# Wheelers Cross Wind Farm, Bradworthy, Devon

Results of an archaeological trench evaluation

NGR SS 347 135

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On behalf of Wind Prospect Developments Ltd

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# **CENTRED ON NGR SS 347 135**

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## Summary

An archaeological trench evaluation carried out in support of a planning application for a proposed wind farm at Wheelers Cross, Bradworthy, Devon (centred on NGR SS 347 135), was undertaken by AC archaeology in two stages, between June and November 2011. The site covers two separate locations (Areas A and B) and is situated in an area historically characterised by dispersed medieval farmsteads and associated agricultural land.

The evaluation comprised the machine excavation of 30 trenches, totalling 640m in length. The main feature type recorded was linear ditches, likely to represent evidence for early land division and drainage. There was a general paucity of artefacts, with what was recovered mainly dating to the post-medieval or modern periods, although a single abraded sherd of locally-made medieval pottery and a prehistoric worked chert flake were also found. Close to the now removed former late medieval or post-medieval farmstead of Nattadon, a small undated 'fire pit' was identified, while just to the west of this a waterlogged humic layer was present. To the north, in the vicinity of Sessacott, the former course of a stream channel was recorded, which appears to have been canalised in recent times. Assessment of soil samples taken from the humic layer, former stream and selected ditch fills has not identified significant quantities of charred plant remains or charcoal.

#### 1. INTRODUCTION

- 1.1 An archaeological trench evaluation carried out in support of a planning application for a proposed wind farm at Wheelers Cross, Bradworthy, Devon (centred on NGR SS 347 135), was undertaken by AC archaeology in two stages, between June and November 2011. The investigation was commissioned by Peter Cardwell (archaeological and heritage consultant) on behalf of Wind Prospect Developments Ltd, and was undertaken following consultation with Devon County Historic Environment Service (DCHES). The location of the site is shown on Fig. 1.
- 1.2 The proposed wind farm lies approximately 2km to the east of Bradworthy and consists of six turbine sites, together with associated ancillary infrastructure, extending from the road at Silworthy Farm southwards towards Brendon Cross (Area A; Plate 1). A road bypass across four fields to the east of Sessacott is also proposed (Area B), which is located approximately 2km to the north of the wind farm site (Plate 2).
- 1.3 The site is situated within an area of gently undulating ground that ranges in height from between c. 107m-200m OD, with the land use mostly consisting of grass pasture, although two fields were under arable crops at the time of the site work. The underlying solid geology comprises silty and sandy shales and siltstones of the Bude Formation, locally known as 'shillet', which in parts is overlain by a drift geology of head deposits and alluvium.

#### 2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

A more detailed background section was included in the Environmental Statement for the scheme (Wind Prospect Developments Ltd 2011), from which this summary has been prepared. The site lies within an area where prehistoric remains have been identified, including a probable Neolithic long barrow, two Bronze Age burial mounds and flint flakes, although these all lie beyond the immediate vicinity of the proposed wind farm site.

- 2.2 The three principal villages of Bradworthy, Sutcombe and West Putford, which encompass the site, are likely to be late Saxon or medieval in origin, with additional medieval farmsteads and settlements also recorded throughout the area. These include possible farmsteads at Silworthy Farm, Brendon Farm, a possible farmstead of Nattadon to the east of Turbine 4, in addition to numerous possible sites within the vicinity of Sessacott. The existing general pattern of fields is also likely to have been established at this time.
- 2.3 The late medieval and post-medieval period within the area was characterised by further changes in the field layout to something more recognisable today, as depicted on the parish tithe maps of West Putford (1840), Bradworthy (1843) and Sutcombe (1844). The tithe map of West Putford depicts the farmstead at Nattadon, which comprised a probable farmhouse with various outbuildings, enclosures and a trackway crossing to the north of Turbine 4. The farmstead had been abandoned by the time of the 1891 Ordnance Survey map.
- 2.4 A magnetometer survey of the wind farm site and relief road (Stratascan Ltd 2010) identified a number of linear and curvilinear anomalies, with many of these thought to represent former field boundaries, including some depicted on historic mapping. Other features identified included possible enclosures and a trackway associated with the former farmstead at Nattadon, to the north and east of the proposed Turbine 4 location, as well as peripheral features associated with the farmstead at Silworthy, at the site of the proposed contractor's compound.

#### 3. AIMS

3.1 The aim of the evaluation was to establish the presence or absence, extent, depth, character and date of any archaeological features, deposits or finds within the site. The results set out in this report will be reviewed and used to inform any subsequent mitigation as a second stage of archaeological works, if planning permission is granted.

## 4. METHODOLOGY

- 4.1 The evaluation was undertaken in accordance with a methods statement prepared by Peter Cardwell (Cardwell 2011) and agreed with Devon County Historic Environment Service. It comprised the machine-excavation of 30 trenches, totalling 640m in length and with each trench either 1.6m or 2m wide. Most trenches were targeted on geophysical anomalies, but included the principal components of the proposed development such as turbine locations where no anomalies of potential archaeological origin were recorded.
- 4.2 Trenches 1-20 (Area A), were positioned along the course of the main access track, within the footprint of a switch gear compound, at the proposed contractor's compound and within turbine sites 1-6 (see Figs 2 and 3). Trenches 21-30 (Area B), located *c*. 2km north of the turbine site at Sessacott, were positioned along the course of the proposed road bypass (Fig. 4).
- 4.3 Trenches 1 and 26 were re-positioned on site owing to the presence of overhead cables, while proposed Trench 31 was omitted altogether due to the presence in that location of a water main.
- 4.4 The site was recorded in accordance with the AC archaeology *pro forma* recording system, comprising written, graphic and photographic records, and in accordance with AC archaeology's *General Site Recording Manual, Version 1*. All plans were drawn at a scale of 1:50 and sections at 1:10 or 1:20. All levels have been related to Ordnance Datum.

#### 5. RESULTS

5.1 The general recorded layer sequence observed across the site comprised between 0.16-0.45m of turf and topsoil, above between 0.02-0.4m of agricultural subsoil (present in Trenches 2, 4, 9-11, 13-15, 18, 29 & 30), onto a natural subsoil of shillet and clay. Archaeological features and deposits were present within Trenches 1-4, 6a, 7-9, 11-12, 16-18, 21, 24 and 26-28 and are discussed below. The trenches containing negative results are summarised in tabulated form only in Appendix 1. Relevent plans and sections are included as Figs 5 to 15 and photographs as Plates 1-10.

#### 5.2 Area A

# <u>Trench 1</u> (Plan and section Fig. 5; Plate 3)

This trench was relocated owing to the presence of low overhead cables. It was NW-SE aligned and measured 25m in length and was located along a geophysical anomaly of possible archaeological origin. The trench was excavated to a depth of 0.4m below ground level onto a light yellow and light yellow brown shillet and clay natural subsoil (104). The overlying sequence comprised 0.2m of mid/dark yellow brown clay silt topsoil (100) over 0.2m of mid yellow brown clay silt subsoil (102).

A possible, shallow, NW-SE aligned linear feature (F103) was visible in section only. This was 0.08m deep with shallow sloping sides, a flattish base and contained a single mid yellow brown clay silt fill (102). No finds were recovered.

### Trench 2 (Plan and section Fig.6a-b)

This trench was E-W aligned, measured 10m in length and was located across a linear and pit geophysical anomalies. It was excavated to a depth of 0.34m below ground level, through a dark brown silt clay topsoil (200) onto a light yellow brown shillet and clay natural subsoil (201). No evidence for the possible pit was identified in the trench.

A single N-S aligned linear feature (F202) was present. This was 1.34m wide by 0.23m deep, with shallow sloping sides and a concave base. It contained a single mid/dark brown silt clay fill (203) and no finds were recovered.

#### Trench 3 (Plan and sections Fig. 6c-e; Plate 4)

This trench was NW-SE aligned, measured 25m in length and was located across two linear anomalies, as well as features of probable agricultural origin. The trench was excavated to a depth of 0.34m below ground level onto a mid yellow brown shillet and clay natural subsoil (307). The overlying layer sequence comprised 0.2m of mid/dark brown clay silt topsoil (300) above 0.14m of mid red brown silt clay subsoil (301). Two sherds of post-medieval North Devon gravel-tempered pottery were recovered from the topsoil (300).

Two features were present (F302 & F306). Linear feature F302 was approximately E-W aligned and measured 0.48m wide by 0.09m deep, with shallow sloping sides and a flat base. It contained a mid brown silt clay fill (303) and no finds were recovered.

Linear feature F306 was NE-SW aligned and measured 1.05m wide by 0.55m deep, with moderate sloping sides forming a narrow pointed base. It contained two fills. The basal fill (305)

comprised a 0.12m thick light brown red silt clay. This was overlain by fill 304, which comprised a 0.43m thick mid/dark brown silt clay. No finds were recovered.

### <u>Trench 4</u> (Plan and section Fig. 7a-b)

This trench was N-S aligned, measured 15m in length and was positioned across a linear anomaly of possible archaeological or geological origin. It was excavated to a depth of 0.45m below ground level through a mid/dark brown silt clay topsoil (400) onto a mid yellow brown shillet and clay natural subsoil (401).

A single NW-SE aligned linear feature (F402) was present. This measured 0.32m wide by 0.05m deep, with shallow sloping sides and a flat base. It contained a single dark grey silt clay fill (403) and no finds were recovered.

