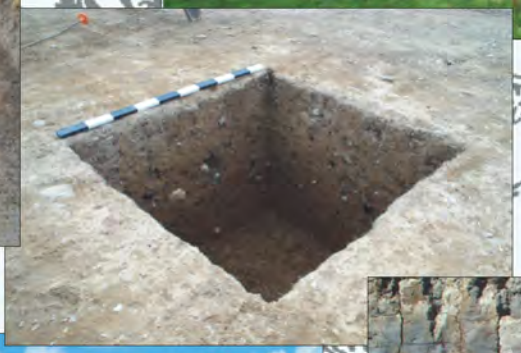
Wessex Archaeology

Barnstaple Western Bypass, Devon

Archaeological Excavation Assessment and Updated Archaeological Design



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Summary

Wessex Archaeology was commissioned by Chris Blandford Associates on behalf of Devon County Council to carry out archaeological mitigation works in advance of the proposed Barnstaple Western Bypass construction. The proposed scheme follows an approximate north to south aligned route, from the A361 Braunton Road at Pottington (NGR 254800 133900), across the River Taw and the A3125, to the A39 Barnstaple Bypass just west of its crossing over the Exeter to Barnstaple railway line (NGR 255800 131400).

A programme of archaeological evaluation south of Sticklepath, comprising geophysical survey, a watching brief during geotechnical investigation and trial trenching identified a relict watercourse, Mesolithic flint working evidence and a post-medieval hollow-way, all east of Pill Farm (NGR 255800 131700). As a result, the following archaeological works were undertaken in order to mitigate the impact of the proposed construction on these remains:

- *Expose, record and sample a transect across the relict watercourse;*
- *Determine the full extent and nature of the Mesolithic spread of flint-knapping debris, and any potential Bronze Age activity through a gridded array of test-pits; and*
- *Strip, Map and Sample the route of the hollow-way to determine the nature of any activity associated with the medieval pottery spread and post-medieval hollow-way.*

The palaeochannel where investigated was demonstrated to comprise two channels, a primary broad relatively long-lived channel, gradually filled with alluvial silts and clays, including an organic-rich peat formation, and then truncated by a narrower steep sided more recent channel located towards the southern end of the investigation. Radiocarbon dating indicates that the alluvium currently filling the primary channel originates in the Early Iron Age, with the main upper profile, including the greatest thickness of peat, probably predominantly attributable to the Romano-British and Saxon periods.

The flint scatter on higher ground overlooking the palaeochannel was confirmed as primarily of Mesolithic origin, although a few pieces within the assemblage may be more recent (i.e. Bronze Age). Distribution analysis confirmed the assemblage was clustered within the south-west corner of the area investigated, along the brow of the palaeochannel river-bank. This concentration was examined in detail, identifying potentially three hearth sites, and a range of worked flint types distributed throughout the area. It is anticipated that detailed distribution analysis will potentially highlight specific activity/ discard zones.

The route of the hollow-way was investigated by the hand-excavation of two trenches. These were situated on the basis of a topographic survey, that suggested the feature extended from Pill Farm eastwards, then turned to the south to run down to the north edge of the relict palaeochannel. Investigations recorded a section across the east to west aligned portion of the hollow-way, confirming the presence of a crude gravel surface at the base. Dating evidence could not confirm the

feature was any earlier than post-medieval, though considerable quantities of medieval pottery were recovered from the general area. The apparent turn to the south towards the palaeochannel was shown to be two approximately north to south (though not parallel) ditches and not the route of the hollow-way as anticipated. It was not possible to stratigraphically confirm whether the ditches were contemporaneous or not, although both produced sherds of medieval pottery from their upper fills. The intersection between these ditches and the hollow-way was not observed, though the construction watching brief may allow the relationships to be recorded.

In general, the artefact assemblage from Barnstaple Western Bypass is unremarkable, with the pottery assemblage comprised overwhelmingly of local products that are not closely datable. Although no further analysis of the artefacts *per se* is proposed, it is proposed that any worked flint debitage is extracted and categorised from soil samples taken within the Mesolithic flint scatter. This data will inform further detailed distribution analysis of the flint scatter.

The main palaeochannel sequence has demonstrated excellent preservation of plant remains, and therefore pollen preservation is likely to be good. Pollen analysis of the radiocarbon-dated sequence has the potential to indicate anthropogenic impact on the environment, as well as elucidating the nature of the local landscape and changes over time. Furthermore, diatom and foraminifera analysis will demonstrate the changing water conditions and potential tidal influence on the palaeochannel sequence. Detailed analysis of the ecofact assemblage *in toto* recovered from both fluvial and terrestrial environments has the potential to reveal the nature of the local environment during its deposition.

The peat in particular appears to include alder fen, a type that is most commonly found within prehistoric sequences in the British Isles (predominantly the Neolithic and Bronze Age). It is therefore incongruous that the preliminary radiocarbon determinations have identified this depositional phase as Iron Age to Late Saxon in date, and they clearly warrant further detailed analysis to inform the characterisation of the local environment during a period so frequently absent from the archaeological record.

Overall, the results at Barnstaple Western Bypass have demonstrated aspects of the archaeological remains present that warrant further analysis and publication, and most notably the palaeochannel sequence and its associated palaeo-environment, and distribution analysis of the Mesolithic flint scatter, including microdebitage. Although firm proposals are yet to be made for the outlet for such dissemination, it is imperative that publication(s) reach as wide an audience as possible.

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Acknowledgements

Wessex Archaeology was commissioned by Chris Blandford Associates (CBA) on behalf of Devon County Council (DCC) and gratefully acknowledges the assistance throughout the project of Peter Smith and Dave Cowler (DCC). Ann Dick and Bill Horner (Devon County Council Curatorial Service) monitored the site, on behalf of the local planning authority.

The fieldwork was directed by Jamie Wright with the assistance of Steve George, and carried out by Lee Newton, Gary Wickenden, Cai Mason, Vicky Jameson and Rowen McCally. During post-excavation, Lorraine Mepham assessed the artefacts, with the exception of worked flint examined by Matt Leivers. The sediment assessment was provided by Cathy Chisham, environmental sample assessment by Mike Allen and Sarah Wyles and the illustrations by Kitty Brandon. Andrew Crockett compiled this report, with the assistance of Jamie Wright, and also managed the project on behalf of Wessex Archaeology.

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SECTION 1: POST-EXCAVATION ASSESSMENT

1 INTRODUCTION

1.1 The Scheme

1.1.1 Wessex Archaeology was commissioned by Chris Blandford Associates (CBA) on behalf of Devon County Council (DCC) to provide archaeological advice in respect of the proposed Barnstaple Western Bypass. The proposed scheme follows an approximate north to south aligned route, from the A361 Braunton Road at Pottington (National Grid Reference [NGR] 254800 133900) to the north bank of the River Taw. The route then crosses the River Taw and the A3125, and continues to the south to the A39 Barnstaple Bypass just west of its crossing over the Exeter to Barnstaple railway line (NGR 255800 131400) (**Figure 1**).

1.1.2 The scheme includes a single two-lane carriageway, four new junctions, a bridge across the River Taw, link roads, cycleways, pathways, underpasses, and other associated infrastructure. The majority of the bypass will be formed on embankments, with a single cutting to the west of Barnstaple railway station, through the slopes of Sticklepath Hill.

1.2 Site Location

1.2.1 The advanced mitigation works (hereafter referred to as the Site) were centred on NGR 255840 131680, and situated to the south-west of Barnstaple on the east side of Sticklepath Hill. To the west of the Taw the land rises steeply to the summit of Sticklepath Hill at *c.* 90m above Ordnance Datum (aOD) and is incised by several east-flowing streams. The Site was located where an unnamed stream, flowing through the village of Lake, met the floodplain of the River Taw; between *c.* 4 and 6m aOD. Prior to archaeological investigations, the land-use was predominantly for pasture.

1.2.2 The geological map shows some complexity, with Upper Devonian or Lower Carboniferous shales of the Pilton Shale series to the north and of Codden Hill Chert series to the south. To the west is Pleistocene Boulder Clay and to the south-east deposits of the First River Terrace and Alluvium extends down the valley from Lake and along the margins of the River Taw.

1.3 Project Background

Previous Works

1.3.1 A preliminary Environmental Assessment prepared by CBA, including a Cultural Heritage Report (CBA 1997), was commissioned by Devon County Council to assess the impact of a proposed western bypass for Barnstaple. The Cultural Heritage Report considered a variety of sources, including the National Monuments Record, North Devon Archaeological Site Index, Devon Sites and Monuments Record, National Maritime Register, English Heritage Register of Historic Parks and Gardens as well as local and regional study libraries. This

report formed the basis for further assessment of the proposed scheme impact on the archaeological potential for the route.

1.3.2 A planning application for the proposed scheme was submitted in April 1999, accompanied by an Environmental Statement supported by a *Supplementary Report on Archaeological Assessment and Planned Evaluation* (CBA/ WA 1999). Conditional planning consent has been granted. Condition 4 of the planning consent refers to archaeology as follows;

No development shall commence without the implementation of a two-phase programme of archaeological investigation and recording in accordance with a written scheme that has been submitted to and approved in writing by the County Planning Authority. The programme shall include a more detailed survey, geophysical investigation and evaluation trenching where appropriate followed by a report with recommendations. On completion of this, a scheme of rescue archaeological work, if required including sampling, specialist reports and report preparation should be drawn up and agreed with the County Planning Authority.

