east corner of the site. The dating from a single radiocarbon sample indicated a Late Neolithic to Early Bronze Age date, although one must remain cautious with regard to the dating, given the pit is located relatively high up in the alluvial sequence and no artefactual evidence was recovered. The results of the evaluation suggest a low potential for features and/or deposits of archaeological interest to be impacted by development at the Site.

The works were carried out between the 27<sup>th</sup> and the 29<sup>th</sup> of June 2011.

**LAND SOUTH OF YEOFORD WAY,  
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**Archaeological Evaluation Report**

**Acknowledgements**

This project was commissioned by RWP Construction and Property Consultants on behalf of Prego Developments Limited c/o Eagle One Limited (the Client) and Wessex Archaeology is grateful to them in this regard. In addition Wessex Archaeology would like to thank David Harbottle and Mike Bryant from Eagle One Limited for their co-operation during the works. Wessex Archaeology would also like to thank Alan Cattell of Structural Soils Limited who undertook the borehole survey. and Andy Pye, Exeter City Council Archaeological Officer, who monitored the project on behalf of Exeter City Council.

The archaeological works were directed by Matthew Kendall with the assistance of Neil Fitzpatrick. The report was compiled by Matthew Kendall. The environmental samples were processed by Nicki Mulhall and were assessed by Dr Chris Stevens and Sarah F. Wyles. The report graphics were prepared by Karen Nichols and Elizabeth James. The project was managed on behalf of Wessex Archaeology by Sue Farr.

## LAND SOUTH OF YEOFORD WAY, MARSH BARTON TRADING ESTATE, EXETER

### Archaeological Evaluation Report

## 1 INTRODUCTION

### 1.1 Project Background

- 1.1.1 Wessex Archaeology was commissioned by RWP Construction and Property Consultants, on behalf of Prego Developments Limited c/o Eagle One Limited (the Client), to carry out a programme of archaeological evaluation prior to development of land to the south of Yeoford Way, Marsh Barton Trading Estate, Exeter (hereafter 'the Site'), centred on National Grid Reference (NGR) 293199, 089389.
- 1.1.2 Planning permission was granted for a mixed employment use development, subject to compliance with a number of conditions, including Condition 12, which requires the implementation of a programme of archaeological work prior to any development commencing.
- 1.1.3 An earlier geophysical survey was undertaken by Archaeological Surveys Ltd (ASL 2011) which identified a number of anomalies of potential archaeological interest in the north-east corner of the Site. In addition, a geotechnical investigation (Card Geotechnics 2009) recorded deposits of grey/dark grey silty clay containing organic material and occasional decayed wood within a number of the boreholes across the Site.
- 1.1.4 A Written Scheme of Investigation (WSI, WA 2011) was prepared by Wessex Archaeology and approved by Exeter City Council (ECC) in advance of works commencing. This document set out the methods and standards to be employed throughout the evaluation work. It was prepared in accordance with standards and guidance of the Institute for Archaeologists and *Management of Research Projects in the Historic Environment* (MoRPHE, English Heritage 2006).
- 1.1.5 This report details the results of the trial trench and test pit evaluation of the Site which was carried out between the 27<sup>th</sup> and 29<sup>th</sup> June 2011.

### 1.2 Site location, topography and geology

- 1.2.1 The Site comprised an irregular plot of land and contained two fields with a total area of some 15.4ha. It lies on the southern fringes of Exeter and is bounded to the west by Bad Homburg Way (B3123), to the south by the A379 and Matford Brook, to the north-east by the Plymouth to Penzance railway line and to the north by the Matford Park Trading Estate (**Figure 1**).
- 1.2.2 The British Geological Survey indicates the north-west of the Site lies on Alphington Breccia whilst the south-east part lies on the more recent Heavitree Breccia. The former consists of mudstone rich breccias, but being poorly cemented it weathers readily to a clay. The latter is better cemented and often used as a building stone. During the Quaternary Period the valley became overlain with estuarine alluvium which has given rise to silty clays.
- 1.2.3 All the trial trenches and test pits were located on pasture which gradually increased in elevation from 2.88m above Ordnance Datum (aOD) in the south-eastern corner to 4.16m aOD in the north-western corner of the Site.



## **2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

### **2.1 Introduction**

- 2.1.1 No statutorily designated sites or monuments are recorded within the Site itself. A double ditched enclosure, which is protected as a Scheduled Monument, lies to the east of Matford Lane (DV 953) some 350m to the south of the Site. A Grade II Listed Building is recorded 50m to the south, and a further three similarly designated buildings are recorded within approximately 500m of the north and west of the Site.
- 2.1.2 An archaeological assessment was completed for the Site (Exeter Archaeology 2009), the results of which are summarised below.

### **2.2 Background**

- 2.2.1 During watching briefs undertaken on previous groundworks to the north of the Site at the existing Business Park, a palaeochannel, aligned east-west produced waterlogged organic material, including wood fragments. Radiocarbon dates obtained from the organic fragments at the base of the channel provided a date range of between 9,750–9,200BC. Willow fragments from the upper fill of the channel were dated to AD1400-1520. It is unlikely that the sequence developed over such a long period of time and it is possible that the upper fill may represent the medieval fill of a channel of the River Exe (EA 2009a).
- 2.2.2 Possible palaeochannels have been identified within the Site from aerial photography. Photographs taken during the 1999-2000 *Getmapping* programme indicate a possible curving linear feature which may represent a former course of the Matford Brook (*ibid.*).
- 2.2.3 Evidence of prehistoric activity in the area of the Site is attested by a linear round barrow cemetery at Castle Park, Alphington, approximately 600m to the west. The Scheduled cemetery (DV 10625) comprises a group of nine round barrows in a linear arrangement. In addition, to the south the aforementioned double ditched rectangular enclosure at Matford Lane is recorded. The Pond Farm Romano-British settlement site is recorded approximately 1km to the west of the enclosure. It was originally identified from aerial photography and subsequently partially excavated in advance of the M5 motorway construction.
- 2.2.4 A former sluice is recorded on late 19<sup>th</sup> and early 20<sup>th</sup> century mapping at the southern boundary of the Site, on the Matford Brook. By 1932 it had been replaced by a footbridge.