### Trench 6a (Plan and section Fig. 7c-d)

This trench was E-W aligned, measured 8m in length and was located across a linear anomaly of possible archaeological origin. It was excavated to a depth of 0.4m below ground level onto a mid yellow brown shillet and clay natural subsoil (606). The overlying layer sequence comprised 0.2m of mid brown clay silt topsoil (600), over 0.2m of mid red brown clay silt subsoil (601). A single sherd of North Devon medieval coarseware pottery was recovered from the topsoil.

Two parallel N-S aligned linear features were present (F602 & F605). Feature F602 was 0.95m wide by 0.14m deep, with shallow/moderate sloping sides and a concave base. It contained a single mid brown silt clay fill (603) and no finds were recovered.

Feature F605 was 0.9m wide by 0.08m deep, with shallow/moderate sloping sides and a flat base. It contained a single mid brown silt clay fill (604) and no finds were recovered.

#### Trench 7 (Plan and section Fig.8a-b)

This trench was N-S aligned, measured 15m in length and was located across the line of a former field boundary. The trench was excavated to a depth of 0.4m below ground level onto a mid yellow brown shillet and clay natural subsoil (702). The overlying layer sequence comprised 0.2m of mid brown clay silt topsoil (700), over 0.1m of mid red brown clay silt subsoil (701), above a further 0.1m thick mid brown clay silt subsoil (703).

A single E-W linear feature (F707) was present. This was 0.85m deep by 2.5m wide, with moderate sloping sides forming a narrow concave base. It contained a series of three fills. The basal fill (706) was 0.18m thick and comprised a mid grey clay. This was overlain by 705, which was 0.35m thick and comprised a mid brown grey silt clay. The upper fill (704) was 0.32m thick and comprised a mid brown red clay silt. Five sherds of modern industrial whiteware pottery were recovered from the upper fill.

# <u>Trench 8</u> (Plan and sections Fig. 8c-e)

This trench was NE-SW aligned, measured 25m in length and was located across a curvilinear anomaly and a feature of probable agricultural origin. It was excavated to a depth of 0.4m below ground level onto a mid yellow brown shillet and clay natural subsoil (806). The overlying layer sequence comprised 0.3m of mid brown clay silt topsoil (800) over 0.1m of mid red brown clay silt subsoil (801).

Two linear ditches were present (F802 & F805). Feature F802 was N-S aligned and measured 0.4m wide by 0.1m deep, with shallow sloping sides and a flat base. It contained a single dark brown silt clay fill (803) and no finds were recovered.

Feature F805 was NW-SE aligned and measured 0.6m wide by 0.04m deep, with shallow sloping sides and a flat base. It contained a mid yellow brown silt fill (804) and no finds were recovered.

### Trench 9 (Plan and sections Fig. 9a-c; Plate 5)

This trench was approximately NW-SE aligned, measured 15m in length and was located across the line of a former field boundary. It was excavated to a depth of 0.43m below ground level, through a dark brown clay silt topsoil (900) onto a mid yellow brown shillet and clay natural subsoil (905).

Two parallel NE-SW aligned linear features were present (F902 & F904). Feature F902 was 1.8m wide by 0.14m deep, with shallow sloping sides and a concave base. It contained a single mid orange brown silt clay fill (901) and no finds were recovered.

Feature F904 was 1.7m wide by 0.27m deep, with shallow sloping sides and a concave base. It contained a single mid orange brown silt clay fill (903) and no finds were recovered.

### <u>Trench 11</u> (Plan and sections Fig.9d-f; Plate 6)

This trench was NE-SW aligned, measured 40m in length and was located across linear and other anomalies, including a former field boundary and possible ridge and furrow. The trench was excavated to a depth of 0.25m below ground level through a mid brown clay silt topsoil (1100), onto a light red yellow shillet and clay natural subsoil (1105).

Two parallel NW-SE aligned linear features were present (F1102 & F1104). Feature F1102 was 1.05m wide by 0.23m deep, with shallow/moderate sloping sides and a concave base. It contained a single mid red brown clay silt fill (1101) and no finds were recovered.

Feature F1104 was 1m wide by 0.23m deep, with moderate sloping sides and a concave base. It contained a single mid red brown clay silt fill (1103) and no finds were recovered.

# Trench 12 (Plan and section Fig. 10a-b; Plate 7)

This trench was NW-SE aligned, measured 20m in length and was located across curvilinear anomalies of possible archaeological origin. It was excavated to a depth of 0.4m below ground level onto a light yellow brown shillet and clay natural subsoil (1206). The overlying layer sequence comprised 0.3m of mid brown clay silt topsoil (1200) over 0.1m of mid red brown clay silt subsoil (1201).

A single NE-SW aligned linear feature (F1205) was present. This was 1.74m wide by 0.62m deep, with steep sloping sides and a narrow concave base. It contained a series of three fills. The basal fill (1204) was 0.1m thick and comprised a light/mid brown silt clay fill. The secondary fill (1203) was 0.28m thick and comprised a mid brown silt clay. This was below the upper fill (1202) which was 0.22m thick and comprised a mid yellow brown silt clay. A single sherd of modern industrial whiteware pottery was recovered from fill 1202 and a piece of prehistoric worked chert from 1204.

# Trench 16 (Plan and sections Fig. 10c-f; Plate 8)

This trench was approximately N-S aligned, measured 40m in length and was located across anomalies possibly associated with the former farmstead of Nattadon, including ditch and bank

features defining a trackway or lane and a rectilinear enclosure. The trench was excavated to a depth of 0.4m below ground level onto a light yellow brown shillet and clay natural subsoil (1612). The overlying layer sequence comprised 0.16m of mid brown clay silt topsoil (1600) over 0.25m of mid yellow brown silt clay subsoil (1611). Five sherds of 17th or 18th century to modern pottery were recovered from the topsoil, including two sherds of blue transfer printed ware, one industrial whiteware sherd and two North Devon Gravel Free sherds.

Two parallel NE-SW aligned linear features (F1607 & F1608) and a circular pit (F1601) were present. Feature F1607 was 1.44m wide by 0.62m deep, with moderate sloping sides and a concave base. It contained a series of three fills. The basal fill (1606) was 0.12m thick and comprised a light brown grey sand clay. This was overlain by a secondary fill (1605) which was 0.28m thick and comprised a light grey brown silt sand clay. The upper fill (1604) was 0.22m thick and comprised a mid brown sand clay silt. A single fragment of modern industrial whiteware pottery was recovered from fill 1604.

Feature F1608 was only partially exposed and measured at least 1.65m wide by 0.5m deep. It consisted of a moderate sloping N edge and had a concave base. Two fills were present, with the basal fill (1610) 0.5m thick and comprising a waterlogged light-mid brown grey silt clay. This was overlain by a light-mid brown silt clay fill (1609) which was 0.32m thick. No finds were recovered.

Feature F1601 was 0.7m diameter by 0.33m deep, with moderate sloping sides and an undulating base. It contained a 0.2m thick charcoal-rich basal fill (1602) containing frequent large subangular stones. This was overlain by an upper fill (1603) which comprised a 0.13m thick mid brown silt clay with common charcoal. No finds were recovered, although this feature may represent a fire pit.

### Trench 17 (Section Fig. 11a)

This trench was approximately E-W aligned, measured 15m in length and was located within the footprint of turbine 4 in an area containing no geophysics anomalies. The trench was excavated to a depth of 0.35m below ground level onto a light yellow brown shillet and clay natural subsoil (1702). The overlying layer sequence comprised 0.25m of mid grey brown silt clay topsoil over 0.1m of dark grey/black silt clay waterlogged and humic layer (1701). A single sherd of post-medieval North Devon gravel-free pottery was recovered from the topsoil (1700). While no archaeological features were exposed within the trench, deposit 1701 had the potential to contain palaeo-environmental remains (see section 7 below).

### Trench 18 (Plan and sections Fig. 11b-d; Plate 9)

This trench was approximately NW-SE aligned, measured 40m in length and was located across the line of a former field boundary and a linear anomaly. The trench was excavated to a depth of 0.4m below ground level through a dark brown silt clay topsoil (1800) onto a light brown and grey shillet and clay natural subsoil (1801).

A single NE-SW aligned linear feature (F1804) and a sub-oval shaped feature (F1802) of probable natural origin were present. Feature F1802 was 0.65m long by 0.3m wide and 0.16m deep. It had shallow-moderate sloping sides, a concave base and was filled with a dark brown silt clay fill (1803). No finds were recovered.

Feature F1804 was 1.2m wide by 0.3m deep, with moderate sloping sides and a narrow concave base. It contained a single dark brown silt clay fill (1805) and no finds were recovered.

#### 5.3 Area B

### Trench 21 (Plan and section Fig. 12a-b)

This trench was approximately NE-SW aligned, measured 20m in length and was located across a linear and agricultural anomalies. The trench was excavated onto natural subsoil (2102), which comprised a light yellow brown silty clay with abundant weathered sandstone inclusions. The natural subsoil was present at a depth of 0.38m under a mid brown clay silt agricultural subsoil (2101) and a dark brown clay silt topsoil (2100).

The trench contained a single NW to SE aligned linear feature (F2103) located towards the NE end of the trench, which corresponded with the location of the targeted anomaly. F2103 was 1.2m wide and 0.3m deep, with moderately steep sloping sides and a concave base. It contained a mid to light brown clay silt accumulation fill (2104) which was sealed by subsoil 2101. No finds were recovered.