(Reason: To ensure that adequate archaeological investigation and recording is undertaken prior to and during development.)

1.3.3 Based on the known archaeological background, the supplementary report (CBA/ WA 1999) identified the following areas of archaeological potential (A – C);

- ***A**: Areas in which evidence for past environments, in both geological and human time, and remains of human activity associated with the present and former courses of the river, may exist.*

  A1: Present and former saltmarshes on the north bank of the River Taw.

  A2: Present and former saltmarshes on the south bank of the River Taw.

- ***B**: Areas of previously recorded archaeological interest in which there is the potential for further significant archaeological evidence to survive.*

  B1: Site of the former medieval farmstead at Pottington.

  B2: Site of possible medieval and later quays and wharves around Pottington Point and Rolle Quay.

  B3: The medieval and later town and castle at Barnstaple, and, in the context of the road scheme, particularly the medieval and later castle quay.

  B4: Site of medieval and post-medieval settlement at Pill, Lake; site of Bronze Age activity.

- ***C**: Specific archaeological and historical features that have the potential to offer limited archaeological information.*

  C1: All historic landscape features (field boundaries, ditches, drainage systems, ridge and furrow, roads and droveways *etc.*) recorded to the south of Sticklepath Hill running south to Pill and Lake.

1.3.4 To address these areas of archaeological potential, advance archaeological works were separated into Stages 1 (non-intrusive) and 2 (intrusive), comprising the following elements;

Stage 1

- *Foreshore survey of the north and south banks of the River Taw,*
- *Geophysical survey south and west of Barnstaple railway station, and*
- *Attendance and monitoring of further geotechnical investigations.*

Stage 2

- *Trial trenching to investigate areas of potential identified during Stage 1, and*
- *Archaeological boreholes to assess the geoarchaeological and palaeo-environmental potential of the River Taw crossing.*

1.3.5 The geophysical survey, and attendance and monitoring of geotechnical investigations were carried out in January 2000 (GSB 2000 and WA 2000 respectively). The foreshore and auger surveys were both carried out in July 2003 (WA 2003a and 2003b respectively).

1.3.6 Evaluation trial trenching (**Figure 2**) along the southern section of the route (i.e. areas of potential) was carried out in late 2003 (WA 2004a), encountering significant archaeological remains near Pill Farm. These comprised subsoil strata containing a scatter of Later Mesolithic worked flint and quantities of medieval pottery, and a substantial 17th century hollow-way. Adjacent to the artefact-rich soils was a palaeochannel (i.e. former watercourse) that had flowed into the River Taw. The evaluation demonstrated that the silted-up remains had a high potential of producing environmental and dating evidence potentially relating to the nearby Later Mesolithic activity.

Employers Requirements

1.3.7 On completion of the Stage 1 and Stage 2 evaluation works, and based on the results of these stages, the *Employers Requirements for Archaeological Mitigation and Recording* included the following additional archaeological requirements:

- *Additional archaeological recording of significant remains in advance of development in the vicinity of Pill Farm (Area B4), and*
- *Additional archaeological recording of features of cultural heritage interest on the northern bank and foreshore of the proposed Taw crossing (including a slipway, the seawall and two hulks) if development proposals impact on these remains (Area A1).*

1.3.8 In addition, the Contractor's Archaeologist would undertake a Watching Brief in the following Archaeologically Sensitive Areas in accordance with the *Employers Requirements*:

- *Area of Potential B4: topsoil stripping over the extent of the hollow-way in order to allow for the identification and recording of any associated features or deposits of archaeological interest, and*
- *Area of Potential C1: topsoil stripping throughout Area of Potential C1 in order to allow for the identification and recording of any features or deposits of archaeological interest.*

1.3.9 This report records the preliminary results of the additional archaeological works in the vicinity of Pill Farm, carried out between the 1st June and 11th August 2004.

1.4 Archaeological Background

Introduction

1.4.1 The archaeological background is drawn largely from the preliminary Cultural Heritage Report (CBA 1997), supplemented by the results of the more recent archaeological investigations associated with the project noted above.

Prehistoric (c. 250, 000 BC – AD 43)

1.4.2 There are few records available to determine the nature, extent or distribution of prehistoric activity (if any) in the immediate vicinity of the proposed route. No Palaeolithic artefacts are recorded from the entire North Devon region, the earliest evidence comprising Later Mesolithic remains from the well-documented site at Westward Ho!, as far afield as Bideford and the River Tonbridge valley, and isolated stray finds of potential Mesolithic worked flint within the Taw Estuary. However, absence of evidence cannot be considered as evidence of absence, and the potential for such remains, particularly in association with peat deposits within the Taw valley, must be considered.

1.4.3 Later prehistoric activity (i.e. Neolithic, Bronze Age and Iron Age remains) is similarly poorly represented, both within the immediate vicinity and farther afield. Small-scale Neolithic activity is recorded at such sites as Orleigh Court, but the larger more coherent settlements such as those recorded in South Devon are not present. Occasional 'ritual' elements are recorded, including solitary and grouped megaliths, but these have yet to be placed into a more coherent landscape setting.

1.4.4 Although the nature of Bronze Age settlement has yet to be characterised in the region, the plethora of contemporaneous data recorded from, for instance, the upland zones of Dartmoor and Exmoor, strongly suggest that related activity must have occurred within the lowland regions. This may include the limited evidence noted at Lake. A similar pattern exists for the Iron Age, with hillforts and settlements recorded elsewhere in the region, but not in the Barnstaple area.

Romano-British (AD 43 – 410)

1.4.5 Although archaeological evidence is sparse, documentary evidence suggests that the River Taw may be that referred to as *Eltabo* in the Ravenna Cosmography. If so, then it is probable that a military garrison existed somewhere at a crossing point over the river, and possibly therefore at Barnstaple itself. Some military sites are known, for instance, at Martinhoe on the North Devon coast. However, the strong survival of celtic traditions within the region is considered indicative of the relatively minor impact that the Roman occupation of England had on the South-West in general.

Saxon (AD 410 – 1066)

1.4.6 The Saxon period is typically poorly represented as a material culture in the archaeological record throughout England, and Barnstaple is no exception despite its chartered foundation in AD 965. However, less tangible indicators, such as place-name evidence, suggest that the medieval and later pattern of settlement throughout the region was established during the Saxon period. Whilst physical evidence is sparse, it should be borne in mind that significant tracts of land at Barnstaple now lie buried beneath saltmarsh and reclaimed land, and that pre-medieval riverside activity may as a result be obscured.

Medieval (AD 1066 – 1500)

1.4.7 Archaeological and documentary records indicate that the development of Barnstaple and the agrarian hinterland is firmly rooted in the medieval period, and previous works have identified numerous remains relating to this period. These include the former farmstead at Pottington, medieval and later riverside activity at Pottington Point and Rolle Quay, the development of Barnstaple and the castle itself, and the settlements at Pill and Lake.

Post-medieval and Modern (AD 1500 onwards)

1.4.8 Similarly, it is not unreasonable to assume that many of the extant (and historic) land divisions, such as those mapped on the 19th century Tithe Maps for the area, represent boundaries established during the medieval period (or perhaps even earlier). The geophysical survey of the route demonstrated the likely presence of similar boundaries, now buried. For instance, Benjamin Donn's map of 1765 clearly demonstrates the origins of the present-day landscape, with settlements indicated at Lake, Pill, Pilton *etc*. in the immediate vicinity of the proposed route.

2 AIMS AND OBJECTIVES

2.1 Project Aims

2.1.1 With due regard to the IFA *Standard and Guidance for archaeological excavation* (IFA 1999, 2), the generic aims of the project were defined in the Written Scheme of Investigation (WA 2004b) as follows:

- *To examine the archaeological resource within the areas specified, and within the framework of project objectives outlined below;*
- *To seek a better understanding of and compile a lasting record of the archaeological resource within these areas, and to analyse, interpret and disseminate the results.*

2.2 Project Objectives

2.2.1 To achieve the project aims as outlined, the following general objectives were defined:

- *To expose, record and sample a transect through the relict peat-filled palaeochannel, a tributary of the River Taw, allowing informed statements regarding its nature, depositional history, contemporaneous palaeo-environment, and potential relationship to adjacent remains;*
- *To determine the potential for riverside activity (e.g. fish traps, wharves, jetties etc.) associated with the relict palaeochannel;*
- *To confirm the nature and extent of Mesolithic flint knapping, including the identification and detailed examination of any areas of concentrated activity (such as hearths), and including an assessment of the stratigraphic integrity of the scatter;*
- *To characterise the nature of later prehistoric evidence within the zone of Mesolithic flint knapping, and therefore confirm whether the flint scatter represents conflated assemblages or a 'single' chronological event;*
- *To characterise the nature of the medieval pottery scatter, determine if this material is associated with structural remains and/or features, and assess the relationship between the medieval evidence and the adjacent (apparently) post-medieval hollow-way;*
- *To examine the route of the hollow-way in detail, particularly in relation to adjacent remains and features (such as the palaeochannel), and confirm the origins and history of the route;*
- *To recover sufficient diagnostic artefacts from all remains to allow the development of both a secure chronological framework and an understanding of the palaeo-economy for all activity within the area through time; and*
- *To recover stratigraphically secure samples from all remains to allow a reconstruction of the changing palaeo-environment and palaeo-economy of the area through time.*