### **2.3 Potential geoarchaeological deposits**

- 2.3.1 Excavation to improve the drainage on the Site was monitored by Exeter Archaeology (EA 2009b) and comprised the widening of both Matford Brook and Mutton Brook, along the southern and northern Site boundaries respectively, and the creation of a 'collector drain' in the south-west corner of the Site extending to the north of a small parcel of land enclosed by a post and wire fence.
- 2.3.2 Excavations were undertaken at the Site along both the northern and southern boundaries, from east to west, with trenches typically up to 10-15m wide along the length. The maximum depth of excavation rarely exceeded 600mm. A consistent sequence of deposits was encountered comprising a yellowish grey and reddish brown alluvial clay encountered at a depth of

approximately 150-300mm below topsoil. This alluvial clay was exposed across the entire area of excavation. Deeper river terrace gravels were not encountered and no palaeochannels were identified. No features were recorded cutting the alluvial clay and no finds were recovered.

- 2.3.3 The results are broadly consistent with the subsequent geotechnical information for the Site (Card Geotechnics 2009), where 18 percussive boreholes and 17 trial pits were excavated.
- 2.3.4 A number of boreholes recorded deposits of grey/dark grey silty clay containing organic material and occasional decayed wood, mostly at a depths of 2-2.5m bgl. The pits and boreholes that are recorded as containing such deposits at these depths are TP1, TP2 (including wood), TP3, TP4 (including wood), TP 17 (including wood); BH1, BH2, BH3, BH5 (including wood), BH8, BH9, BH11 BH12, BH15, BH18 (including wood).

## **2.4 Geophysical survey results**

- 2.4.1 A magnetometer survey was completed across the Site by Archaeological Surveys Ltd in 2011 (ASL 2011). The main results are illustrated in **Figure 1**.
- 2.4.2 Approximately 10.5ha was surveyed and the results indicated the widespread presence of magnetic anomalies across the Site. However, interpretation was limited by a lack of discernible morphological characteristics, and most of the anomalies have been categorised as uncertain in origin. Many anomalies are very low in magnitude which is likely to be associated with the nature of the soils and periods of high water-table or occasional flooding.
- 2.4.3 A number of linear anomalies were located that are likely to be associated with former anthropogenic activity, although it was not possible to determine whether they were associated with former agricultural activity, land drainage etc. or whether they have archaeological potential. Many of the anomalies were formed by natural processes within frequently waterlogged ground and alluvial soil, although interpretation was by necessity cautious as it is sometimes difficult to separate these from features of more genuinely anthropogenic origin.

## **3 AIMS**

### **3.1 General objectives**

- 3.1.1 The objective of the proposed mitigation was to establish within the constraints of the agreed methodology, the presence or absence, location, extent, date, character, condition, and depth of any surviving remains which may be affected by the proposed works.
- 3.1.2 In particular the archaeological works aimed to clarify the impact upon the potential archaeological resource of any groundworks necessary for the construction of the new development and determine whether further archaeological mitigation would be necessary.
- 3.1.3 The borehole methodology aimed to further investigate and assess the potential, extent and nature of deposits which may potentially lie within a former palaeochannel in the south of the Site. Analysis of the samples collected aimed to provide information about the processes and effects of past land use, settlement activity, and past climate change, particularly with

regard to the early settlement and exploitation of the surrounding higher ground and to any remains within the north-eastern part of the Site.

## **4 METHODOLOGY**

### **4.1 Introduction**

4.1.1 A total of four trial trenches and four test pits were excavated along with twelve boreholes, excavated as two transects of six boreholes each (**Figure 1**).

### **4.2 Fieldwork**

4.2.1 All works were undertaken in accordance with the methodology set out within the WSI (WA 2011). All fieldwork was conducted in accordance with the guidance and standards outlined in the Institute for Archaeologists' *Standard and Guidance for Archaeological Field Evaluation* (IfA 2008).

4.2.2 Excavation of the trial trenches and test pits was carried out under constant archaeological supervision using a 360° tracked excavator fitted with a 1.8m wide toothless grading bucket. Mechanical excavation proceeded in spits to the top of the uppermost archaeological horizon or solid geological deposits (alluvial silty clays), which ever was encountered first. The machine excavated arisings were stored at the side of the trench with both topsoil and subsoil scanned for artefacts at regular intervals.

4.2.3 The borehole survey was undertaken with a tracked percussion drill rig capable of coring and casing to a depth of up to c. 15m below ground surface through a variety of geological types including sand and gravel. The cores were 150mm in diameter to facilitate sampling of sediments for plant macrofossils and insect remains.

4.2.4 The core samples were wrapped, labelled and returned to the offices of Wessex Archaeology for assessment by a geoarchaeologist.

### **4.3 Recording**

4.3.1 Archaeological features and deposits were subsequently hand cleaned and sample excavated as per the methodology set out in the WSI (WA 2011). Features and deposits were recorded using Wessex Archaeology's *pro forma* record sheets and a unique numbering system for individual contexts, and were planned at a scale of 1:20. Sections were drawn at 1:10. All principal strata and features were related to the Ordnance Survey datum. The monitored areas were located using a Leica GPS survey system. Following all investigation and recording, the areas were then backfilled.

4.3.2 A photographic record of the evaluation was maintained using both colour transparencies, black and white negatives (on 35 mm film) and digital images. The photographic record illustrated both the detail and general context of the archaeological remains revealed, and the Site as a whole.

## **5 ARCHAEOLOGICAL RESULTS**

### **5.1 Introduction**

5.1.1 The following sections provide a summary of the information held in the Site archive. Details of individual excavated contexts and features are retained in the Site archive and a tabulated version of these can be found in **Appendix 1**.

- 5.1.2 Four trenches and four test pits were machine excavated in the locations indicated in **Figure 1**. **Trench 1** measured 10m x 1.8m, **Trench 2** 40m x 1.8m, and **Trenches 3** and **4** each measured 30m x 1.8m (**Figure 2**). **Trench 3** had to be moved 5m to the south-west due to its proximity to overhead cables, however the trench was still able to be positioned over the geophysical anomaly. **Test pits 4–8** all measured 4.1m x 1.8m.
- 5.1.3 Following completion of analysis, the results of the borehole survey will be detailed in a separate report.
- 5.1.4 Initially the trenches were mechanically excavated down to the top of the alluvium. Following a Site meeting, further machine excavation through the alluvial sequence, to a depth of 0.95m, was completed.