### Trench 24 (Plan and section Fig.12c-d)

This trench was NE-SW aligned, measured 20m in length and was located across the line of a former field boundary. The location of this feature approximately corresponded with a lynchet that was visible on the surface as gently sloping down towards the SE. The trench was excavated onto natural subsoil (2402), which was present at a depth of between 0.4m and 0.6m and comprised a light brown yellow clay with abundant gravels and sub-angular weathered sandstone. This was overlain by a mid brown clay silt agricultural subsoil (2401), which was thicker towards the SW end of the trench, and a dark brown clay silt topsoil (2400).

The trench contained two parallel NW-SE aligned linear features (F2403 & F2405) that corresponded with the location of the interpreted geophysical anomaly. F2403 was 1.03m wide and 0.24m deep, with a gradual SW side that stepped to a steep-sided and flat-based cut on the NE side. F2405 was 1.2m wide and 0.14m deep, with gradually sloping sides and a shallow concave base. Both features contained similar mid to light brown clay silt fills (2404 and 2406) that were undated and sealed by subsoil (2401).

#### Trench 26 (Plan and section Fig.13a-b)

This trench was NE-SW aligned, measured 15m in length and was located across a visible earthwork boundary comprising a linear hollow with bank and an area of magnetic disturbance. The trench was excavated onto natural subsoil (2606), which was present at a maximum depth of 0.7m under an intermittent agricultural subsoil (2601 and 2605) and topsoil (2600). A single sherd of post-medieval North Devon gravel-tempered pottery and a fragment of green glass bottle base were recovered from topsoil (2600) and subsoil (2601) respectively.

The trench contained a single linear feature (F2602) which corresponded with the visible earthwork. F2602 was 2.42m wide and 0.4m deep, with steep sloping sides and a concave base. It contained a mixed light red brown silt clay fill (2603) with common gravel inclusions. Finds recovered from fill (2603) include a single iron nail, a fragment of glass and nine sherds of post-medieval pottery. To the SW of F2602 was a deposit of bank material measuring 0.20m thick and comprising a mid yellow brown sand silt clay with common gravel inclusions (2604).

#### Trench 27 (Plan and sections Fig. 14a-d)

This trench was NE-SW aligned, measured 20m in length and was located across a linear anomaly of possible archaeological or geological origin. The trench was excavated onto natural subsoil (2702), which comprised a light yellow clay (2702) and was present at a depth of 0.4m

below ground level, under a mid-light brown silt clay agricultural subsoil (2701) and a mid-light brown silt clay topsoil (2700).

Extending approximately N-S across the trench was a 6.5m wide probable palaeochannel (F2708). Two segments were excavated into the feature ([2703] and [2706]), which exposed it to have irregular, gradually sloping sides and an undulating flattish base, with a maximum depth of 0.38m. It contained a main fill of light grey alluvial silty clay (2704/2707) that was overlain by a light yellow clay deposit of re-deposited natural subsoil (2705), which was in turn sealed by subsoil (2701).

## Trench 28 (Plan and section Fig. 15a-b; Plate 10)

This trench was NNE-SSW aligned, measured 20m in length and was located across parallel NE-SW aligned linear anomalies. The trench was excavated onto natural subsoil (2802), which comprised a light yellow grey clay and was present at a depth of 0.26m below ground level. This was below a mid brown clay silt agricultural subsoil (2801) and a dark brown clay silt topsoil (2400).

The trench contained two parallel NE-SW aligned linear features (F2803 & F2805) that corresponded with the location of the interpreted geophysical anomalies. F2803 was 0.92m wide and 0.12m deep, with moderately steep sloping sides and a concave base. F2805 was 1m wide and 0.15m deep, with moderately steep sloping sides and a flat base. Both features contained similar homogenous accumulation deposits of mid brown clay silt (2804 and 2806). Two sherds of modern industrial whiteware pottery were recovered from fill 2804.

#### **6. THE FINDS** by Kerry Dean

#### 6.1 Introduction

All finds recovered on site have been retained, cleaned and marked where appropriate, then quantified according to material type within each context. The assemblage has been scanned by context to extract information regarding the range, nature and date of artefacts represented, with this information briefly discussed below. Finds totals by material type are given in Table 1.

Table 1: Quantification of finds (weight in grams)

Context	Context type		ieval tery		edieval tery	Worke	d chert	GI	ass	Ire	on
		No	Wt	No	Wt	No	Wt	No	Wt	No	Wt
300	Topsoil			2	53						
600	Topsoil	1	1								
705	Ditch upper fill			5	6						
1202	Ditch upper fill			1	2						
1204	Ditch lower fill					1	10				
1600	Topsoil			5	23						
1604	Ditch fill			1	1						
1700	Topsoil			1	17						
2600	Topsoil			1	40						
2601	Subsoil							1	6		
2603	Ditch fill	•		9	93			1	7	1	5
2804	Ditch fill	•		2	10						
Total		1	1	27	245	1	10	2	13	1	5

### 6.2 The pottery

One sherd of medieval pottery was recovered from the topsoil of Trench 6. This is a small abraded body sherd of North Devon Medieval Coarseware (NDMC) dating to c. 1250-1450, produced in kilns in the Barnstaple and Bideford area.

Twenty-seven pieces of post-medieval pottery were recovered from several of the trenches. Fourteen of the sherds, from trenches 7, 16 and 26, are North Devon Gravel Free (NDGF) pottery. This fabric was also produced at kilns in the Barnstaple and Bideford area. Four of the seven sherds have a yellowish-green lead glaze on the interior of the vessel. Five have a dark green glaze. Most of these sherds come from serving bowls. These NDGF pieces date to the 17th or 18th century.

Three of the post-medieval sherds from contexts 300 and 2600 are North Devon Gravel Tempered coarseware (NDGT), of which two are conjoining sherds from a thick everted rim from a serving bowl. All three pieces have a yellowish-green lead glaze on the interior of the vessel. These pieces date to the 17th or 18th century.

There is one sherd of Bristol/Staffordshire yellow slip-ware from Trench 26. This sherd is probably from a dish and dates to the 18th or 19th century.

There are also ten sherds (contexts 706, 1600, 2603 and 2804) of industrial whiteware and blue transfer-printed wares dating to the 19th or 20th century.

#### 6.3 Glass

Two pieces of post-medieval green bottle glass were recovered from Trench 26. These are 19th or 20th century in date.

## 6.4 Worked chert

A single piece of prehistoric worked chert (10g) was recovered from linear feature F1205. This is a secondary waste flake with a small amount of cortex surviving.

### 6.5 Iron

One iron nail (5g) was recovered from Trench 26. It has a square profile and probably dates to the 19th or 20th century, based on associated other finds types.

# 7. PALAEO-ENVIRONMENTAL EVIDENCE by Dr Michael J. Allen

#### 7.1 Introduction

A series of 13 bulk samples was taken by the excavators from a range of features in Area A (Trenches 1-20) and Area B (Trenches 21-30). The extant flots from 10 samples were presented for assessment of the charred plants and charcoal remains (Table 2).

Bulk samples were processed by AC archaeology using standard flotation methods, where flots and residues were retained on 0.5mm mesh. Unsorted flots were provided, together with charcoal >5.6mm recovered from the residues. Residues (0.5mm, >2mm and > 0.5mm were provided for all samples).

### 7.2 Aims and requirements

Each sample flot was assessed for charcoal and charred plant remains (Table 2), and other palaeo-environmental evidence. The aims of assessment were to determine the presence, quantity, quality and diversity of palaeo-environmental remains to aid in the understanding and interpreting the features, the activity and economy of the site, and to determine samples suitable for potential further analysis of charred plant remains and charcoal. The overall assessment aids in indicating the nature and significance of the data, and of the sites' importance in its local, regional and national setting.

#### 7.3 Assessment methods

All flots, and charcoal >5.6mm recovered from the residues by the processors, were scanned under a ×10 - ×30 stereo-binocular microscope and the presence of charred plant and charcoal remains recorded (Table 2). The volume of flot is the charred remains plus modern rooty material. The >5.6mm and >2mm residues were spread on trays and scanned under illuminated magnification. Notes were made of the presence of charred remains and charcoal, but none were sorted. The charred remains were assessed and the potential of analysis to address these aims is given.

## 7.4 Assessment results: Charred plant and charcoal remains

Many of the unsorted flots contained a considerable proportion of modern uncharred roots which indicates the potential for biotic reworking and instruction of material from higher strata. The sorted flots were sparse in charred remains; no grain or chaff was present. Charred weed seeds were present in only one sample, and charcoal was sparse excepting the sample from pit F1601.

#### Linear features

No charred grain or chaff was present, and few charred weed seeds were only present in linear F605 (context 603). Charcoal fragments >4mm/ 5.6mm were sparse but present in samples from ditches F802 and F805 (Trench 8) and F1608 (Trench 16), but these probably represent casual material blown into them.

#### Humic layer 1701, Trench 17

The sample from humic layer 1701 contained very few charred remains; only sparse charcoal fragments >4mm were present. The palaeo-environmental potential of this layer lies in the description of the deposit *in situ* or as an undisturbed sample, or in its microfossil (pollen) content.

#### Palaeo-channel Trench 27

A sample from the alluvium within one palaeo-channel was taken. It contained no charred remains and few waterlogged weed seeds. The sparse nature of the latter suggests that if currently wet/waterlogged it suffered seasonal drying resulting in degradation of most of the waterlogged remains.