3 METHODOLOGY

3.1 Scope of Works

Additional Archaeological Works – Stage I

3.1.1 To achieve the aims and objectives outlined above, the following first stage of advance works (**Figure 3**) was implemented:

- *The location of a machine-excavated trench (Trench 51) across the palaeochannel, to expose, record and sample a transect. The trench measured 40.1m by 6.4m in plan, up to 3m in depth, and was stepped to allow safe access to the trench base;*

- *The examination of the route of the hollow-way to determine the nature of the feature. The works comprised the machine stripping of topsoil and then hand-excavation and recording of two detailed sections (Trenches 52 and 53) across the predicted route of the hollow-way. Trench 52 measured 12.8m by 1.9m, whilst Trench 53 measured 12m by 2m in plan. Neither exceeded 1m depth; and*

- *The hand-excavation of a series of test-pits on higher ground overlooking the palaeochannel to establish the extent and nature of the Mesolithic flint-knapping debris and any potential Bronze Age activity. The test-pit zone was initially stripped of topsoil by machine (Trench 54), prior to the excavation of 29 no. 1m square test-pits on a regular Ordnance Survey (OS) aligned gridded array of predominantly 5m spacing (numbered 55 to 83 inc.). The regular array was disrupted in several locations to avoid former evaluation trench 28 and the route of a live gas main.*

Additional Archaeological Works – Stage II

3.1.2 On the basis of the results obtained from the examination of the Mesolithic flint-knapping debris, a further stage of detailed test-pitting was commissioned, specifically examining 48m² of the south-west corner of Trench 54 (**Figure 4**), identified as Trench 84.

3.2 Machine Excavation

3.2.1 All machine excavation (i.e. Trench 51 and the topsoil from Trenches 52-54 inc.) was carried out using a tracked 360° hydraulic excavator with 2m wide toothless ditching bucket, under constant archaeological supervision. Where both topsoil and subsoil were removed, they were stockpiled separately. On completion of all works, all trenches and areas of investigation were backfilled with arisings, compacted to minimise subsidence, and then capped off with topsoil. No other specialist reinstatement techniques (i.e. seeding, re-turfing *etc*.) were employed. At the request of the client, at Trench 51 a temporary repair was effected on a pair of 6" ceramic land drains, using commercially available plastic drainage pipe, prior to backfilling.

3.3 Test-pits

3.3.1 All test-pits were hand-excavated to the surface of *in situ* geology, with none exceeding 1m depth. All excavated deposits were sieved through a 10mm mesh to facilitate the recovery of artefacts. A proportion of all material excavated was retained as environmental and artefact samples, to be processed at the offices of Wessex Archaeology for the extraction of both micro-debitage and palaeo-environmental remains.

3.4 Recording

3.4.1 Wessex Archaeology allocated a unique site code (56500) to all aspects of the project archive. This site code is clearly marked on all records, finds *etc*. All context recording utilised appropriate *pro forma* record sheets, including a full graphic and photographic archive. Individual trench plans were at 1:50 scale with feature or context plans at 1:20 or 1:10 scale as appropriate. Sections were at 1:20 or 1:10 scale as appropriate. All drawings are related to the OS NGR and labelled with OS eastings and northings and levels in relation to OS datum (Newlyn).

3.4.2 The site photographic records include both monochrome and colour transparencies, taken on standard 35mm SLR cameras, all photographs and transparencies including one or more graduated scales. A digital camera was also used to record the progress of the archaeological work, with the images acquired forming part of the site archive.

3.4.3 The complex stratigraphic sequence exposed in Trench 51 was recorded by the project geoarchaeologist (C Chisham), with her record complimented by records made by the field staff. The sections exposed in this trench were recorded through a combination of drawn sections supplemented by field notes, and digital survey and photogrammetry. The deposit boundaries were also digitally mapped using a Total Station Theodolite (TST), identifying the upper surface of context boundaries as 3-dimensional entities.

3.4.4 Context numbers for deposits investigated within the original array of test-pits and Trenches 51, 52 and 53 are 4-digit, with each context number comprising two digits (***99****nn*) to indicating the trench or test-pit number, and two digits (*nn****99***) to indicate the order that contexts were identified and recorded. For the test-pits, the last two digits also indicate the (inverted) stratigraphic sequence (i.e. 01 for the upper context, then 02, 03 *etc*.).

3.4.5 For the investigation of the additional test-pits (Trench 84), 6-digit context numbers were allocated using a spatial reference system. Each context number comprises two digits (***99****nnnn*) to indicate easting (ranged between 30 and 44), two digits (*nn****99****nn*) to indicate northing (ranged between 79 and 87) and two digits (*nnnn****99***) to indicate stratigraphic sequence (i.e. 01 for upper context, then 02, 03 *etc*.). The easting and northing codes correspond to the last two digits of the OS easting and northings (for the south-west corner of each 1m square).

4 STRUCTURAL REPORTS

4.1 Introduction

4.1.1 Summary records of individual contexts and trenches are given in **Appendix 1**, with full details retained in the project archive. Soil descriptions in this chapter are based on the soil sediment report, which is held in the project archive.

4.2 Trench 51

Introduction

4.2.1 The trench was aligned perpendicular (i.e. north-north-west to south-south-east) to the approximate course of the palaeochannel and examined the section of palaeochannel to the north of the extant field boundary. The east-facing section of the trench was hand-cleaned, photographed, described and digitally recorded using a TST (**Figure 5**). Undisturbed soil samples (monoliths), augmented by bulk samples, were taken in two locations and artefacts recovered during cleaning were retained by context.

4.2.2 The basal deposit (**3008**) in the trench comprised a mixture of sand and angular and rounded gravel, which was tested to 1m depth at the south end of the trench.

4.2.3 Two separate palaeochannels were identified in Trench 51; a larger channel to the north (**3018**) and a more recent smaller re-cutting channel (**3019**) to the south. The southern edge of **3019** could not be confirmed, but is likely to roughly correspond with the current drainage ditch forming part of the adjacent field boundary.

4.2.4 A single archaeological feature was observed, comprising a broad 4.5m wide, flat-based ditch (**3009**) with gently sloping sides, re-cutting the northern edge of channel **3018**. Although not recorded as such during the evaluation, this feature was observed in evaluation Trench 28 (WA 2004a).

4.2.5 The following narrative describes the stratigraphic sequence as recorded by the project geoarchaeologist, augmented by site staff field notes, including reference to the stratigraphic units as identified, and correlation with site context records. Modern and ancient stratigraphic units are differentiated by alphabetic and numeric coding respectively.

*Unit 4 (context **3008**)*

4.2.6 As noted above, fluvial sands and gravel (context **3008**) were observed at the base of the channel. The sands and gravel indicate high-energy river flow conditions but the presence of waterlogged plant remains at the upper interface with **3014** (see below) also indicate the establishment of emergent vegetation communities in the immediate area, suggesting a Holocene rather than Devensian date.

Channel 3018

UNIT 3 (CONTEXTS **3007** AND **3014**)

4.2.7 Unit 3, fining upwards to a gleyed silty clay alluvium, indicates a decrease in energy of flow or a lateral shift in the channel, allowing deposition of fine overbank sediments at times of flood. Three bands of coarser material near the top of this unit (context **3007**) represent flood events of greater magnitude, with a relatively abrupt boundary with the overlying Unit 2. A thin layer of organic matter had accumulated at the base of Unit 3 (context **3014**) and a

sample submitted for radiocarbon dating to establish a minimum date for alluviation prior to the main peat formation in the sequence yielded a calibrated date of 800 – 410 BC (Early Iron Age).

UNIT 2 (CONTEXT **3004-6** *ETC.*)

4.2.8 The relatively abrupt boundary at the base of this unit indicates rapid in-wash of organic material and possible truncation of Unit 3. Organic matter increased up the profile for Unit 2 with increased *in situ* accumulation of remains, becoming gradually more fibrous and moderately humified fen peat. A relatively rapid drop in water levels is indicated, most likely due to a channel shift to the south, causing the formation of peat in a marginal or river edge environment, and leaving a well-vegetated marsh immediately adjacent to the raised dry area of the Mesolithic flint scatter (see below).

4.2.9 The peat was up to 0.83m thick and contained well preserved herbaceous plant material. Fine laminations of in-washed silt/clay observed at the base of the peat in the field show some fluctuation in water level and flood events in this emergent, marginal area. A gradual resurgence of channel influence on the sequence is represented by the increasing addition of fine minerogenic alluvium in the upper profile of this unit. Although the basal sample from context **3005** was too decomposed to provide a reliable radiocarbon date, the upper surface has been dated to AD 880 – 990 (i.e. Late Saxon).

Channel 3019

4.2.10 Although the precise relationship was unclear, Channel **3019** appeared to be cut from the upper surface of Unit 2. The channel was filled with coarse sand and gravel, defined as Units C1-5 (base of context **3002**, **3003** and **3011-13**). The units indicate a high-energy flow, with fining upward showing decreasing energy as the channel in-filled.

*Unit 1 (Context **3003**)*

4.2.11 The upper portion of the alluvium contained fine rootlets. It was mottled with iron-staining and nodules of iron were common.