## 5.2 Natural deposits and soil sequences

- 5.2.1 A similar stratigraphic sequence was recorded in each trench, characterised by topsoil and subsoil overlying a deeply stratified alluvial sequence.
- 5.2.2 All trial trenches and test pits contained a layer of topsoil and subsoil which varied in depth from 0.28m to 0.50m, with the exception of **TP6** within which no subsoil was recorded. The deposits contained no artefacts and very few coarse components, indicating that there had been very little disturbance to the ground for a prolonged period.
- 5.2.3 The underlying geology of the Site comprised alluvial deposits made up of clays derived from flooding and low-energy waterborne deposition. Recorded to a depth of 2.00m below the ground level (1.60m from the bottom of the subsoil) the alluvial clays overlay river terrace gravel layers.
- 5.2.4 A more detailed geoarchaeological discussion of these results will be included in the borehole assessment report.

## 5.3 Summary of the evaluation results

### *Trench 1*

- 5.3.1 No archaeological features were identified in **Trench 1**. A highly concentrated manganese deposit was observed on the initial machine excavation and is the likely cause of the geophysical anomaly.
- 5.3.2 During deeper machine excavation of the trench, an area of blue gleyed silty clay (**Plate 1**) was revealed and initially thought to be the edge of the linear anomaly identified in the geophysics report. On further investigation it was proven to be a natural feature caused by different rates of oxidisation and water drainage. Environmental analysis of this deposit revealed that, while it contained no charred plant remains, a high number of un-charred seeds were recovered. This supports the interpretation that this deposit was caused by natural alluvial deposition in an area of limited settlement activity.

### *Trench 2*

- 5.3.3 Several linear features or channels were identified in **Trench 2**, although only linear feature **204** (**Plate 2**) corresponded with a geophysical anomaly. Aligned north-west to south-east and measuring 5.70m wide, **204** was tentatively interpreted from the geophysical results as the ditch of a former enclosure. Excavation proved it more likely to be the result of a water channel formed during the multiple flooding and drainage events that have occurred within the Site.

5.3.4 Linear feature **209**, located due south of **204**, has been interpreted as a further water channel. The only variation between this and the channel deposits identified within **204** comprised a charcoal-rich layer within the fill. Environmental analysis of this deposit did not identify any charred plant remains although the presence of wood charcoal may indicate some land management or clearance in the immediate area, or could equally be the result of a naturally occurring fire event.

5.3.5 In addition to these two channels a further two features were identified within the trench. Upon excavation, feature **207** was shown to represent a natural undulation in the alluvium which had then filled up with low energy alluvial silts during a period of waterlogging. The second feature, **213**, was only identified in the eastern trench section (**Plate 3**). Cutting channel **209**, it may be of archaeological origin, although no artefacts or coarse components were present within the fills suggesting it is more likely to represent a natural feature.

#### *Trench 3*

5.3.6 Pit **306** was located on the south-eastern side of the trench (**Plate 4**) with the exposed area of the feature measuring 0.52m x 1.19m. Although no artefacts were recovered from the three fills identified, the primary fill (**307**) contained a charcoal-rich deposit, from which a single carbon-14 sample returned a Late Neolithic to Early Bronze Age date (2460 to 2140 cal. BC; 3820±30 BP, SUERC-24905).

5.3.7 North-east of **306** a linear feature, **312**, was recorded, almost certainly corresponding to the anomaly identified in the geophysical survey. A further probable post-medieval pit, **304**, was identified within the centre of the trench, likely to have derived from farming activity.

#### *Trench 4*

5.3.8 Linear feature **406**, aligned east-west, lay immediately beneath the subsoil, and was 5.7m wide, more than 0.60m deep and is likely to represent a water channel that was formed during one or more of the flooding events that have occurred on the Site. This feature is likely to correspond to the geophysical anomaly that the trench was originally targeted upon.

5.3.9 Cutting channel **406**, feature **404** is likely to represent a further post-medieval drainage channel. The feature was 0.77m wide and contained a single secondary fill, **405**, comprising a light brown sandy silt clay.

#### *Test pits 5-8*

5.3.10 The stratigraphic sequence within the four test pits was generally similar, comprising topsoil and subsoil overlying a deeply stratified alluvial sequence. The only exception was **TP6** where no subsoil layer was recorded, probably the result of more recent disturbance.

5.3.11 No archaeological deposits or features were recorded in any of the four test pits.

## **6 FINDS AND ENVIRONMENTAL**

### **6.1 Finds**

6.1.1 No finds were recovered from the trial trenches or test pits.

## 6.2 Environmental evidence

6.2.1 Three bulk samples were taken during the evaluation. Samples were collected from a later Neolithic/Early Bronze Age pit **306** in **Trench 3**, an undated alluvial deposit (**105**) in **Trench 1** and an undated possible ditch **209** in **Trench 2** to evaluate the presence and preservation of palaeo-environmental remains. This information can provide an indication of the significance of the Site.

## 6.3 Charred plant remains and wood charcoal

6.3.1 Bulk samples were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 5.6mm, 2mm and 1mm fractions and dried. The coarse fractions (>5.6mm) were sorted, weighed and discarded. Flots were scanned under a x10 – x40 stereo-binocular microscope and the preservation and nature of the charred plant and wood charcoal remains recorded in **Table 1**. Preliminary identifications of dominant or important taxa are noted below, following the nomenclature of Stace (1997).

6.3.2 The flots were generally large with low numbers of roots and modern seeds that are indicative of stratigraphic movement and the possibility of contamination by later intrusive elements. Charred material comprised varying degrees of preservation.

6.3.3 No charred plant remains were recorded in any of the three samples.

6.3.4 Wood charcoal was noted from the flots of the bulk samples and is recorded in **Table 1**. Large quantities of wood charcoal fragments greater than 4mm were retrieved from the later Neolithic/Early Bronze age pit **306** and from the undated possible ditch **209**. The wood charcoal from pit **306** appeared to be mainly oak, but also included some *Pomoideae* (apple, hawthorn, pear, rowan, service etc). It was slightly iron impregnated and no round wood fragments were seen. The sample from the possible ditch **209** contained more heavily iron impregnated charcoal pieces, which mainly appeared to be mature wood fragments.

## 6.4 Waterlogged plant remains

6.4.1 Sample <1> from the undated alluvial deposit (**105**) contained a high number of un-charred seeds. These were visually inspected under a x10 to x40 stereo-binocular microscope and preliminary identifications of dominant taxa were made.