#### Pit F1601

A single feature (F1601) was identified as a fire pit, and a sample taken from the charcoal-rich primary fill. Charcoal was abundant (Table 2) and comprised mainly fragments of large woody elements; few branch wood and no twiggy elements were notes in the assessment scan.

No other palaeo-environmental remains were present.

#### 7.5 Potential and significance

# Charred plant remains

The features were sparse in charred plant remains; no charred grain or chaff was present in any of the samples. This tends to confirm that the feature lay away from the focus of any settlement activity and away from any areas of burning and discard of fire and domestic refuse.

#### Charcoal

Charcoal was spares in all features except the fire pit. This feature contained abundant charcoal fragments and the nature of these may be suggestive of a significant fire pit or kiln rather than a small domestic fire, based on the lack of twiggy material. There is the potential to identify the wood species used as firewood and timber to aid in providing a better interpretation of the feature, and in providing some indication of the woodland resources and management. However, the research gain from examining this single sample in isolation is probably low.

The lack or sparse nature of charcoal in the remaining features again confirms that all sampled features lay away from the focus of burning activities, discard and settlement areas.

### 7.6 Summary

The charred plant and charcoal assemblages are negligible and of no palaeo-environmental significance or potential, excepting the charcoal from pit F1602. Although this sample has the potential to provide information about the fuel, the nature of the timbers and local woodland and of woodland management, this single sample is considered of limited significance and value.

### 7.7 Recommendations

- 1. The flots (especially that for pit F1601 (sample 9)) are retained in the archive, in the event that future work might be carried out on the site.
- 2. All sample residues are discarded.

	Feature	context	sample	Sample	/0/	grain	Weed	Flot	Residue	notes	Analysis
				/0/	(ml) Charred / roots		seeds/ chaff	charcoal > 4m	charcoal >4mm		
ഥ	F1601	1602	6	20 L	40/ 100	1	-/-	**A	**	Charcoal mainly large noon-roundwood fragments, >2mm residue contains many charcoal pieces >4mm	Charcoal
ш	F306	304	_	30 L	0 / 10	1	-/-			No charred remains	
ഥ	F1102	1101	7	10 L	0	1	-/-	1	1	No flot	
ഥ	F1104	1103	80	10 L	0	1	-/-	1	1	No flot	
Œ	F2103	2104	12	10 L	0 / 100	1	-/-	1	1	No charred remains	
Ш	F2403	2404	13	10 L	0.5/20	1	-/-	1	1	Very rare fine charcoal	
ш	F802	803	4	20 L	06 / 3.0		-/-	1	ပ	Small dried (formerly waterlogged wood	
ш	F805	804	5	20 L	0.5 / 10	1	-/-	1	O	Very rare fine charcoal	
ш.	F1608	1610	10	20 L	0 / 40	ı	1	1	၁	1 roundwood twig charcoal, many (?modern) uncharred Rubus seeds	
ш	F605	603	3	20 L	1/3		C/-	-	-	Some fine twig charcoal	
ш.	F605	604	2	10 L	0	1	-/-	1	1	No flot	
		1701	9	20 L	0 / 40	1	-/-		В	Sparse charcoal, few uncharred seeds (possibly modern)	
	F203	2704	11	10 L	09/0	1	-/-	1	-	No charred remains	

KEY: A\*\*= >20; A=10-20; B= 5-9; C= 1-5

Table 2. Assessment of charred plant and charcoal remains from the processed bulk samples

#### 8. DISCUSSION

- 8.1 The evaluation has established the presence of archaeological features and deposits within 18 of the excavated trenches and located across in both Areas A and B. The general layer sequence recorded was broadly consistent and comprised turf and/or topsoil over either an agricultural or weathered natural subsoil layer, onto a shillet and light/mid yellow brown clay natural subsoil. The sequence within Trenches 2, 4, 9-11, 13-15, 18, 29 and 30 comprised topsoil directly onto natural subsoil.
- 8.2 The majority of features exposed consisted of linear ditches commonly either NE-SW or NW-SE aligned and characterised by a shallow profile, with gentle-moderate sloping sides, a flattish or concave base and containing a single, naturally silted, fill. Features F707 (Trench 7), F1205 (Trench 12) and F1607/F1608 (Trench 16) were, however, considerably deeper, with more pronounced profiles and containing multiple fills. Trenches 1, 2, 4, 12, 18, 21 and 26 all contained single ditch features, while Trenches 6a, 9, 11, 16, 24 and 28 were characterised by parallel, double ditched features.
- 8.3 These single and double ditched features are likely to relate to former post-medieval land division and drainage systems, with many appearing to either respect the line of or are at right angles to the existing field pattern. Some of these features, including F707 (Trench 7), F902/F904 (Trench 9), F1102, F1104 (Trench 11), F1607 (Trench 16) and F2403/F2405 (Trench 24) have been positively identified as historic boundaries depicted on the 1891 Ordnance Survey map. These would have been associated with a former hedgebank removed following the re-organisation of the field systems. The remnants of a possible bank were recorded adjacent to ditch F2602 in Trench 26.
- 8.4 There was a general paucity of finds from the fills of the excavated features and, what was recovered, including those from F707 (Trench 7), F1205 (Trench 12), F1607 (Trench 16) F2602 and F2803 (Trench 28), as well as from within the topsoil and subsoil layers, were generally of post-medieval date, typically 17th or 18th century, although also containing pottery up to the 20th century.
- Two linear features F306 (Trench 3) and F805 (Trench 8), however, do not appear to respect the existing field boundary patterns and may represent earlier features. Similarly, while ditch F1205 (Trench 12) contained a single fragment of industrial whiteware pottery in its upper fill, a piece of prehistoric worked chert recovered from its basal fill (1204) may suggest earlier origins.
- 8.6 The single fire-pit F1601 (Trench 16) is located adjacent to the site of a now demolished farmstead of Nattadon to the immediate east of the trench. The farmstead had origins in the late medieval or post-medieval period, but had been abandoned by 1891. The feature could therefore potentially date to any time from the medieval period onwards. The charcoal from this feature has, however, been retained, which can be dated by radiocarbon method if necessary.
- 8.7 The preserved waterlogged, humic, layer observed within Trench 17 (1701) most likely once formed part of the culm grasses which once dominated the area and of which only sporadic areas (notably within the Turbine 2 and Turbine 4 areas) now survive. The palaeo-environmental assessment undertaken as part of this report has identified the potential for the good preservation of a pollen sequence, with this perhaps considered as part of any further work on the site, although there was an absence of any associated settlement.

- 8.8 The palaeo-channel, or former stream, recorded in Trench 27 (F2708) was clearly visible as a broad hollow continuing towards the NE into the adjoining field and alongside the SE boundary, adjacent to Trench 26. The recent construction of an adjacent channel located alongside the field boundaries suggests an attempt to control and divert the flow of water away from the channel in what was likely a waterlogged area. The excavation of material from this channel may have been used to infill F2708 and which comprised redeposited natural soils.
- 8.9 Where trenches targeting geophysical anomalies were shown to be devoid of archaeological features or deposits, the anomalies were generally shown to correspond to geological banding or general variations in the natural subsoil. The double parallel linear anomalies targeted by, but not present in Trench 29 most likely represent part of a NW-SE aligned former post-medieval field boundary, evidence for which is only present in the topsoil. Given the shallow depth of soil cover within this area, it is likely that any subsoil features have been removed by ploughing.

#### 9. CONCLUSION

9.1 Based on the results of this work it is considered unlikely that groundworks associated with the development will have an impact on any significant archaeological remains relating to early settlement or funerary practices. With the exception of the possible fire pit, only former agricultural boundaries or naturally-formed features/deposits were identified. Generally, the evaluation was effective in identifying the majority of targeted anomalies recorded during the geophysical survey, with those not recognised established as being a result of geological variations. Overall, therefore, there is a high degree of confidence in the archaeological strategies employed, demonstrated by the results as set out in this report.

#### 10. ARCHIVE AND OASIS

- 10.1 The paper and digital archive and finds are currently held at the offices of AC archaeology Ltd at 4 Halthaies Workshops, Bradninch, near Exeter, Devon, EX5 4LQ. They will ultimately be deposited at the Museum of Barnstaple and North Devon under the accession number NDDMS 2011.26.
- **10.2** The paper and digital archive has been prepared using the site code ACD323. The contents are summarised in Table 3 below.

Table 3. Paper and digital archive contents

File no.	Description	Format	No.
1	Index to archive	A4	2
1	Context Index	A4	6
1	Context Record	A4	116
1	Trench Records	A4	30
1	Levels Register	A4	7
1	Graphics Register	A4	3
4	Graphics generated during fieldwork	A4	4
3	Graphics generated during fieldwork	A3	14
2	Context Find Records	A4	11
1	Photographic Register	A4	8
2	Sample Register	A4	1
2	Sieving Register	A4	1
ACD323/photos	Digital photographs	TIFF	290

**10.3** The OASIS (Online AccesS to the Index of Archaeological InvestigationS) number for this project is 114017.

#### 11. ACKNOWLEDGEMENTS

The evaluation was commissioned on behalf of Wind Prospect Developments Ltd by Peter Cardwell. We are grateful to Peter Cardwell and Marian Cameron (Wind Prospect) for their help and input during the course of the project. The site trial trenching was carried out by Richard Sims, Kerry Tyler, Simon Hughes, Chris Caine, Kerry Dean and Jerry Austin, with the illustrations for this report prepared by Cain Hegarty. The advice and collaboration of Ann Dick, Devon County Council Archaeologist and Vanessa Straker, English Heritage Regional Science Adviser, are duly acknowledged. All landowners were co-operative and helpful, which was much appreciated.