*Units A and B (Context **3001** – top of **3002**)*

4.2.12 From 0.35m upwards, a well-developed alluvial gley soil was observed (A and B), formed on the alluvium (with some possible colluvial input). Extensive and extended leaching through this profile caused the distinct iron concentration noted above, approaching an iron pan. The modern soil unit was traceable across the entire trench, showing recent pedogenic alteration across the area.

Discussion

4.2.13 The recorded sequence and date of alluvial sedimentation and peat formation has been shown to have commenced in the Early Iron Age and continued to form into the Saxon period. In view of the recorded archaeology in the vicinity, and the major palaeo-environmental sequences of prehistoric date further down river at Westward Ho! (Balaam *et al* 1987), it is perhaps surprising that no significant prehistoric sequences seem to be preserved here. However, this relates well with recent results from the Taw floodplain at the Downstream Bridge and Western Bypass (Allen *et al.* forthcoming; Wessex Archaeology 2003a and b), where the entire Holocene floodplain sediments have been demonstrated to be principally Romano-British and later.

4.3 Trench 52

4.3.1 Based on topographic earthwork survey, this east to west aligned trench was located to intersect the route of the hollow-way as it apparently turned south towards the north bank of the palaeochannel. Topsoil (5201) was mechanically removed, all further excavation was by hand.

4.3.2 The section (**Figure 6**) demonstrated basal geological deposits varying from bedded and in places vertically pitched hard shale or slate separated by clay, through to an almost black sand. Overlying were two layers, **5204** and **5203**, described in the laboratory as a single unit B horizon of up to 0.23m thickness. The unit is formed of altered alluvium, with few significant differences apparent from a sedimentological perspective between the contexts, apart from a slight decrease in iron staining up the profile. No evidence of a buried soil/palaeosol was found.

4.3.3 The linear hollow presumed to be the route of the hollow-way, was in fact the location of two broadly north to south aligned ditches, **5208** and **5209**. The westernmost ditch (**5208**) was 2.2m wide and 0.5m deep and filled with three fills of silty clay or silty loams, the upper of which produced some sherds of medieval pottery and ceramic building material (CBM). This ditch was aligned north-west to south-east, approximately parallel to the River Taw floodplain, and may have been a medieval field boundary.

4.3.4 To the east was north to south aligned ditch **5209**, which was slightly larger at 2.4m wide and 0.7m deep, and not quite parallel to ditch **5208**. At the base was a probably natural gully (**5215**), scoured into the geological sands. The upper fill of ditch **5209** again contained sherds of medieval pottery and CBM. It was not possible to confirm the stratigraphic relationship between the two ditches.

4.4 Trench 53

4.4.1 As with Trench 52 this north to south aligned trench was positioned to intersect the hollow-way, clearly visible as an east-west feature. Topsoil was mechanically removed prior to hand-excavation.

4.4.2 The section (**Figure 6**) demonstrated a *c*. 6.3m wide and up to 0.4m deep hollow-way (**5310**) cutting into the vertically bedded shale and clay natural. At the base of the hollow-way was a roughly cobbled gravel surface (**5311/5312**), primarily concentrated towards the southern edge of the route. Two fragments of post-medieval glass were recovered from the surface. A sequence of five layers (**5303**, **5305**, **5306**, **5307** and **5308**) overlay the surface and filled the hollow-way, producing a mixed assemblage of CBM, iron objects, slate and both medieval and post-medieval pottery.

4.5 Trench 54

Introduction

4.5.1 As noted above 'Trench 54' refers to the test-pit investigation of an area demonstrated to contain a significant Mesolithic worked flint scatter, situated on the higher ground overlooking the north bank of the palaeochannel and south of the hollow-way. Following the removal of topsoil by machine over an approximately triangular area of 715 m², all further investigations were carried out by hand.

4.5.2 Test-pits 55-83 inc. demonstrated a broadly similar stratigraphic sequence throughout the area, which is summarised below in terms of sedimentological units (**Figure 7**). Monolith samples were taken in Test-pits 76 and 79.

Sedimentary sequence

4.5.3 **Unit D** comprised the basal weathered bedrock of bedded shale/slate.

4.5.4 **Unit C** comprised fine silty clay incorporating both alluvium and a degree of weathered parent material. The alluvium may indicate overbank sedimentation and sorting of fine sediment from the adjacent palaeochannel, but given the variation between the test-pitting area and lower palaeochannel, this may alternatively represent run-off from the interfluves.

4.5.5 While this unit is similar in matrix to Unit 3 of the palaeochannel, the degree of weathering and oxidation has ensured that any correlation on visible sedimentological characteristics is tentative. The changes to the waterlain sediments indicate drying out after deposition and extensive bioturbation was present.

4.5.6 This unit was suggested on site to be a palaeosol, associated with the Mesolithic material remains. Examination of the recovered sediments suggests this is not a well-developed buried soil. There were, however some signs of post-depositional soil formation process, particularly evidence of rooting in the form of fine macropores and manganese-filled root pseudomorphs.

4.5.7 **Units A** and **B** comprised the upper deposit(s), and were originally sealed by modern topsoil (subsequently removed by machine). Both units had defined A and B horizons, and apparently sharing the same general characteristics as Unit 1 (see *Channel 3018* above). Large cracks, the development of defined prismatic structure, the bioturbation identified and the degree of oxidation collectively indicate that environmental remains such as plant macrofossils and pollen are likely to be both mixed through units A, B and possibly into C, and also poorly preserved.

Archaeological remains

4.5.8 As noted above, the initial array of sieved test-pits produced a small yet significant assemblage of worked flint, with diagnostic attributes confirming that the industry belonged to the Late Mesolithic period. The majority of this material was recovered from the basal deposit (Unit C), interpreted in the field as a putative prehistoric buried soil.

4.5.9 Preliminary distribution analysis, based on absolute quantities of worked flint (all types) recovered from Unit C per test-pit, demonstrated that concentrations of material were located within the south-west corner of Trench 54, in two distinct clusters (**Figure 8**). In a wider context, the material was located on the brow of the riverbank overlooking the palaeochannel to the south.

4.5.10 Material from Units A and B was mixed, containing occasional fragments of worked flint, as well as medieval and post-medieval remains. These units were considered to reflect medieval and later agrarian impact, and comprise both *in situ* ploughsoil, and downslope colluvial run-off from ploughing upslope to the west. For this reason the worked flint from these units has not been incorporated into the distribution analysis.

4.5.11 On the basis of the preliminary distribution analysis, the concentration within the south-west corner of the trench was fully excavated (Trench 84), again on a OS-aligned gridded array,

comprising 48 no. 1m² conjoining test-pits. To expedite this process, the overlying Unit A/B – previously demonstrated to be of relatively modern origin – was removed by machine under constant archaeological supervision.

4.5.12 Distribution analysis of this material (**Figure 8**) demonstrates concentrated zones within the area of detailed investigation. Though insufficient quantities of burnt material were recovered to allow confident identification of hearth bases, the burnt flint recovered appears to be loosely grouped into three zones (Hearth 1, 2 and 3). The distribution of worked flint in relation to these hearths, and particularly Hearth 1, demonstrates a clear focus to the north, potentially therefore representing a knapping station overlooking the fire and palaeochannel beyond.

4.5.13 Other categories examined during assessment (**Figure 9**) include the distribution of cores and core fragments, which are clearly concentrated within the detailed area of investigation. Comparatively few microliths were recovered, though caution must be exercised in concluding that microlith manufacture was therefore not a key product at this site, particularly as a possible microlith broken in manufacture was recovered (see below). Blades and bladelets were recovered in small quantities across the site, and again concentrated within the detailed investigation area.

Discussion

4.5.14 The correlation between the terrestrial sequence within Trench 54 and alluvial sequence in Trench 51 is problematic. From a sedimentalogical perspective, Unit C in the former most closely resembles Unit 3 in the latter. However, on the basis of diagnostic artefacts, Unit C is considered to represent a Mesolithic soil horizon, whilst Unit 3 has been shown to be post-Early Iron Age in date.

4.5.15 Therefore, either the Mesolithic artefacts are redeposited, or the units are not correlated, despite similarities. On balance, the stratigraphic integrity of the Mesolithic is considered reasonably secure, and therefore the alluvial sequence in the palaeochannel is unrelated to the remains on the north bank. In this scenario, the palaeochannel during the Mesolithic may have comprised a broad shallow gravel bed stream, with little or no sedimentation.

4.5.16 Distribution analysis of the worked and burnt flint has demonstrated that patterns exist in the arrangement of categories and combinations of categories, including the possible identification of three small hearth sites. Detailed analysis may further elucidate these patterns, and perhaps allow a greater understanding of the nature of the industry represented at Barnstaple.

5 ARTEFACT REPORTS

5.1 Introduction

5.1.1 Finds were recovered from all investigations. The assemblage encompasses a number of material types and ranges in date from prehistoric to post-medieval, with significant groups of worked flint and medieval and post-medieval pottery. All finds have been quantified by material type within each context; these data are recorded on the project database (Access), and are summarised by trench/test-pit in **Table 1**.