6.4.2 The un-charred seeds included seeds of buttercup (*Ranunculus* sp.), nettle (*Urtica* sp.), elder (*Sambucus nigra*), bramble (*Rubus* sp.), sedge (*Carex* sp.), knotgrass (*Polygonum* sp.), goosefoot (*Chenopodium* sp.), dock (*Rumex* sp.), persicaria (*Persicaria* sp.) and stitchwort (*Stellaria* sp.). This plant assemblage appears to be indicative of disturbed wasteland/scrub/rough pasture and are most likely to be anything from late prehistoric to historic in date.

## 6.5 Dating

6.5.1 A single sample of suitable wood charcoal was selected from pit **306** (context **307**) for radiocarbon dating. As most of the wood charcoal was of

oak, *Pomoideae* wood was selected as usually being from relatively short lived trees.

- 6.5.2 The sample was identified and submitted to the Scottish Universities Environmental Research Centre, East Kilbride (SUERC) for radiocarbon dating.

#### *Results*

- 6.5.3 The radiocarbon determination was calibrated using OxCal 4.1.7 (Bronk Ramsey 2001; 2009) and the IntCal09 calibration curve (Reimer et al. 2009) and are quoted in the form recommended by Mook (1986) with the end points rounded outward to 10 years (**Table 2; Figure 3**).

- 6.5.4 The date determines the charcoal in the pit as having most likely having been burned/deposited within the Late Neolithic to Early Bronze Age 2460-2140 cal. BC (3820 ± 30BP, SUERC-35414).

## **7 POTENTIAL**

### **7.1 Wood charcoal**

- 7.1.1 There is a small potential that the analysis of the wood charcoal from pit **306** could provide some indication of the make-up of and the management and exploitation of the local woodland resource during the Late Neolithic/Early Bronze Age period. Given the pit itself is not associated to any proven settlement or settlement activity or other archaeological material within the Site this would be of very low value.

### **7.2 Waterlogged plant remains**

- 7.2.1 It is unlikely that the analysis of the waterlogged plant remains would provide much more information than has been gleaned from the assessment on the local environment reflected by the remains from the undated alluvial deposit (**105**). This is particularly pertinent given it is not directly related to any archaeology.

## **8 PROPOSALS**

### **8.1 Wood charcoal**

- 8.1.1 No analysis of any wood charcoal is proposed as it cannot be directly related to any known settlement or settlement activity.

### **8.2 Waterlogged plant remains**

- 8.2.1 No further work is proposed on the waterlogged plant remains from the undated alluvial deposit (**105**) as they do not directly relate to any known settlement

**Table 1: Assessment of the charred plant remains and charcoal**

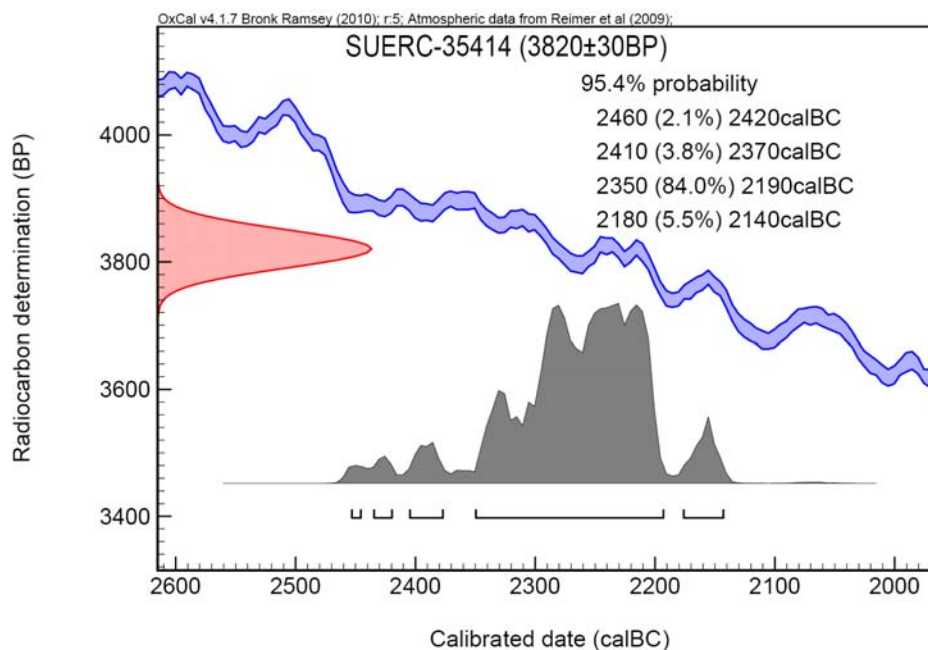
Samples				Flot								
Feature	Context	Sam ple	Vol. Ltrs	Flot (ml)	% roots	Charred Plant Remains				Charcoal >4/2mm	Other	Anal ysis
						Grain	Chaff	Other	Comments			
Trench 3 - Late Neolithic/Early Bronze Age Pit												
306	307	<4>	10	400	8	-	-	-	Wood charcoal slightly iron impregnated. Looks like mainly oak. Pomoideae. No round wood seen	100/100ml	-	-
Trench 1 – Undated Alluvial deposit												
	105	<1>	7	60	2	-	-	-	Wood charcoal mainly mature wood frags. Few un-charred wood frags + un-charred seeds (A*)	10/7 ml	-	-
Trench 2 – Undated Possible Ditch												
209	212	<2>	8	160	5	-	-	-	Wood charcoal iron impregnated.	70/25 ml	-	-

Key: A\*\*\* = exceptional, A\*\* = 100+, A\* = 30-99, A = >10, B = 9-5, C = <5;

**Table 2: Radiocarbon determination for pit 306 (307)**

Feature and context	Identification	Laboratory Code	$\delta^{13}C$	Date BP	calibration BC (2 sig. 95.4%)
Pit 306 (307)	Pomoideae Wood charcoal	SUERC-35414	-25.7 ‰	3820 ± 30BP	2460-2140 cal. BC (2350-2190 cal. BC at 84%)

**Figure 3: Probability distribution for the date from pit 306 (307)**





## 9 CONCLUSIONS

- 9.1.1 There is little evidence of human occupation and activity on the Site, with the majority of the anomalies identified through geophysical survey most likely to be the result of alluvial processes during multiple flood events.
- 9.1.2 Both the morphology of the features and the nature of the deposits indicate the majority the linear features identified on the Site are water channels some of which are likely to have naturally formed. Indeed, the demonstrably low environmental potential within the fills and absence of any artefactual material within the features or immediate area, suggest a low archaeological potential overall, beyond that of general water management.
- 9.1.3 However, the pit identified in the north-eastern corner of the Site suggests the possibility of prehistoric activity of later Neolithic to Early Bronze Age date. Although one must remain cautious with regard to the dating, given the pit is located relatively high up in the alluvial sequence and there was no artefactual evidence in support of the lone C14 date, the potential for finds and features of prehistoric date to exist on the Site cannot be completely discounted.
- 9.1.4 Although the analysis from the borehole transects will provide additional information on the palaeoenvironmental potential of the Site, the results of the evaluation strongly suggest a low potential for features of archaeological interest to be impacted by development at the Site.