#### 12. REFERENCES

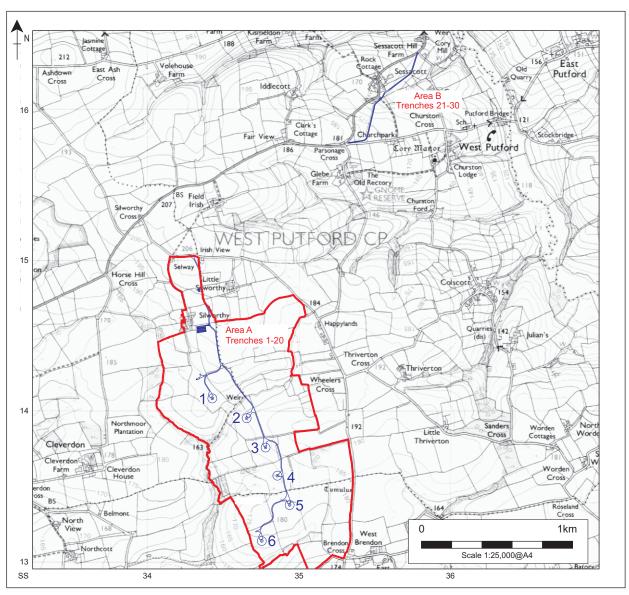
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Turbine location



Application boundary

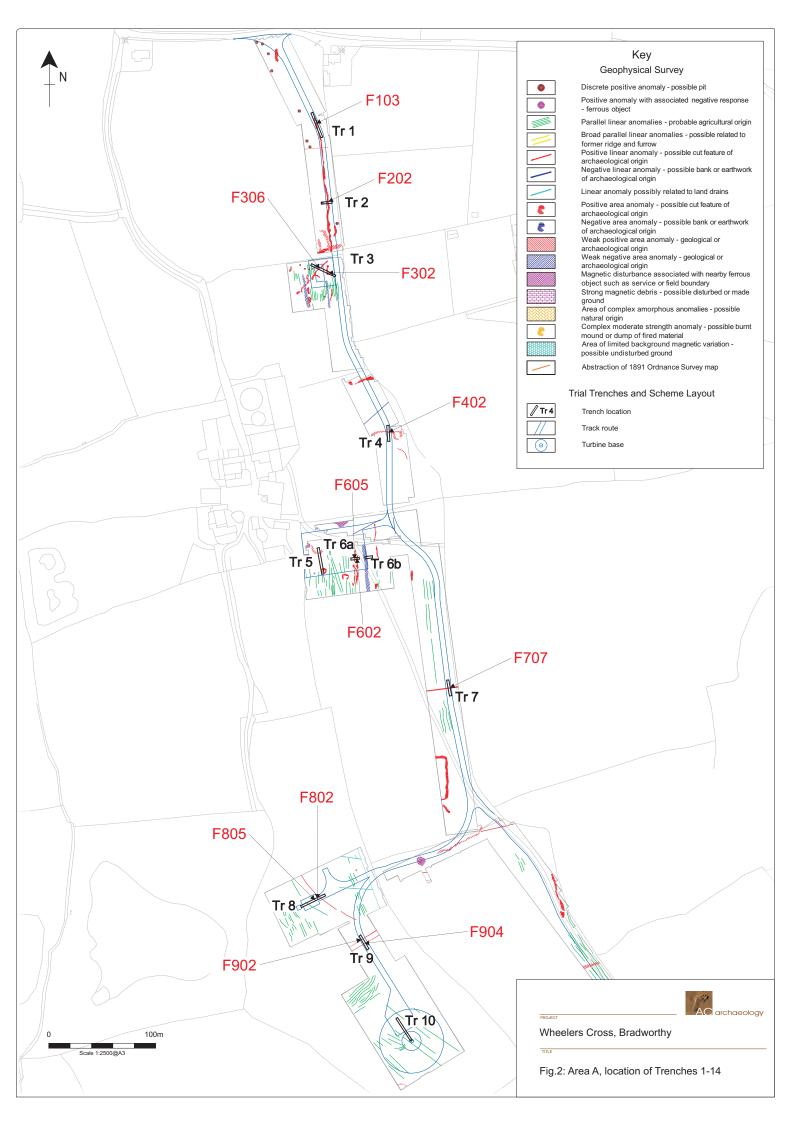
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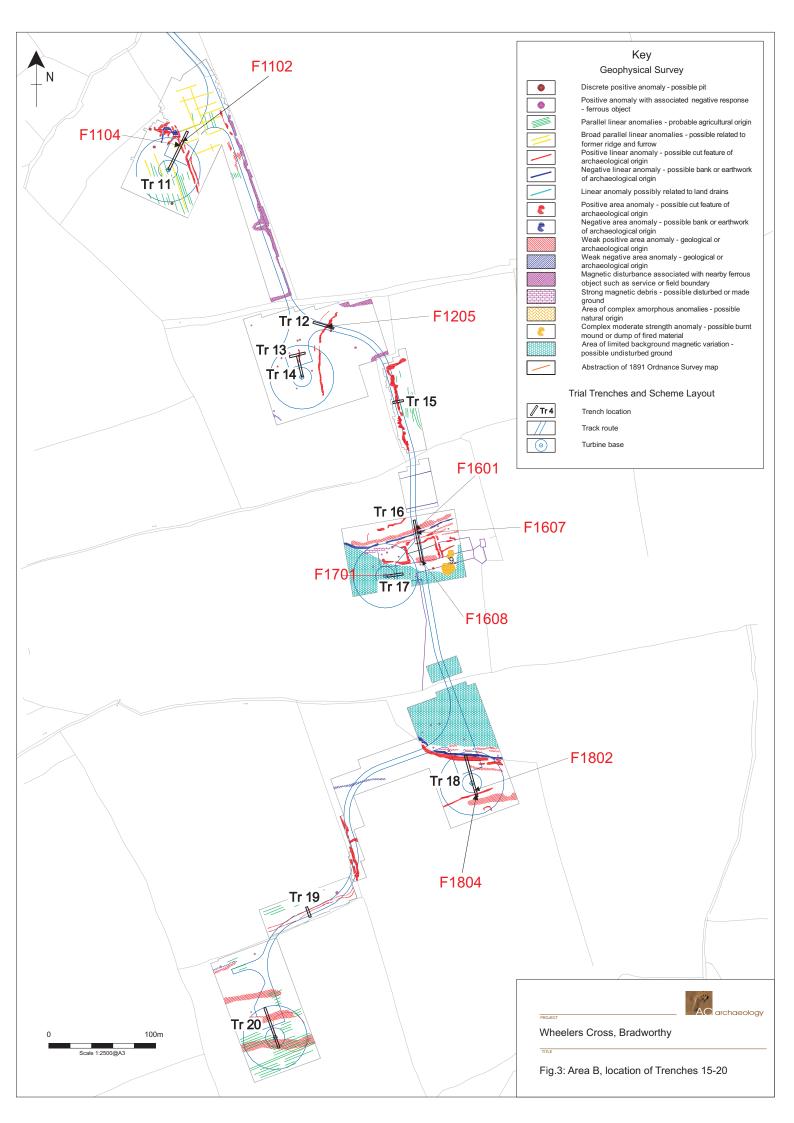
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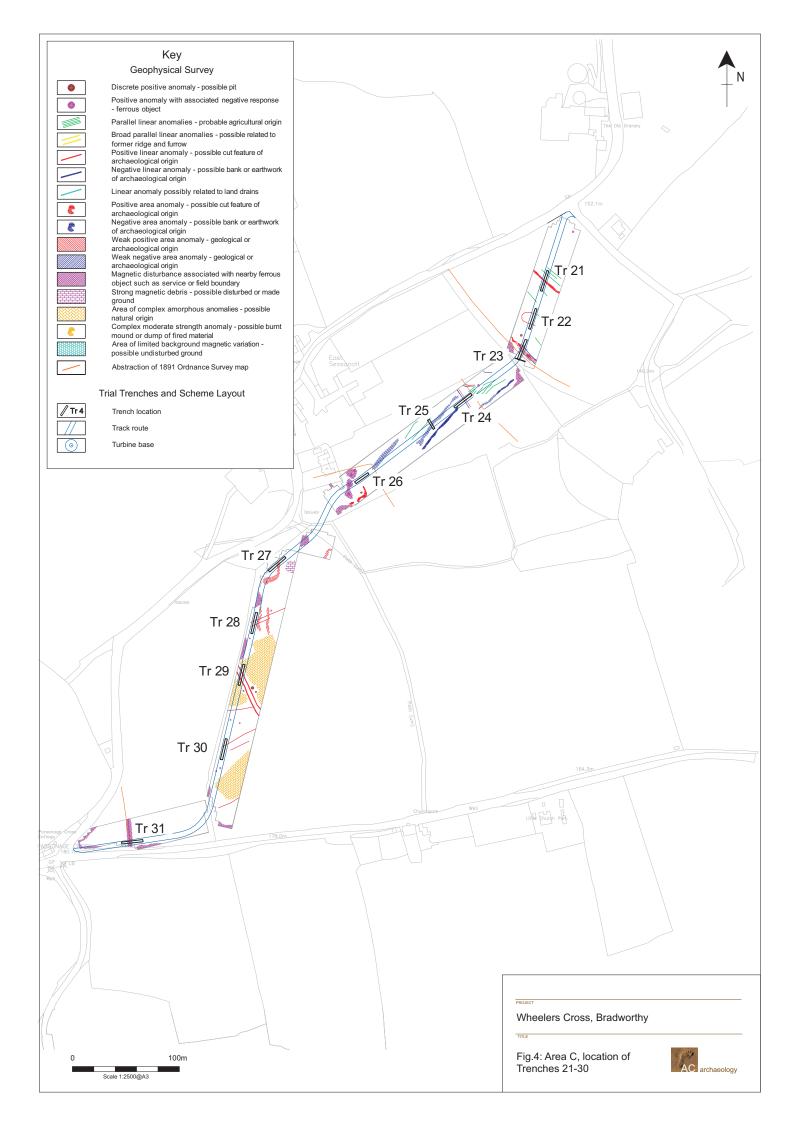
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Fig.1: Location of site