Table 1: Finds quantification (number / weight in grams)

Trench/ Test-pit	Animal Bone	CBM	Worked Flint (no.)	Glass	Med. Pottery	P-Med. Pottery	Metal	Other Finds
Unstrat.			13				1 Cu	
51	1/64		1		1/62	4/52		
52		9/102	4		3/28	4/11	6 Fe	
53		7/407		2/90	5/27	14/334	8 Fe	1 slate
54							5 Fe	1 worked bone
55		1/10	8		15/45	2/9	1 Fe	1 slate
56		1/3		5/17	11/77	16/225		3 clay pipe
57		1/3	2		3/6	7/29	2 Fe	
58		1/6	2	1/4	6/13	5/14	4 Fe	
59	1/1		10		103/422	22/163	2 Fe	2 clay pipe
60		4/70	1	1/2	7/48	2/42	1 Fe	
61		1/2	8		4/23	3/13	2 Fe	
62		1/4	16		22/87		5 Fe	
63		1/7	7		13/103	3/5		2 slate
64			7	1/2	17/88	8/39	2 Fe	
65		2/10	9		10/53			
66			4	1/1	131/656	3/11		2 clay pipe
67			8		1/1	6/15	2 Fe	
68			18		21/194	5/14	11 Fe	1 burnt flint
69		1/7	15	2/13	48/204	2/5	3 Fe	2 burnt flint
70			2		3/14			
71			9	1/3	23/125	3/18		
72		1/5	2		21/96	6/44		1 clay pipe; 1 slate
73			3		33/121	3/13		1 clay pipe
74	4/1				16/67	2/4		
75			1	1/6	5/29	4/23		1 slag
76	6/20		3		185/997	14/126	1 Fe	1 shell; 3 slag
77	1/3	3/30	3		109/421	15/217	2 Fe	1 clay pipe; 1 slag
78			1		15/34	2/7	6 Fe	1 slate
79			12		50/197	2/2	1 Fe	
80		3/22	7	4/23	4/12	7/38	7 Fe	1 clay pipe
81			6		7/53			
82			20		31/101			
83		1/17	2		16/83	13/44	7 Fe	1 clay pipe
84			377		21/93	1/4		5 burnt flint
Totals	**13/89**	**38/705**	**578**	**19/161**	**960/4580**	**178/1521**	**79**	

5.2 Worked Flint

Introduction

5.2.1 Worked flint was recovered from contexts across the site, with a high proportion coming from the completely excavated area within Trench 54 (377 out of 578 pieces).

Raw Material

5.2.2 The majority of the assemblage consists of nodular flint. One piece appears to be a quartzite, and a few others have a cherty appearance (only one is definitely a chert). There is a range of colours, predominantly greys and browns, with some reddish brown pieces. A few pieces have a cream/white patina.

5.2.3 The quality of the raw material is varied. Much is of relatively good quality (especially the darker grey pieces), although there is an element of poorer quality material, often with inclusions, flaws and incipient thermal fractures. Cortex tends to be thin, white and battered, suggesting utilised river gravel or beach nodules. The small nodule size attested by the surviving cores supports this supposition.

5.2.4 In each identifiable instance the flaking mode is soft hammer. Butts are predominantly plain, although there is a small number of winged, faceted, linear and punctiform examples.

Debitage and cores

5.2.5 There were 483 pieces of unretouched debitage (flakes, blades, bladelets, chips and irregular fragments) together with 24 cores and 20 core fragments (**Table 2**). 29.1% of flakes were broken, 33.33% of blades, and 46.3% of bladelets. The flake element was notable for the very small number of chips (flakes with a length of <5mm), of which there were only three.

Table 2: Worked Flint – assemblage composition

Flint Types	No.	% of assemblage
Retouched tools:		
Microliths	5	0.85
Scrapers	8	1.4
Burins	2	0.35
Piercers	2	0.35
Projectile Points	2	0.35
Misc. retouched pieces	15	2.6
Retouched tools sub-total	*34*	*5.9*
Debitage:		
Flakes (incl. broken)	357	61.75
Blades (incl. broken)	15	2.6
Bladelets (incl. broken)	54	9.34
Chips	3	0.52
Irregular debitage	54	9.34
Utilised flakes, blades, bladelets	*(68)*	*(11.76)*
Core preparation / rejuvenation pieces	12	2.1
Cores / core fragments	44	7.6
Microburins	5	0.85
Totals	**578**	**100.0%**

5.2.6 Of the 44 cores and fragments 24 were complete classifiable cores. Of these 66.66% were blade/bladelet cores, ranging from 12mm to 56mm long, and the remainder were flake cores between 21mm and 37mm long. The blade/bladelet cores are predominantly single-platform

types (only four have two or more platforms), whereas the flake cores are mostly two or multi-platformed (only one has a single platform). 81.25% of blade/bladelet cores and 62.5% of flake cores show platform abrasion and/or isolation. Two-thirds of the total complete cores have no attention paid to the backs. Only one core with an identifiable back shows any modification, in the form of a keel.

5.2.7 Core preparation, maintenance and rejuvenation is attested by crested pieces, trimming flakes and core tablets. The five crested pieces seem to originate in initial core preparation. Later maintenance is visible in platform rejuvenation flakes and mistake rectification through the removal of hinge/step terminations (often from an opposed platform) and in *flancs de nucléus* which remove the whole flaking surface, either from the original platform or at 90°.

5.2.8 Discard of cores occurred for a variety of reasons: several have hinge terminations disrupting flaking surfaces; some of the very small bladelet cores were simply exhausted; others were abandoned before exhaustion and without obvious knapping errors, some perhaps due to low-quality raw material.

The retouched tool assemblage

INTRODUCTION

5.2.9 **Table 3** shows the occurrence of tools in the assemblage. Scrapers are the most significant component, forming 23.53% of the retouched tools, followed by microliths at 14.7%. These figures equate with 1.4% and 0.85% of the entire assemblage. The retouched tools occur in a ratio of 1:2 with pieces with edge-damage indicative of use (34 retouched pieces: 68 utilised). The latter figure is a minimum count – further utilised pieces undoubtedly occur in the assemblage.

Table 3: Worked Flint – retouched tools

Tool Type	No.	%age
Microliths (Clark 1934)		
Type A	1	2.95
Type B	3	8.80
Type D	1	2.95
(Microlith total)	*(5)*	*14.70*
Scrapers	8	23.53
Projectile Points	2	5.88
Piercers	2	5.88
Burins	2	5.88
Truncations	2	5.88
Composites	1	2.95
Other retouched	12	35.30
Totals	**34**	**100%**

SCRAPERS

5.2.10 The eight scrapers encompass a range of types. All are fairly expedient (cortex is present on the dorsal surface of the two best examples; one is on a core tablet), and there are none on specially prepared blanks. A piece from **327903** is a well-made end scraper on the distal end of a secondary blade, the left dorsal margin of which shows signs of utilisation. A piece from **428501** is a portion of a second end scraper on a blade, from **378302** is a third, and from an unstratified position is a complete and burnt example. All of these are forms that could belong to the Mesolithic. Two pieces are expedient scrapers. One (from **307903**) is

made on the distal end of a short high triangular profiled tertiary flake and is at best doubtful. The second (from **8202**) has been made on the previously worked edge of a core rejuvenation flake. The core appears to have been worked for bladelets, suggesting a probable Mesolithic date. The other complete example (from **7903**) is a typical, if crude, thumbnail scraper. These are generally of Late Neolithic/ Early Bronze Age date. One burnt piece from **358102** is too fragmentary to identify to type.

MICROLITHS

5.2.11 The microliths consist of an obliquely blunted point (Type A2a) from **448602**, a crescent (Type D 2ai) from **5902**, and three Type B (a B1 from **307902**, a B3 from **6502** and a B4 from **348201**). The B1 and B4 types are small and narrow, and both suggest a Later Mesolithic date. Obliquely blunted points are common throughout the period: Reynier analysed the examples from a variety of sites in south-east England and concluded that it is possible to distinguish between an earlier component with an average length of 40mm, and a later component on average 22mm long (Reynier 1994).

5.2.12 It would be imprudent to generalise on the basis of a sample of one piece, but for what it is worth the obliquely blunted point from **448602** has a length of 26mm. Processing of the artefact samples may yield additional items.

5.2.13 Manufacture using the microburin technique appears to have been practised exclusively; five were recovered, along with one piece that appears to be a microlith in the process of manufacture.

PIERCERS

5.2.14 One piercer has a very short asymmetrical point on the distal end of a tertiary blade, formed by the intersection of two very heavily damaged margins (from **328001**). The second example is very different: made on a true blade 83mm long the point itself is 27mm long and formed by a crude retouch on the right dorsal and both ventral margins. The right dorsal margin above the point has a maximum thickness of 8mm and is retouched and battered along its length, recalling a 'fabricator'. The right ventral margin has extensive edge damage. Neither piece is an obvious chronological indicator. The first is reminiscent of the 'spurred implements' of earlier Neolithic date from Windmill Hill and West Kennet Avenue (Smith 1965), Thickthorn Down (Drew and Piggott 1936) and Grimes Graves (Saville 1981).

BURINS

5.2.15 There are two burins. One (from **8203**) *may* be a small dihedral burin on a secondary flake, although the removal may be fortuitous. The second (from **448702**) is a dihedral burin on a tertiary core-trimming flake. Neither would be out of place in a Mesolithic tool kit. There are no burin spalls.