## 10 ARCHIVE

### 10.1 Preparation and Deposition

- 10.1.1 The complete archaeological project archive will be prepared in accordance with Wessex Archaeology's Guidelines for Archive Preparation and in accordance with *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (AAF 2007).
- 10.1.2 It is intended that the archive should ultimately be deposited with the Royal Albert Memorial Museum (RAMM), Exeter. RAMM have been contacted regarding the deposition of the archive. Accession numbers are not currently being issued as they are not accepting archives until 2013. Instead, reference numbers (RAMM:11/9) are being issued "on the condition that it implies no obligation whatsoever on RAMM to accept any archives from that project" (Jenny Durrant, *pers. comm.*). The deposition of the archive will be reviewed at a later date.

### 10.2 The Archive

- 10.2.1 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 ring-bound file containing a watching brief attendance form, site 'day book', trench record sheets, photographic register and *Written Scheme of Investigation*.
- 10.2.2 The archive is currently held at Wessex Archaeology's Salisbury office under the site code **77790**.

### 10.3 Copyright

- 10.3.1 This report may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey), or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferrable by Wessex Archaeology. You are reminded that you remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

## 11 REFERENCES

- Archaeological Surveys Ltd 2011, *Matford Park Phase 3, Exeter. Magnetometer Survey Report* Ref no. 366
- Bayliss, A., Cook, G., Bronk Ramsey, C., van der Plicht, J. and McCormac, G., 2008, *Radiocarbon Dates - from samples funded by English Heritage under the Aggregates Levy Sustainability Fund 2004-7*. English Heritage, Swindon.
- Bronk Ramsey, C., 2001, Development of the radiocarbon calibration program OxCal, *Radiocarbon* **43**, 355-363.
- Bronk Ramsay, C., 2009, Bayesian Analysis of Radiocarbon Dates, *Radiocarbon* **51(1)**, 337-360.
- Card Geotechnics 2009 |*Matford Park Phase 3, Exeter. Geo-Environmental and Geotechnical Interpretative Report* Ref CGE/6198
- Geological Survey of England and Wales 1995, Exeter, Solid and Drift Geology. Sheet 325 1:50,000
- Exeter Archaeology 2009a *Archaeological Assessment of Matford Business Park* Report Ref 09.41
- Exeter Archaeology 2009b *Archaeological monitoring of drainage works on land to the south of Yeoford Way, Exeter* Ref 6992
- Mook, W.G., 1986, 'Business Meeting: recommendations/resolutions adopted by the twelfth international radiocarbon conference', *Radiocarbon* **28**, 799.
- Reimer, P. J., Baillie, M. G. L., Bard, E., Bayliss, A., Beck, J. W., Blackwell, P. G., Bronk Ramsey, C., Buck, C. E., Burr, G. S., Edwards, R. L., Friedrich, M., Grootes, P. M., Guilderson, T. P., Hajdas, I., Heaton, T. J., Hogg, A. G., Hughen, K. A., Kaiser, K. F., Kromer, B., McCormac, F. G., Manning, S. W., Reimer, R. W., Richards, D. A., Southon, J. R., Talamo, S., Turney, C. S. M., van der Plicht, J., & Weyhenmeyer, C. E. (2009). IntCal09 and Marine09 radiocarbon age calibration curves, 0-50,000 years cal BP. *Radiocarbon*, **51(4)**, 1111-1150.
- Stace, C., 1997, *New flora of the British Isles* (2<sup>nd</sup> edition), Cambridge: Cambridge University Press.

Wessex Archaeology 2011, Land South of Yeoford Way, Marsh Barton Trading Estate, Exeter, Written Scheme of Investigation for an Archaeological Evaluation, Unpublished Client Report ref. 77790.01, May 2011

## APPENDIX 1: TABLE OF TRENCH DESCRIPTIONS

All depths are below ground level.

<b>Trench 1</b>	<b>Dimensions :</b>	10m x 1.8m x 0.76m	
	<b>Land use:</b>	Pasture	
	<b>Coordinates:</b>	(SW) 293182.72, 089474.23, 2.94m aOD (NE) 293189.92, 089481.63, 2.95m aOD:	
<b>Context</b>	<b>Category</b>	<b>Description</b>	<b>Depth</b>
101	Topsoil	Mid greyish brown silty clay containing no coarse components but heavy root intervention.	0 – 0.22m
102	Subsoil	Light bluish grey clay silt with slit orange brown mottling containing occasional manganese staining.	0.22 – 0.30m
103	Alluvial deposit	Mid orange brown clay silt containing moderate manganese staining.	0.30 – 0.89m
104	Layer	Highly concentrated manganese deposit located within the southern half of the trench.	0.39 – 0.62m
105	Alluvial deposit	Clay silty sand containing no coarse components. Mix of colours from a mid blue grey to a light orange grey due to different oxidisation rates.	0.62 – 0.94m
106	Alluvial deposit	Clay silty sand containing moderate sub-rounded to sub-angular stone (<0.10m)	0.94m+