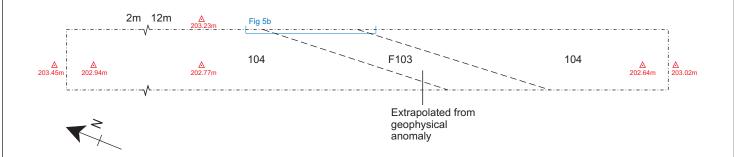




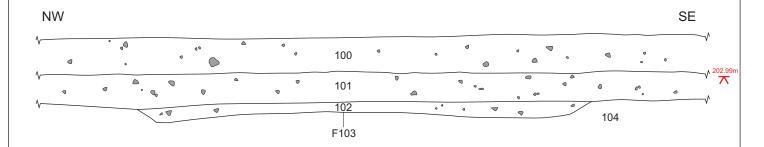


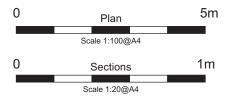


# a) Plan of Trench 1



# b) Section of feature F103





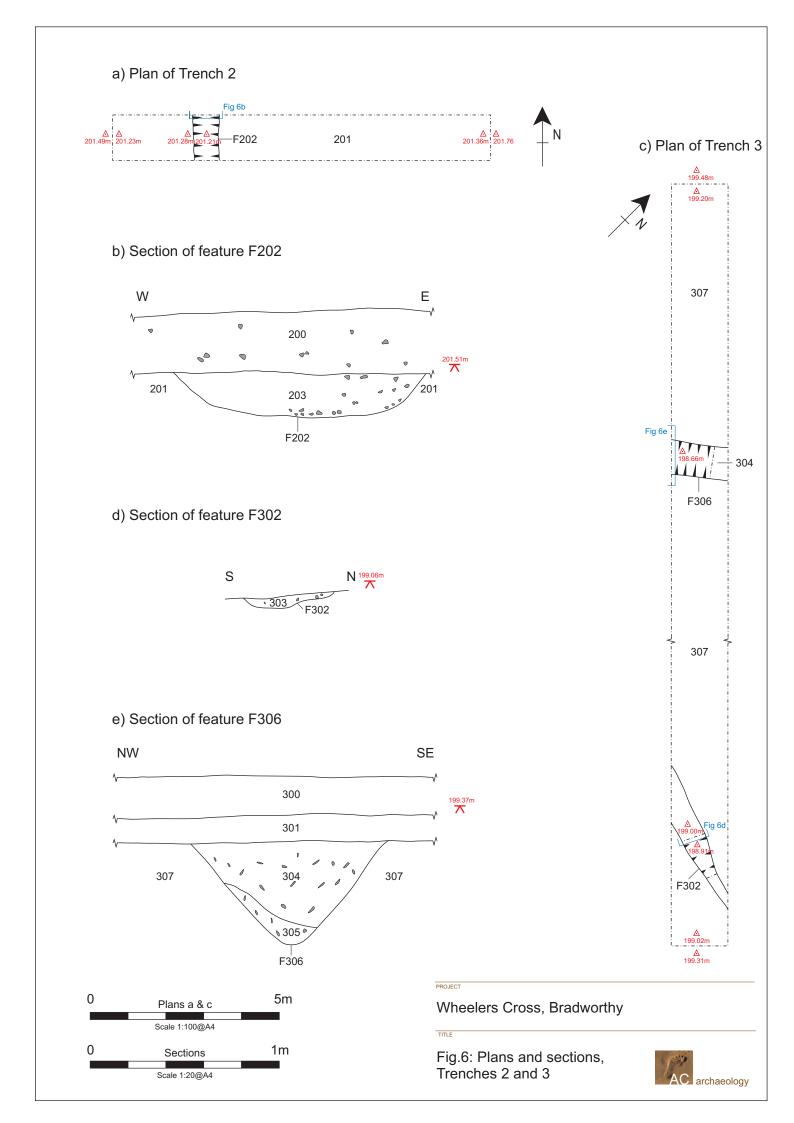
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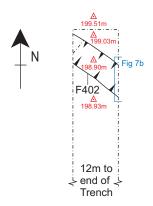
Fig.5: Plan and section, Trench 1

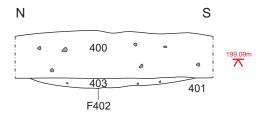




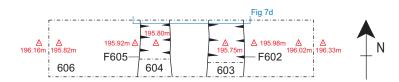
# a) Plan of Trench 4

# b) Section of feature F402

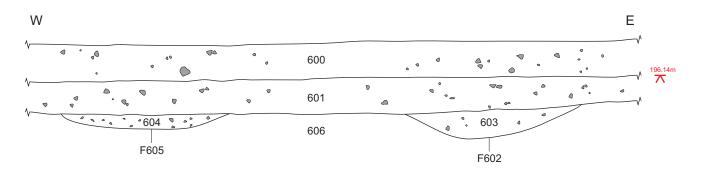


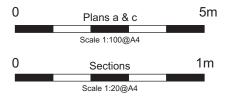


# c) Plan of Trench 6a



# d) Section of features F605 and F604





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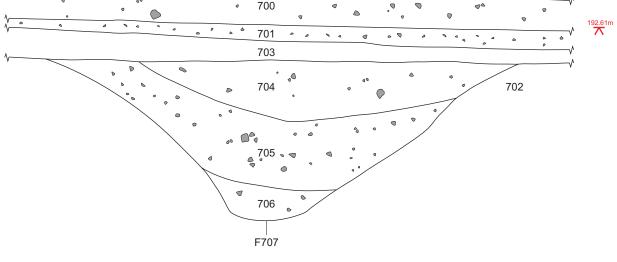
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Fig.7: Plan and sections, Trenches 4 and 6



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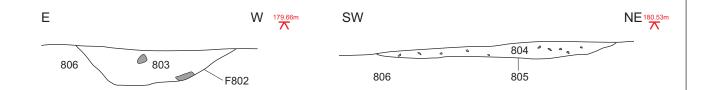