PROJECTILE POINTS

5.2.16 The tip of a leaf-shaped arrowhead came from **7601**. This type is diagnostically earlier Neolithic, although of long currency. A Type G (Clark 1935) *petit tranchet* derivative was recovered from **428601**. These are generally Later Neolithic (Green 1984).

OTHER TOOLS

5.2.17 There is a very limited range of other tools. Two truncations (from **378302** and **448602**) have linear retouch on the distal and proximal ends of a secondary and tertiary flake respectively. A composite tool from **388302** has an end scraper on the distal end of a tertiary blade of dark grey chert. The left dorsal margin has use damage, and the right margin a burin

removal struck from the scraper edge. The remaining miscellaneous retouched pieces need no discussion, except to note that two may be gunflints.

Discussion

5.2.18 The majority of the flint can be assigned to the Later Mesolithic. The industry was intended to produce blades and bladelets for microlith manufacture and there is evidence that manufacture took place on site. It seems most probable that the site represents a campsite overlooking the confluence of a small stream with the River Taw, occupied for a short period or a number of short periods. There are a number of other sites around the Taw estuary providing broadly comparable assemblages: at Westward Ho! (Rogers 1946; Churchill and Wymer 1965; Balaam *et al* 1987), Fremington, Instow, Braunton and further afield at Orleigh Court (Simpson and Rogers 1937).

5.3 Pottery

5.3.1 The pottery assemblage consists entirely of medieval and post-medieval wares, dominated by local products. The overall condition of the assemblage is fair to poor, with the medieval wares showing high levels of abrasion. Mean sherd weight for the medieval ware is 4.8g, compared to 9.2g for the post-medieval ware. Although the post-medieval material may be considered slightly more robust, the comparative sherd weight appears consistent with the indication that a large proportion of the medieval material occurs residually in later contexts.

5.3.2 The assemblage has been quantified by broad ware type within each context, and the totals are presented in **Table 4**.

Table 4: Pottery totals by ware type

Period	Ware Type	No. sherds	Weight (g)
Medieval	North Devon coarseware	930	4340
	North Devon sandy ware	30	240
Post-medieval	North Devon gravel-tempered ware	85	1173
	North Devon gravel-free ware	53	245
	Other coarse redwares	3	13
	Coarse whiteware	2	8
	Staffs-type slipware	8	26
	Staffs-type mottled ware	2	4
	Stonewares	1	1
	Tinglazed earthenware	2	7
	Refined whitewares	22	44
	Totals	**1138**	**6101**

5.3.3 Medieval wares fall into two categories: coarsewares (containing prominent quartzite and/or chert inclusions) and fine sandy wares, both of local type, and previously identified in both Barnstaple and Bideford (e.g. Markuson 1980; Lovatt 1989). No other wares were identified within the medieval assemblage.

5.3.4 Diagnostic sherds are scarce, but suggest that most of the coarseware sherds derive from jars with convex rim profiles. There may also be a few bowl/dish rims. There are no diagnostic sherds amongst the sandy wares, but many of these sherds are white-slipped and glazed, suggesting that they represent jugs.

5.3.5 The dating of the medieval assemblage is problematic. One 13th century kiln producing coarsewares is known in Bideford (Lovatt 1989, 128), but these wares have a potential date range from at least the 13th century to the end of the 15th century, with little typological development within this period, as demonstrated at Okehampton Castle (Allan and Perry 1982). The sandy wares are tentatively dated as 14th century or later. In this instance, there is no independent dating evidence, and most of the medieval sherds were obviously residual in the contexts in which they occurred.

5.3.6 The post-medieval gravel-tempered and gravel-free wares show a visual similarity to the medieval wares which suggests a continuous local ceramic production. These wares appear at Exeter by the end of the 15th century and production continued throughout the post-medieval period. Dish and bowl forms are particularly common here, on the basis of rim forms. Again, close dating is hampered by the conservative nature of the industry, and the scarcity of other datable wares (Staffordshire types, stonewares, tin-glazed earthenware and modern refined wares).

5.4 Ceramic Building Material

5.4.1 This includes fragments of brick, roof tile and field drain, and is almost entirely of post-medieval date, although one coarsely tempered fragment from Test-pit 83 could be medieval.

5.5 Metalwork

5.5.1 Apart from one unstratified copper alloy token (probably 17th century), all of the metalwork recovered comprises iron objects. These are in markedly poor condition and very corroded. Many remain unidentifiable at this stage, although nails appear to dominate the assemblage. There appear to be no chronologically distinctive objects.

5.6 Other Finds

5.6.1 Other finds comprise small quantities of animal bone, glass (all post-medieval vessel glass), roofing slate, clay pipe (including one bowl of later 17th century type), slag, burnt (unworked) flint and oyster shell.

6 ENVIRONMENTAL REPORTS

6.1 Trench 51

Plant Macrofossils

6.1.1 Seven samples were processed for waterlogged remains and molluscs from the palaeochannel in Trench 51. No molluscs were seen in any of the samples. Charcoal was seen in some of the lowest samples with seeds of open riverine/wetland species, such as sedges (*Carex* sp., *Eleocharis* sp.) and rushes (*Scirpus* sp.). These lower samples appeared also to contain roots and stems most probably of *Phragmites*. The samples from these lower deposits have some potential in terms of both insect and plant remains, particularly those from contexts 3006 and 3007, which may be Iron Age.

Table 5: Trench 51 environmental sample summary

Context	Sample	Depth (m)	Vol.	Comments
3005	3613	0.67-0.73	10	Alder (*Alnus glutinosa*) male catkin/anther material. Fine stem/root material possibly from modern vegetation. Many beetles.
3005	3612	0.85-0.92	10	Mainly stem/root. No seeds or other remains seen.
3005	3609	1.00-1.06	10	Mainly stem/root. No seeds or other remains seen.
3005	3608	1.33-1.44	10	Stem/root material. Worm cocoons. No charcoal seen.
3005	3607	1.53-1.65	10	Seeds of *Mentha* cf. *palustris* and *Scirpus/Eleocharis/ Isolepis*. Stem/rooty material. Some beetles and worm cocoons.
3006	3606	2.00-2.05	10	Charcoal. Stem/root material (*Phragmites/Typha*?). Some beetles.
3007	3605	2.20-2.25	10	Charcoal. *Chenopodium* sp. Stem/root material. Some beetles.

6.2 Trench 54

Plant Macrofossils

Table 6: Trench 54 environmental sample summary

Test-pit	Context	Depth	Sample	Vol (L)	Comments
76	7602	0.30-0.35	3645	10	Much root material *Vallonia* spp. *Discus rotundatus Helicella itala*. Charred: - 2x frgs hazelnut. 1x oat. 1x wheat grain.
79	7902	0.30-0.40	3654	10	Much root material. Charred: - 3x cf. cereal grains. 2x oat; 1 plantain.
	7903	0.50-0.60	3655	10	Roots; 1 seed uncharred cultivated oats; Several modern seeds; Charcoal and poss. frgs. of coke. Charred: - rye (grain) 2x *Chenopodium* sp.; 1 frg. hazelnut shell.
81	8102	0.53-0.58	3658	10	Roots and modern seeds. Charred: - Some charcoal. Parenchyma/root frgs x2.
58	5802	0.23-0.28	3682	10	Roots and stems Charred: little charcoal Hazelnut basal fragment
62	6202	0.25-0.30	3693	10	Roots and stems. and live worm. Still active soil. Charred: - Wheat grain.
	6203	0.35-0.40	3694	10	Roots and stems. Live worms. Several frgs of charcoal

6.2.1 Samples from Test-pits 58, 62, 76, 79 and 81 in Trench 54 were processed and examined for snails and charred remains (**Table 7**). These test-pits were chosen as having had monoliths taken or as having the greatest depth of over-burden and the larger number of Mesolithic

flints, and hence the greatest potential of providing environmental material that could be related to a past land surface.

6.2.2 The material within the samples included fragments of hazelnut shell (*Corylus avellana*) and several cereal grains, of which only wheat (*Triticum* sp.) could be identified from Test-pit 76 and rye (*Secale cereale*) from the basal deposit of Test-pit 79. The only seeds of wild species were a few seeds of goosefoot (*Chenopodium* sp.) and ribwort plantain (*Plantago lanceolata*).

6.2.3 Several aspects of the samples indicate that the possible buried horizon still lay within the active soil horizon. The larger number of roots and presence of both modern seeds and leaves indicate that such material is likely to have been brought through the profile by root action, within natural cracking through the profile and/or through soil micro-faunal and earthworm activity. For this reason the mollusc shells recovered may be of much more recent date than the Mesolithic material.

6.2.4 Much of the charred material is also unlikely to relate to the Mesolithic flints. While the presence of charred cereal grains indicates post-Mesolithic activity, rye in particular is largely unknown before the Saxon period and is most likely associated with the medieval ploughsoil. Hazelnuts are known from many Mesolithic sites (Zevelbil 1994), but are largely present within all periods to the present. Therefore to associate the hazelnuts with Later Mesolithic activity they would have to be radiocarbon dated. This would establish that hazelnuts were exploited in the Later Mesolithic, as is already known. Any direct association between the hazelnuts and the Mesolithic flints would still be highly tentative.