<b>Trench 2</b>	<b>Dimensions :</b>	40m x 1.8m x 0.95m	
	<b>Land use:</b>	Pasture	
	<b>Coordinates:</b>	(S) 293223.88, 089430.11, 2.87m aOD (N) 293225.60, 089469.72, 2.88m aOD:	
<b>Context</b>	<b>Category</b>	<b>Description</b>	<b>Depth</b>
201	Topsoil	Mid greyish brown silty clay containing no coarse components but has moderate root intervention.	0 – 0.24m
202	Subsoil	Light bluish grey clay silt with moderate orange brown mottling. Contains sparse manganese staining.	0.24 – 0.37m
203	Alluvial deposit	Mid orange brown clay silt containing abundant manganese staining and very rare sub-angular stone inclusions (<0.06m).	0.37 – 0.93m
204	Cut	Cut of a linear channel running in a north-west to southeast direction located in the middle of the trench. Measures 5.70m across.	0.24 – 0.93m+
205	Fill	Secondary fill of <b>204</b> . Pale bluish grey silty loam which becomes whiter when dry with slight mid orange brown mottling. Calcareous with occasional manganese staining.	0.24 – 0.60m
206	Fill	Secondary fill of <b>204</b> . Mid brownish grey silty sand containing moderate sub-rounded stone and abundant manganese staining. Derived from high energy waterborne deposition.	0.60m+
207	Cut	Terminus of a possible linear feature located at the north end of the trench. Measures 1.26m x 0.62m.	0.93m+
208	Fill	Secondary fill of <b>207</b> . Pale greyish blue clay containing moderate manganese staining.	0.93m+
209	Cut	Cut of a linear channel running in a northwest to southeast direction located in the middle of the trench. Measures 7.70m across.	0.37 – 0.95m+
210	Fill	Secondary fill of <b>209</b> . Mid to dark orange brown clay silt containing very rare sub-angular stone inclusions (<0.04m).	0.37 – 0.60m

211	Fill	Secondary fill of <b>209</b> . Light grey loose silty sand with a slight pink hue containing fine abundant gravels. High energy waterborne deposition.	0.60 – 0.80m
212	Fill	Secondary fill of <b>209</b> . Dark bluish black silty sand containing abundant sub-rounded to sub-angular stone (<0.05m) and quantities of charcoal.	0.80m+
213	Cut	Cut of a feature visible only on the eastern side of the trench. Cuts (210).	0.40 – 0.70m+
214	Fill	Secondary fill of <b>213</b> . Mid brownish grey silty clay with orange brown mottling. Contains no coarse components	0.40 – 0.70m
215	Alluvial deposit	Mid orange brown clay containing occasional to moderate manganese staining and common sub-rounded stone (0.07m).	0.95m+

<b>Trench 3</b>	<b>Dimensions :</b>	30m x 1.8m x 0.95m	
	<b>Land use:</b>	Pasture	
	<b>Coordinates:</b>	(SW) 293272.54, 089464.82, 2.63m aOD (NE) 293278.97, 089494.56, 2.71m aOD:	
<b>Context</b>	<b>Category</b>	<b>Description</b>	<b>Depth</b>
301	Topsoil	Mid to light greyish brown silty clay (friable) containing sparse sub-rounded stone (<0.03m) and manganese staining. Slight root intervention.	0 – 0.24m
302	Subsoil	Light bluish grey clay silt with slight orange brown mottling. Contains sparse sub-rounded stone (<0.03m) and occasional manganese staining.	0.24 – 0.37m
303	Alluvial deposit	Mid orange brown clay silt containing moderate manganese staining and rare sub-rounded stone (<0.04m)	0.37 – 0.67m
304	Cut	Post-medieval/modern sub-rounded feature located in the middle of the trench. Measures 1.8m x 4m.	0.37 – 0.52m
305	Fill	Fill of <b>304</b> . Dark greyish black blue silty clay containing moderate manganese staining and abundant sub-angular stone (<0.08m)	0.37 – 0.52m
306	Cut	Cut of a possible pit located at the north-east end of the trench. Measures 0.52m x 1.19m.	0.67 – 0.99m
309	Fill	Deliberate backfill of <b>306</b> . Dark greyish red brown silty clay containing occasional sub angular to sub-rounded stone (<0.05m).	0.67 – 0.79m
308	Fill	Secondary fill of <b>306</b> . Orangey grey brown silty clay containing occasional sub-rounded to sub-angular stone (<0.03m).	0.79 – 0.88m
307	Fill	Deliberate backfill of <b>306</b> . Dark greyish red brown silty clay containing occasional sub-angular to sub-rounded stone (<0.03m).	0.88 – 0.99m
310	Alluvial deposit	Mid yellowish brown silty clay alluvium containing moderate manganese staining	0.42 – 0.61m
311	Alluvial deposit	Mid yellowish brown alluvial clay. Contains no coarse components.	0.61 – 0.95m+
312	Cut	Probable linear feature. c.0.20m wide, 0.12m deep	0.37m (top)
313	Fill	Mid yellowish brown silty clay	0.37 – 0.49m

<b>Trench 4</b>	<b>Dimensions :</b>	30m x 1.8m x 1.1m	
	<b>Land use:</b>	Pasture	
	<b>Coordinates:</b>	(NW) 293298.40, 089452.99, 2.63m aOD (SE) 293320.00, 089431.91, 2.56m aOD:	
<b>Context</b>	<b>Category</b>	<b>Description</b>	<b>Depth</b>
401	Topsoil	Mid greyish brown sandy silty clay containing no coarse components.	0 – 0.20m

402	Subsoil	Light to mid bluish grey silty clay containing no coarse components.	0.20 – 0.30m
403	Alluvial deposit	Light to mid mottled reddish brown grey clay containing occasional manganese staining.	0.30 – 0.90m+
404	Cut	Probable Post- medieval drainage channel which runs in a meandering north to south direction. Located in the south-east end of the trench and measures 0.77m across.	0.38 – 0.54m
405	Fill	Secondary fill of <b>404</b> . Light reddish brown sandy silty clay containing occasional manganese staining.	0.38 – 0.54m
406	Cut	'Cut' of an east to west orientated channel running through the middle of the trench.	0.30 – 1.10m+
407	Fill	Secondary fill of <b>406</b> . Mixed grey to orange silty sand derived from high energy waterborne deposition. Contains sorted fine grained stone inclusions.	0.30 – 1.10m+

<b>Test Pit 5</b>	<b>Dimensions :</b>	4.1m x 1.8m x 3m	
	<b>Land use:</b>	Pasture	
	<b>Coordinates:</b>	(W) 292973.04, 089386.99, 3.89m aOD (E) 292977.84, 089385.27, 3.86m aOD:	
<b>Context</b>	<b>Category</b>	<b>Description</b>	<b>Depth</b>
501	Topsoil	Pale greyish brown silty clay containing no coarse components. Heavy root intervention.	0 – 0.28m
502	Subsoil	Pale whitish grey silty clay containing no coarse components.	0.28– 0.42m
503	Alluvial deposit	Mid orange brown clay silt with occasional to moderate manganese staining	0.42 - 0.75m
504	Alluvial deposit	Pale reddish pink silty sand containing common sub-rounded stone (<0.03m)	0.75 – 0.90m
505	Alluvial deposit	Mid reddish brown silty clay with slight blue grey mottling.	0.90 – 1.07m
506	Alluvial deposit	Pale reddish pink silty sand containing common sub-rounded stone (<0.06m)	1.07 - 1.15m
507	Alluvial deposit	Mid brownish orange silty clay containing no coarse components.	1.15 – 1.66m
508	Alluvial deposit	Pale greyish blue clay containing no coarse components	1.66 – 2.00m
509	Alluvial deposit	Dark blue silty sand containing common sub-rounded to rounded gravel inclusions (<0.07m)	2.00 – 2.47m
510	Alluvial deposit	Mid orange silty sand containing abundant gravel inclusions (<0.09m)	2.47m+