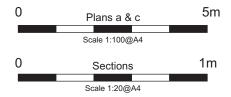




# d) Section of feature F803

# e) Section of feature F805





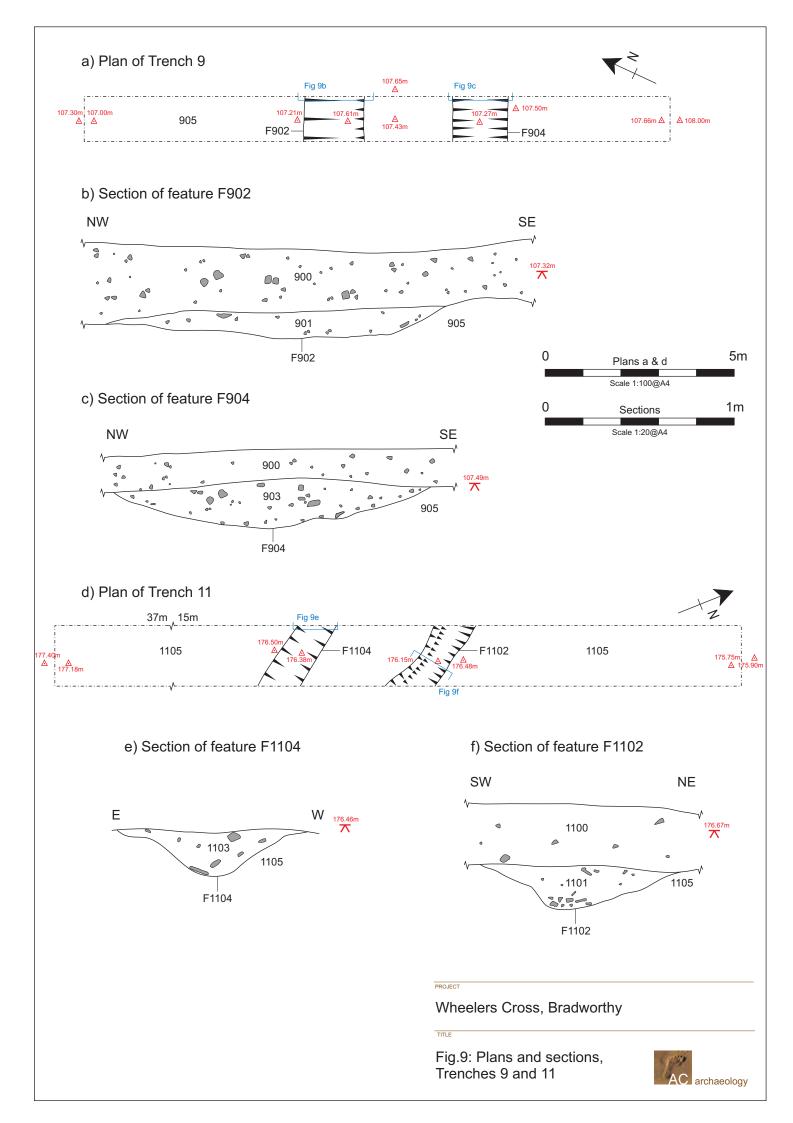
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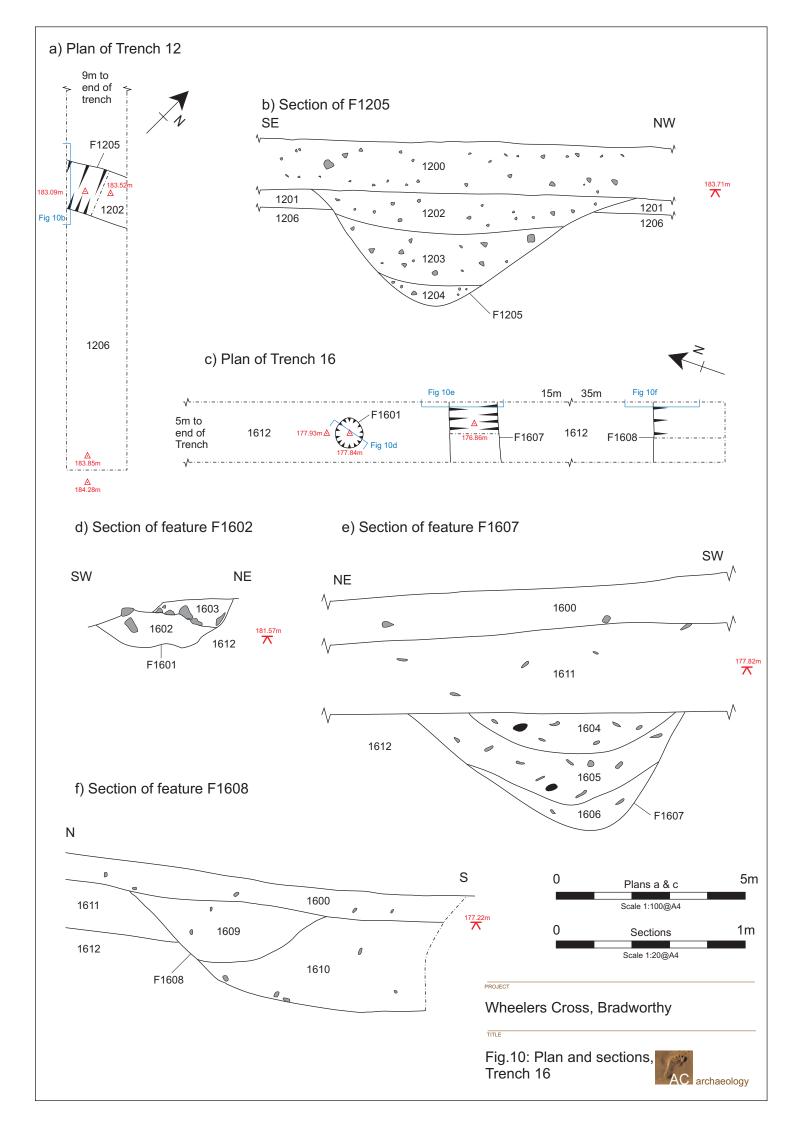
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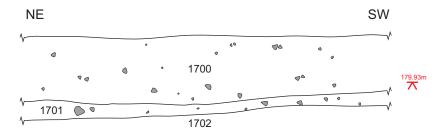
Fig.8: Plans and sections, Trenches 7 and 8



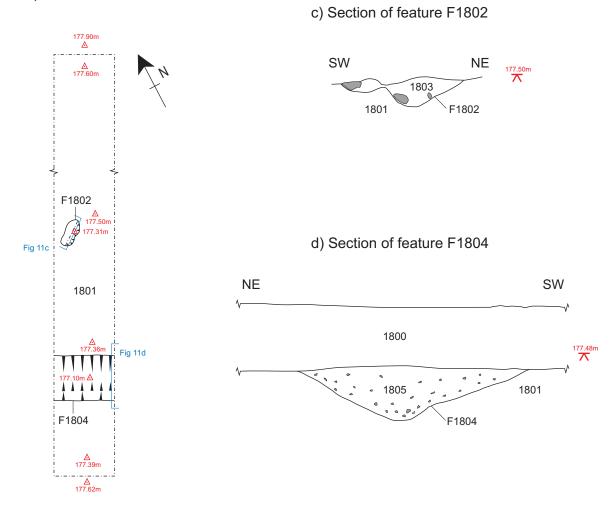




# a) Representative section of Trench 17



# b) Plan of Trench 18





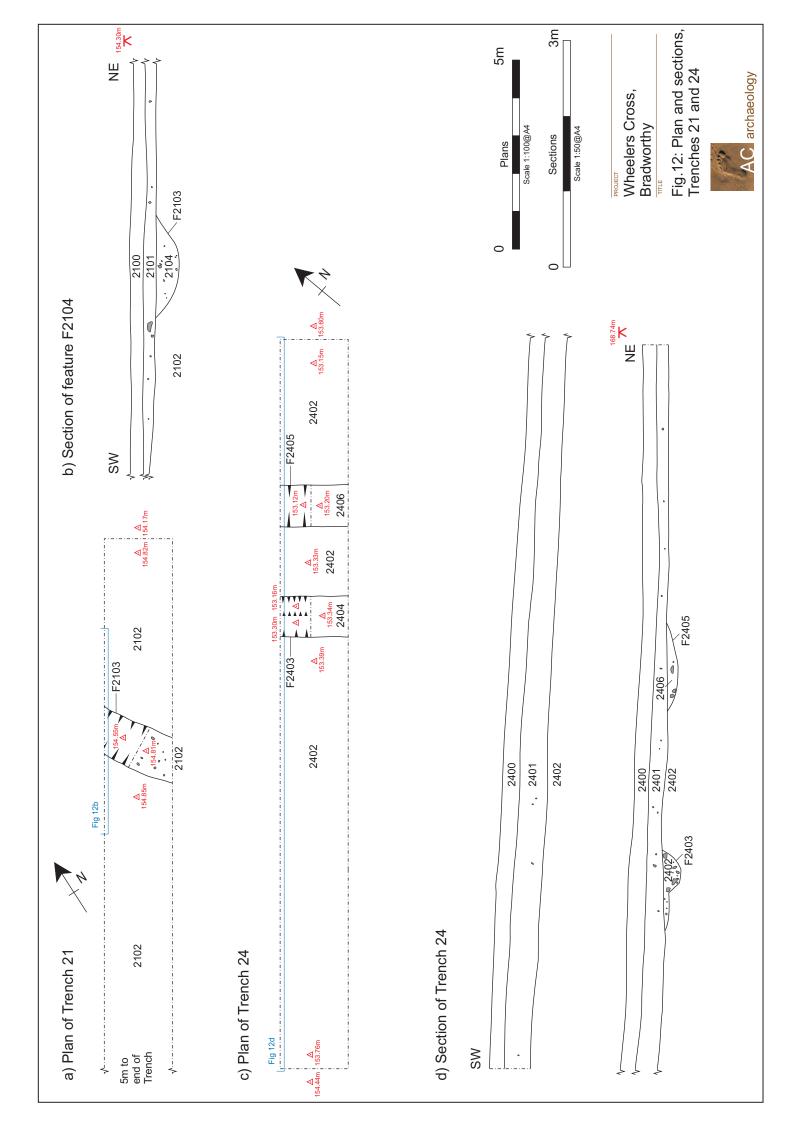
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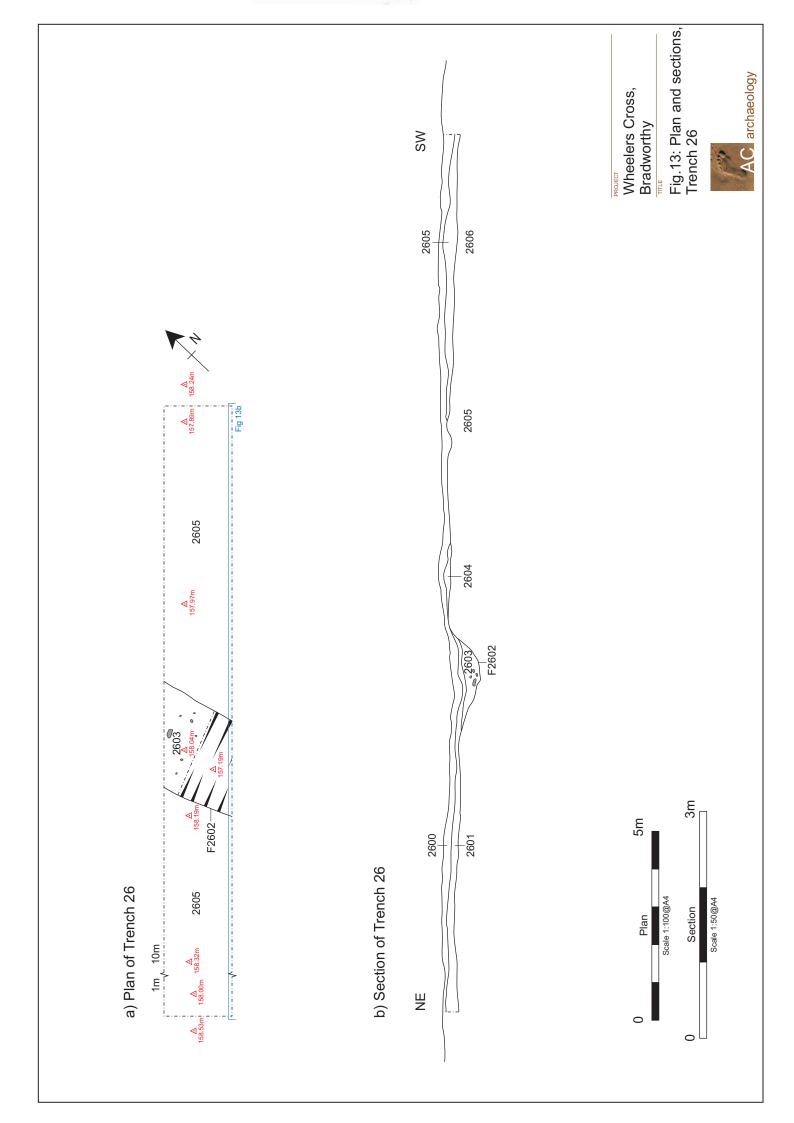
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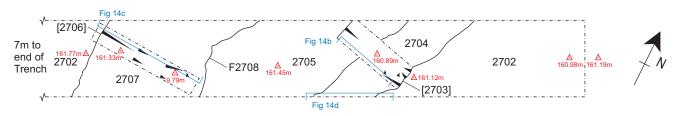
Fig.11: Plan and sections, Trench 18