7 EMPIRICAL REPORTS

7.1 Radiocarbon

Introduction

7.1.1 Three samples of identifiable plant matter were recovered from the sequence within Palaeochannel 3018 (**Table 7**). The top and bottom of the main humified peat, **3005**, were sampled, and *Phragmites* plant matter was submitted as it is assumed to have been growing *in situ* in this peat. A further sample of *Phragmites* was also submitted from an incipient peaty horizon (**3014**) developing on and in the basal sands and gravel. This deposit was subject to fluvial re-working and may contain fluvially derived debris. Although it is assumed that the item selected was from the *in situ* component (there was a fine root-mat present) it is possible that derived material may be present. As such the result provides a date by which the basal horizon started to stabilise, and will give a minimum time between basal stabilisation and the inception of the main peat.

Table 7: Radiocarbon sample determinations

Lab. no.	Context Number	Material	Result no.	δC^{13} ‰	Result BP	Cal. date
KIA-25384	3005	*Phragmites* leaf in top of humified peat at 0.81m	KIA-25384	-29.92	1115±25	AD880 – 990
KIA-25385	3005	*Phragmites* stem and leaf at base of humified peat at 1.61m	Too decomposed		~2200±250	900BC – AD400
KIA-25386	3014	*Phragmites* stem recovered from top of incipient peat 3014 on sand/gravel 3008 at 2.37m	KIA-25386	-25.88	2500±34	800 – 510BC

Laboratory Processing (P M Grootes)

7.1.2 The three samples of wet plant remains lost a lot of material during preparation. Two of them (Samples KIA-25384 and KIA-25386), yielded enough carbon and produced sufficient ion beam during the AMS measurement. The $\delta^{13}C$ values of all three are in the normal range for organic samples and insofar these results are reliable.

7.1.3 Sample KIA-25385 lost considerably more material during the washing steps following alkali treatment and the remaining sample was too small for a reliable measurement. Although it was reduced on 1 mg Fe instead of 2 mg for a better C:Fe ratio, the target produced barely an ion beam and the $\delta^{13}C$ value indicated strong ^{13}C fractionation. The age calculated from the measurement is ~2200 ± 250 years BP. This gives only a rough indication of the probable age of the sample and may be too low, considering the fact that very small samples often are measured too young.

Discussion

7.1.4 The radiocarbon determinations have demonstrated that the main deposit of humified peat in channel 3018 commenced in the Late Iron Age, and was fully formed by the end of the Saxon period. However, the sample from the base of the peat is accompanied by a significant margin of error, and hence is neither a reliable nor an accurate indicator of the date for peat formation.

7.1.5 The basal sample, submitted to provide an estimate of the date that sedimentation began to stabilise within the palaeochannel, has demonstrated that this occurred within the Late Bronze Age – Early Iron Age period. It is therefore of note to observe that the channel was most probably devoid of sediment during the Mesolithic period, and presumably followed a broad braided course as a shallow stream or series of channels during this period.

8 ARCHIVE REPORTS

8.1 Archive Components

8.1.1 The complete site archive (**Table 8**), including paper records, photographic records, graphics, artefacts and ecofacts, will be prepared following nationally recommended guidelines for the preparation and presentation of excavated archaeological material (SMA 1995; Walker 1990).

Table 8: Quantification of archive

Component	Format	No.
Number Record	A4	1
Survey Notes	A4	7
Context Indexes	A4	2
Context Sheets	A4	53
Trial Trench Records	A4	71
Object Register	A4	1
Photographic Records	A4	16
Environmental Sample Index	A4	10
Environmental Sample Record	A4	202
Day Book (photocopy)	A4	21
Drawing Sheets	A4	28
Drawing Sheets	A1	5
Colour Slides	35mm	264
B&W contact prints and negatives (films)	35mm	11
Artefacts (boxes)		
Environmental samples, residues *etc.*		

8.2 Storage

8.2.1 The finds are currently stored at the offices of Wessex Archaeology in Salisbury. They are stored in perforated polythene bags in three cardboard or airtight plastic boxes, ordered by material type, following nationally recommended guidelines (Walker 1990).

8.3 Conservation

8.3.1 No immediate conservation requirements were noted in the field. Finds which have been identified as of unstable condition and therefore potentially in need of further conservation treatment comprise the metal objects.

8.3.2 Metal objects have been X-radiographed as part of the assessment phase, as a basic record and also to aid identification. On the basis of the X-rays, the range of objects present and their provenance on the site, no objects have been selected for further conservation treatment.

8.4 Discard Policy

8.4.1 Wessex Archaeology follows the guidelines set out in *Selection, Retention and Dispersal* (Society of Museum Archaeologists 1993), which allows for the discard of selected artefact categories that are not considered to warrant any future analysis. In this instance, any further discard could target the smaller categories of post-medieval finds, e.g. CBM and glass, and

material not securely dated, e.g. metalwork, roofing slate, slag. The discarding of any artefacts will be carried out only with the complete agreement of the recipient Museum.

8.5 Recipient Museum

8.5.1 It is recommended that the project archive resulting from the excavation be deposited with the Museum of Barnstaple and North Devon, Barnstaple. The Museum has agreed in principle to accept the project archive on completion of the project. Deposition of the finds with the Museum will only be carried out with the full agreement of the landowner.

8.6 Copyright

8.6.1 The full copyright of the written/illustrative archive relating to the Site will be retained by the Trust for Wessex Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. The recipient museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms with the *Copyright and Related Rights Regulations* 2003.

8.7 Security Copy

8.7.1 In line with current best practice, on completion of the project a security copy of the paper records will be prepared, in the form of microfilm. The master jackets and one diazo copy of the microfilm will be submitted to the National Archaeological Record (English Heritage), a second diazo copy will be deposited with the paper records, and a third diazo copy will be retained by Wessex Archaeology.

9 ASSESSMENT OF POTENTIAL

9.1 Stratigraphy

9.1.1 There is considerable potential for further detailed stratigraphic analysis of the results from Barnstaple Western Bypass, particularly with the incorporation of any further dating evidence and records obtained during construction watching brief. The assessment radiocarbon determinations have confirmed that the flint scatter and palaeochannel fills are not contemporaneous, and therefore detailed stratigraphic analysis should attempt to identify the temporal and stratigraphic relationship between all investigations.

9.1.2 Archaeological remains recorded during construction watching brief should be considered against this scheme-wide stratigraphic matrix for the Pill Farm area. This is particularly relevant to former courses of the relict palaeochannel and the route and nature of the hollow-way.

9.1.3 Preliminary distribution analysis has clearly demonstrated spatial patterning within the *in situ* Late Mesolithic flint scatter. Detailed analysis should address this potential, and attempt to determine specific activity zones within Trench 54 using a combination of single and combination tool type distributions.

9.2 Artefacts

9.2.1 The artefact assemblage has limited potential for further analysis *per se*. Worked flint was the most commonly encountered material type, a high proportion of which derived from the flint scatter within the area of Trench 54. Assessment of the flint has shown that although the majority of the assemblage can be considered as Later Mesolithic, there are a few later pieces; in other words, the flint scatter *in toto* is unlikely to wholly represent a single chronological event.

9.2.2 Therefore, further analysis of the material examined to date beyond the level recorded at this stage is not considered worthwhile. However, to aid more detailed spatial analysis of the material, it would be considered appropriate to complete the processing of fixed volume artefact samples taken from the basal horizon (Unit C), to recover, identify, quantify and analyse micro-debitage that may be present. Such analysis should take due regard of the potentially mixed nature of the material *in toto*, with a small number of Bronze Age diagnostic items recorded.

9.2.3 The pottery assemblage consists overwhelmingly of local products that are not closely datable. Moreover, a high proportion of the medieval assemblage is clearly redeposited. Little medieval pottery from the area has been published, but this assemblage will not add significantly to an understanding of the medieval ceramic sequence, other than highlighting its presence. Other finds types are present in insufficient quantities to warrant further analysis, and do not include objects of intrinsic interest.

9.3 Environmental

Sediments

9.3.1 A clear sequence of channel fills, in both earlier and later channels, has been identified and, separately, a somewhat disturbed shallower terrestrial sequence. The close proximity of the

palaeochannel to the terrestrial sequence is clearly of note, but no direct correlation between the two sequences could be determined during advance mitigation works. It is therefore important to attempt to establish a definitive chronological relationship between the terrestrial and channel sequences. This may be achieved through observations during the construction watching brief or further radiocarbon dating.

9.3.2 A more secure chronological framework willallow the palaeo-environmental information and interpretation from the alluvium to be applied to the appropriate period(s) of occupation and activity. The archaeology on the dryland provides some chronological control, particularly in the case of Test-pit 79 where a defined pedogenically altered horizon, possibly related to Mesolithic remains, is discernible under the heavily bioturbated modern soil.

9.3.3 In order to help ascertain the chronological relationship of the site with the waterlogged environmental sequence in the channel, samples of discrete short-lived plant remains of terrestrial origin from the channel sequence were submitted for radiocarbon dating, and the results are included. A single radiocarbon date could also be sought for a wood charcoal fragment from 0.63m depth (Unit C) in Test-pit 79 although, due to the issues of bioturbation and cracking, taphonomy and potential contamination of samples must be carefully considered.