<b>Test Pit 6</b>	<b>Dimensions :</b>	4.1m x 1.8m x 2.4m	
	<b>Land use:</b>	Pasture	
	<b>Coordinates:</b>	(W) 293323.36, 089289.55, 2.88m aOD (E) 293327.28, 089289.31, 2.88m aOD:	
<b>Context</b>	<b>Category</b>	<b>Description</b>	<b>Depth</b>
601	Topsoil	Mid reddish brown clay loam containing rare very small angular stones (<0.03m)	0 – 0.40m
602	Alluvial deposit	Mottled mid greyish brown clay loam. Gleyed.	0.40 – 0.90
603	Alluvial deposit	Dark brown clay loam containing common manganese staining.	0.90 – 1.60m
604	Alluvial deposit	Grey (gleyed) clay containing occasional rounded stone (<0.06m) which increase in quantity with depth.	1.60 – 2.10m
605	Alluvial deposit	Light yellowish grey silty sand containing abundant clean gravels (<0.20m)	2.1m+

<b>Test Pit 7</b>	<b>Dimensions :</b>	4.1m x 1.8m x 3m	
	<b>Land use:</b>	Pasture	
	<b>Coordinates:</b>	(W) 292910.21, 089427.63, 4.1m aOD (E) 292914.95, 089427.32, 4.17m aOD:	
<b>Context</b>	<b>Category</b>	<b>Description</b>	<b>Depth</b>
701	Topsoil	Mid brownish grey silty clay containing no coarse components. Heavy root intervention.	0 – 0.28m
702	Subsoil	Mid orange brown silty clay containing occasional manganese staining.	0 – 0.42m
703	Alluvial deposit	Pale greyish blue silty clay containing occasional manganese staining (appears as a band in the middle of the layer).	0.42 – 0.65m
704	Alluvial deposit	Mid reddish brown clay silt containing no coarse components.	0.65 – 1.31m
705	Alluvial deposit	Mid yellowish brown clay silt containing no coarse components.	1.31 – 2.02m
706	Alluvial deposit	Dark bluish grey silty sand containing abundant gravel inclusions (<0.06m).	2.02 – 2.70m
707	Alluvial deposit	Mid yellowish brown silty sand containing abundant gravel inclusions (<0.08m)	2.70m+

<b>Test Pit 8</b>	<b>Dimensions :</b>	4.1m x 1.8m x 3m	
	<b>Land use:</b>	Pasture	
	<b>Coordinates:</b>	(W) 292028.92, 089231.09, 4.27m aOD (E) 292034.59, 089231.58, 4.16m aOD:	
<b>Context</b>	<b>Category</b>	<b>Description</b>	<b>Depth</b>
801	Topsoil	Mid reddish brown silty clay containing occasional sub-rounded to sub-angular stone inclusions (<0.03m)	0 – 0.20m
802	Subsoil	Pale brownish red silt clay containing no coarse components.	0.20 – 0.50m
803	Alluvial deposit	Whitish blue sandy clay containing no coarse components.	0.50 – 0.55m
804	Alluvial deposit	Pale bluish grey clay containing no coarse components.	0.55 – 1.10m
805	Alluvial deposit	Dark purple brown sandy silty containing moderate amounts of fine gravel inclusions (<0.02m).	1.10 – 1.30m
806	Alluvial deposit	Mid orange silty sand containing abundant gravel inclusions (<0.05m)	1.30 – 1.40m
807	Alluvial deposit	Mid reddish brown clay with slight greyish blue mottling containing no coarse components.	1.40 – 2.10m
808	Alluvial deposit	Mid bluish clay containing no coarse components. Some organic material, possibly roots, visible within this layer.	2.10 – 2.50m
809	Alluvial deposit	Dark purple silty sand containing abundant gravel inclusions (<0.07m).	2.50 – 3.00m
810	Alluvial deposit	Mid orange brown silty sand containing abundant gravel inclusions (<0.09m).	3.00m+

**APPENDIX 2: OASIS RECORD FORM**
**OASIS ID - wessexar1-110442**
**Versions**

View	Version	Completed by	Email	Date
View 1	1	S Farr	s.farr@wessexarch.co.uk	21 September 2011