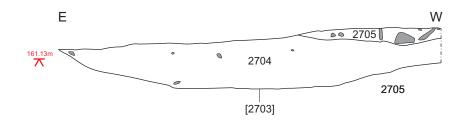




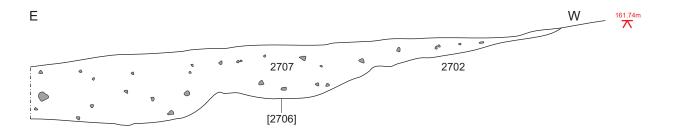
# a) Plan of Trench 27



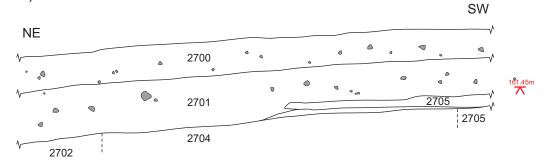
# b) Section of feature F2708

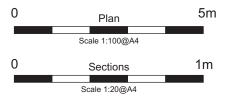


# c) Section of feature F2708



# d) Section of Trench 27





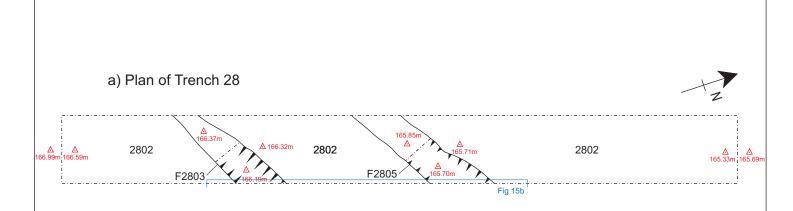
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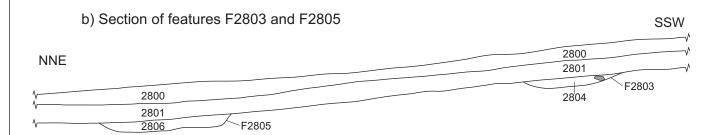
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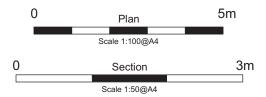
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Fig.14: Plan and sections, Trench 27









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Fig.15: Plan and section, Trench 28





Plate 1: General view of Area A from Trench 1, looking to northwest. (Scale 1m)



Plate 2: Recorded layer sequence in Trench 1, view to the north. (Scale 1m)





Plate 3: Recorded layer sequence in Trench 1, view to the north. (Scale 1m)



Plate 4: Section of F306, Trench 3, view to the southwest. (Scale 1m)





Plate 5: Linear features F902 and F904, Trench 9, view to the southwest. (scale 1m)



Plate 6: Linear features F1102 and F1104, Trench 11, view to the southwest (scale 1m)





Plate 7: Linear feature F1205, Trench12, view to northwest. (Scale 1m)



Plate 8: Pit F1601, Trench 16, view to northwest. (Scale 0.3m)





Plate 9: Linear features F1804, Trench 18, view to the southeast. (Scale 1m)



Plate 10: Linear features F2803 and F2805, Trench 28, view to the southwest. (Scale 1m)



Appendix 1 Tabulated trench descriptions for negative trenches
AC archaeology

Trench 5			Length: 25m	Width: 1.60m	Alignment: NW-SE
Context	Depth below ground level	Description		Interpreta	ation
500	0 – 0.18m	Mid to dark brown silty clay		Topsoil	
501	0.18 – 0.32m	Mid brown red silty clay		Agricultura	al subsoil
502	0.34m+	Mid yellow brown shillet and	d clay	Natural su	ıbsoil

Trench 6B			Length: 7m	Width: 1.60m	Alignment: E-W
Context	Depth below	Description	7 1111	Interpreta	
	ground level	-			
650	0 – 0.17m	Mid to dark brown silty clay		Topsoil	
651	0.17 - 0.22m	Mid brown red silty clay		Agricultura	al subsoil
652	0.22m+	Mid yellow brown shillet and	l clay	Natural su	ıbsoil

Trench 10			Length: 25m	Width: 1.60m	Alignment: NW-SE
Context	Depth below ground level	Description	20111	Interpreta	
1000	0 – 0.35m	Dark brown silty clay		Topsoil	
1001	0.35m+	Mottled brown and yellow cl shillet	ay and	Natural su	ıbsoil

Trench 13/	14: T-shaped tre	nch	Length: 35m	Width: 1.60m	Alignment: NE- SW/NW-SE
Context	Depth below ground level	Description		Interpreta	ation
1300	0 – 0.30m	Dark brown silty clay		Topsoil	
1301	0.35m+	Light brown and yellow clay shillet	and	Natural subsoil	

Trench 15			Length:	Width:	Alignment:
			10m	1.60m	E-W
Context	Depth below ground level	Description		Interpreta	ntion
1500	0 – 0.40m	Mid brown silty clay		Topsoil	
1501	0.40m+	Orange brown weathered cl shillet	ay and	Natural su	ıbsoil

Trench 19			Length:	Width:	Alignment:
			10m	2m	NW-SE
Context	Depth below	Description		Interpretation	
	ground level				
1900	0 – 0.20m	Mid to dark brown silty clay		Topsoil	
1901	0.20 - 0.28m	Mid brown red silty clay		Agricultura	al subsoil
1902	0.28m+	Mid yellow brown shillet and	d clay	Natural su	ıbsoil

Trench 20			Length: 40m	Width: 2m	Alignment: NE-SW
Context	Depth below ground level	Description		Interpreta	ation
2000	0 – 0.24m	Mid to dark brown silty clay		Topsoil	
2001	0.24 - 0.30m	Mid brown red silty clay		Agricultura	al subsoil
2002	0.30m+	Mid yellow brown shillet and	d clay	Natural su	ıbsoil

Trench 22			Length: 20m	Width: 2m	Alignment: NE-SW
Context	Depth below ground level	Description		Interpreta	ition
2200	0 – 0.21m	Dark brown clay silt		Topsoil	
2201	0.21 – 0.44m	Mid brown clay silt		Agricultura	al subsoil
2202	0.44m+	Light brown and yellow silty c gravels	lay with	Natural su	bsoil

Trench 23			Length: 20m	Width: 2m	Alignment: NE-SW
Context	Depth below ground level	Description		Interpretation	
2300	0 – 0.21m	Dark brown clay silt		Topsoil	
2301	0.21 – 0.30m	Mid brown clay silt		Agricultural subsoil	
2302	0.30m+	Light brown and yellow silty clay with gravels		Natural subsoil	

Trench 25			Length:	Width:	Alignment:
			10m	2m	NW-SE
Context	Depth below	Description		Interpretation	
	ground level				
2500	0 – 0.21m	Dark brown clay silt		Topsoil	
2501	0.21 - 0.52m	Mid brown clay silt		Agricultura	al subsoil
2502	0.52m+	Light brownish yellow silt cla	ау	Natural su	ıbsoil

Trench 29			Length: 20m	Width: 2m	Alignment: NE-SW
Context	Depth below ground level	Description		Interpreta	ition
2900	0 – 0.28m	Mid reddish brown clay silt		Topsoil	
2901	0.28m+	Light greyish yellow clay		Natural su	bsoil

Trench 30			Length: 20m	Width: 2m	Alignment: NE-SW
Context	Depth below ground level	Description		Interpreta	ntion
3000	0 – 0.34m	Mid reddish brown clay silt		Topsoil	
3001	0.34m+	Light greyish yellow clay		Natural su	ıbsoil

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