**Completed sections in current version**

Details	Location	Creators	Archive	Publications
Yes	Yes	Yes	Yes	1/1

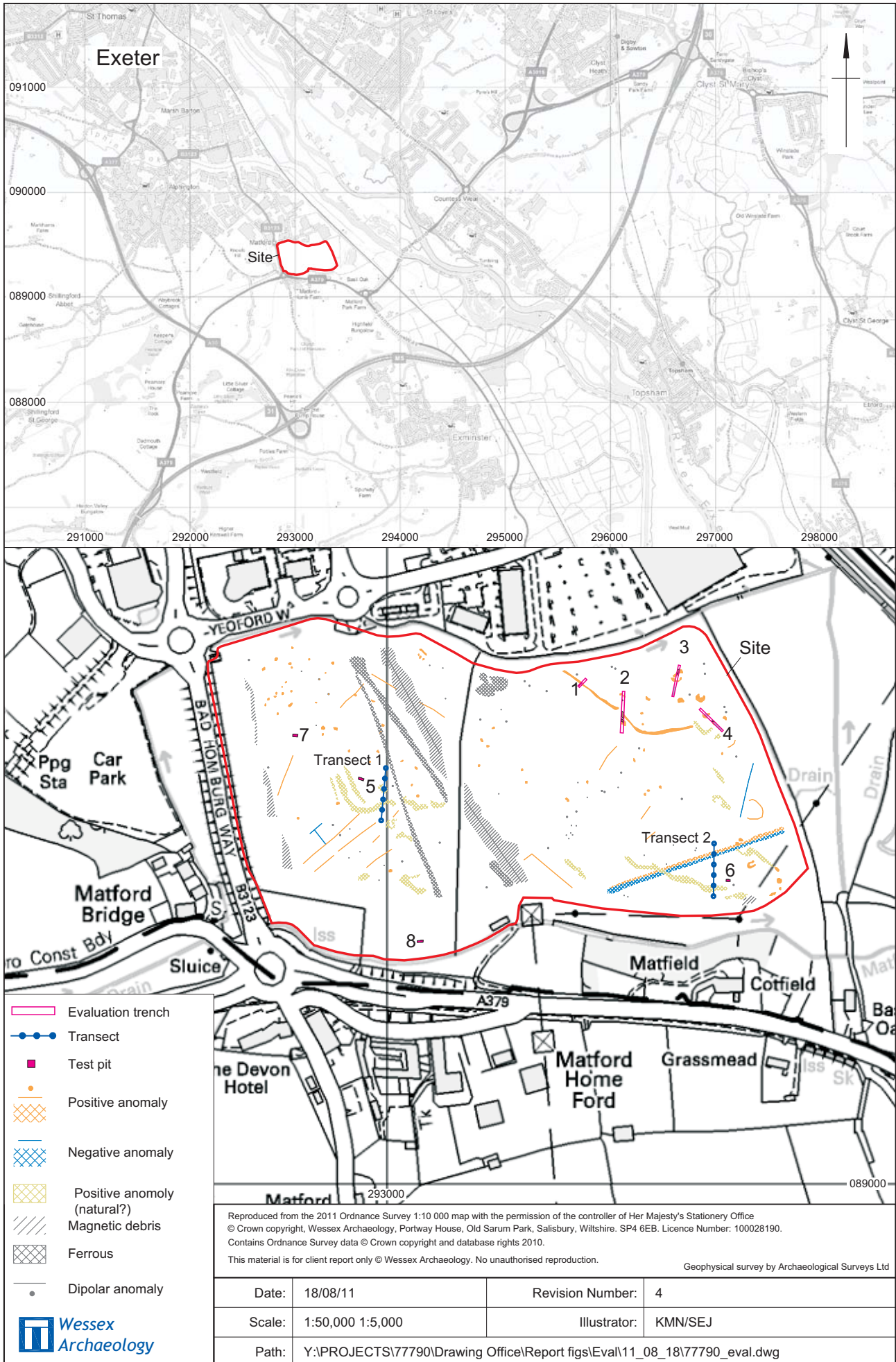
**Validated sections in current version**

Details	Location	Creators	Archive	Publications
No	No	No	No	0/1

**File submission and form progress**

Grey literature report submitted?	No	Grey literature report filename/s
Images submitted?	No	Image filename/s
Boundary file submitted?	No	Boundary filename
HER signed off?		NMR signed off?





Site location

Figure 1

Keys	
<b>Plan:</b>	<b>Section:</b>
Evaluation trench	Gravel
Archaeological feature	Charcoal
Post-medieval feature	Manganese
Geological or natural feature	Alluvium

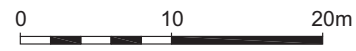
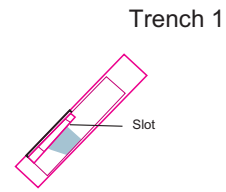


Plate 1: South-east facing section of the geological stratigraphy in Trench 1



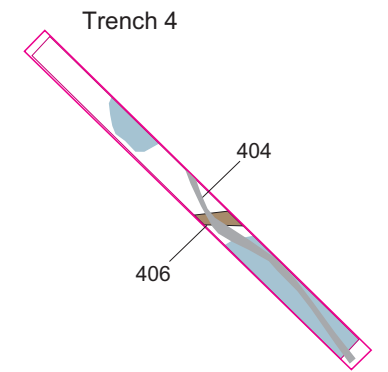
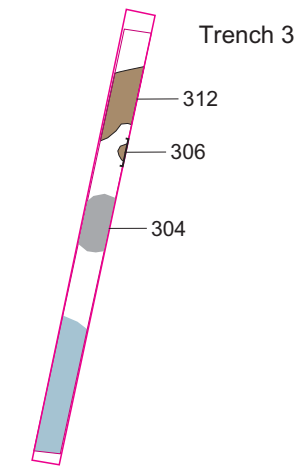
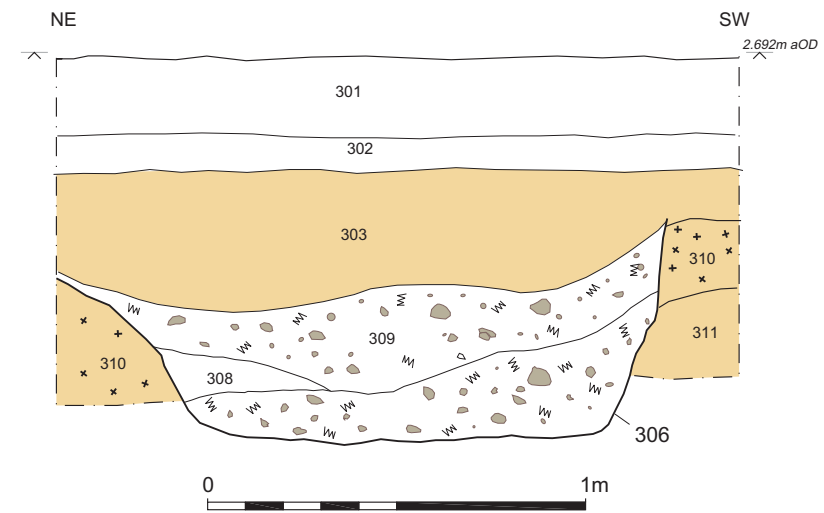
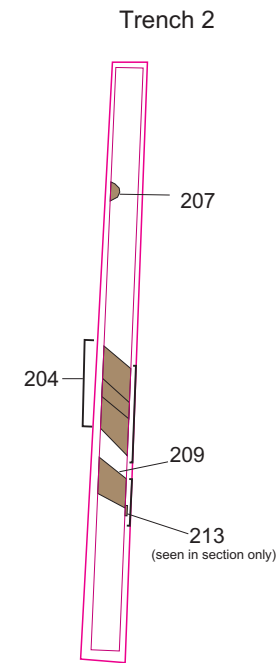
Plate 2: East facing overview of 204



Plate 3: West facing section of 209 and 213



Plate 4: North-west facing section of 306





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