Pollen

9.3.4 The main palaeochannel sequence has proved to display excellent preservation of plant remains by waterlogging. Due to the waterlogged and organic nature of the sequence, pollen preservation is likely to be good, as observed in previous pollen assessments for the Barnstaple Western Bypass e.g. Wessex Archaeology 2003b). Pollen analysis of the as yet imprecisely dated sequence has the potential to indicate anthropogenic impact on the environment, as well as elucidating the nature of the local landscape and changes over time. Pollen analysis may also aid in creating a chronology for the sequence. Pollen preservation in the dryland sequences represented in Trench 52 and Test-pit 76 is not recommended due to bioturbation and oxidation, but that of Unit C in Test-pit 79 has potential.

Diatoms and foraminifera

9.3.5 Diatom and foraminifera analysis permits the opportunity to investigate the changing water conditions and potential tidal influence on the palaeochannel sequence.

Charred plant remains and insects

9.3.6 Of the samples examined from the palaeochannel, two offer potential for the examination of both beetles and waterlogged plant macrofossils, to elucidate the nature of the local environment at the time of deposition. The potential remains to combine this environmental information with other archaeological evidence for human occupation at the site, depending on the outcome of detailed stratigraphic analysis and any further dating techniques.

9.3.7 The top of the peat reflects alder fen, a vegetation type that is most commonly found within archaeological sequences in the British Isles dating from the Neolithic to the Bronze Age. It is therefore incongruous that the preliminary radiocarbon determinations have identified this depositional phase as Late Saxon, and clearly warrants further detailed analysis to inform the characterisation of the local environment during a period so frequently absent from the archaeological record.

Molluscs

9.3.8 Few mollusc remains were encountered in the palaeochannel sequence, possibly as the sediments are not sufficiently alkaline to allow preservation; however analysis of any shells recovered from the lower sediments of the dryland Test-pits may prove useful in elucidating the depositional environment.

10 CONCLUSION

10.1.1 The excavation has successfully addressed the aims of the project showing that a considerable quantity of worked flint was present at the side of a former large stream or small river. A *terminus post quem* date has been established for the use of the hollow-way and although its eastern extent was not revealed, knowledge of medieval activity in the area has been enhanced, while a small ditch shows additional low-key, as yet undated activity in the area.

10.1.2 The Later Mesolithic flint adds to knowledge of activity in North Devon, which appears to have been based within the Taw valley and its tributaries, extending along the coast and possibly as far afield as Lundy on the edge of the Atlantic (Wymer 1977; Schofield 1989). The lack of Horsham Points as discovered at Westward Ho! (Churchill and Wymer 1965) suggests at least minor variations in the technology in the area, and the use of probable river gravel or beach nodules may be at variance with the recent suggestion of Orleigh Court as a locally valuable source of raw flint (Newberry 2003).

10.1.3 Much of the flint has been shown to be of a Later Mesolithic date, representing *in situ* knapping on the edge of a former tributary of the Taw. The overall make-up of the assemblage suggests that this was deposited by a hunting party, probably exploiting the rich and varied environment represented by the adjacent river system and associated wetlands, and the (probable) wooded slopes and higher ground to the west.

10.1.4 Further analysis of not only the flint but also the medieval and later pottery distribution, in the form of density contour plots, may help interpret the soil catena relationships that developed near the base of the valley. This would aid an explanation of possible truncation of the Mesolithic deposits, their original extent and whether any may have been originally deposited beyond the Site, subsequently to be disturbed and moved downslope. The distribution of medieval and post-medieval pottery may also be used as an aid in dating the origin of the hollow-way, which seems to have been abandoned by the late 17th or early 18th centuries.

10.1.5 Fieldwork and assessment results were inconclusive with regard to the identification of the Mesolithic worked flint-bearing basal deposit on the palaeochannel riverbank. Notwithstanding the possibility that the construction watching brief may add to or inform this debate, detailed soil sediment analysis, including the preparation of appropriate soil micromorphology slides, may determine the precise nature of the deposit, and potentially confirm the presence of an *in situ* early prehistoric soil horizon.

10.1.6 Environmental assessment has demonstrated a relatively long-lived depositional sequence within a palaeochannel, a former component of the River Taw system. Radiocarbon dating has demonstrated that surviving organic material within the channel originated in the Iron Age, but that the majority of the deposit may be Roman and post-Roman in date. Although therefore apparently unrelated to the adjacent Mesolithic flint working activity, the results do place this work within a period previously recognised in the area as associated with peat formations. Analysis of the results may therefore contribute significantly to an understanding of the formation processes involved, and the associated palaeo-environment and potentially palaeo-economy of the area.

SECTION 2: UPDATED ARCHAEOLOGICAL DESIGN

11 AIMS AND OBJECTIVES

11.1 Introduction

11.1.1 The generic aims and objectives of the project, as defined in the Written Scheme of Investigation (WA 2004b) are discussed above (**Section 2**). In order to complete the assessment process, these targets will be further considered.

11.2 Review of targets

- *To expose, record and sample a transect through the relict peat-filled palaeochannel, a tributary of the River Taw, allowing informed statements regarding its nature, depositional history, contemporaneous palaeo-environment, and potential relationship to adjacent remains.*

11.2.1 The archaeological works have allowed a detailed record of the relict palaeochannel to be made, complemented by a wide range of appropriate environmental samples. Few diagnostic indicators were recovered to place the results into a secure chronological framework, though preliminary radiocarbon determinations have identified that the basal peat deposits in the primary channel may have originated in the Early Iron Age. The upper profile appears to date to the Mid to Late Saxon period, suggesting the formation predominantly occurs during the Mid to Late Iron Age, Romano-British and Saxon periods. The palaeochannel deposits are therefore unrelated to the Mesolithic worked flint scatter on the north bank.

- *To determine the potential for riverside activity (e.g. fish traps, wharves, jetties etc.) associated with the relict palaeochannel.*

11.2.2 No archaeological evidence was recorded to indicate specific activity within this zone, though the examination of the potential route of the hollow-way in this area determined that the hollow-way continues to the east (i.e. towards the River Taw) rather than providing access to the relict palaeochannel bank.

- *To confirm the nature and extent of Mesolithic flint knapping, including the identification and detailed examination of any areas of concentrated activity (such as hearths), and including an assessment of the stratigraphic integrity of the scatter.*

11.2.3 Investigations have determined that the worked flint concentration is well-defined within the area of investigation, clearly focussed on the knoll/ ridge of higher ground on the north bank of the palaeochannel. Although this allows the southern, eastern and northern boundaries of the scatter to be defined, distribution analysis indicates the scatter probably extends to the west beyond the site limits.

- *To characterise the nature of later prehistoric evidence within the zone of Mesolithic flint knapping, and therefore confirm whether the flint scatter represents conflated assemblages or a 'single' chronological event;*

11.2.4 Detailed flint analysis, including distribution analysis, has determined that specific concentrations do exist within the area examined, though their precise nature cannot at this stage be confidently identified. A small later prehistoric component has been identified within this material.

- *To characterise the nature of the medieval pottery scatter, determine if this material is associated with structural remains and/or features, and assess the relationship between the medieval evidence and the adjacent (apparently) post-medieval hollow-way.*

11.2.5 Although more medieval pottery was recovered from the area in question, this was unrelated to structural remains, nor could it be stratigraphically associated with the adjacent hollow-way. It is concluded that the material probably represents manuring and/or refuse disposal.

- *To examine the route of the hollow-way in detail, particularly in relation to adjacent remains and features (such as the palaeochannel), and confirm the origins and history of the route.*

11.2.6 The two trenches excavated to examine the route of the hollow-way concluded that the feature probably extends across the proposed by-pass route, and was therefore likely to provide access to the River Taw floodplain, rather than its tributary the relict palaeochannel. Insufficient dating evidence was recovered to confirm medieval or earlier origins for this route, and therefore at this stage must be considered a post-medieval development.

- *To recover sufficient diagnostic artefacts from all remains to allow the development of both a secure chronological framework and an understanding of the palaeo-economy for all activity within the area through time.*

11.2.7 Diagnostic evidence recovered includes Mesolithic (and later prehistoric) worked flint, predominantly within a putative palaeosol on the north bank of the palaeochannel, and Iron Age to Saxon peat formation within the palaeochannel itself. Sparse evidence for medieval farming (manuring?) is also recorded on the north bank of the palaeochannel, as well as the establishment of a (post-medieval?) hollow-way.

- *To recover stratigraphically secure samples from all remains to allow a reconstruction of the changing palaeo-environment and palaeo-economy of the area through time.*

11.2.8 Although numerous samples were obtained to allow an assessment of their potential to inform the understanding of the palaeo-economy for these periods, the material on the north bank (in particular) appears to be stratigraphically insecure, prohibiting detailed comment at this stage.

11.3 Updated Aims and Objectives

Introduction

11.3.1 The investigations have largely confirmed the general nature of the remains discovered during evaluation, allowing areas of potential to be determined for each category/ period (see **Section 9**). As a result, the following updated aims and objectives can be proposed.

Project Aims

11.3.2 In addition to the generic aims previously defined, the following can now be considered a generic aim for the archaeological works.

- *In accordance with best practice, to collate, combine and deposit the archive from all archaeological works at Barnstaple Bypass in an appropriate storage facility, allowing future re-examination by archaeologists, other scholars or the general public.*

Project Objectives

11.3.3 Notwithstanding the results of any further archaeological works associated with the proposed development, the assessment has determined that the following objectives are no longer considered valid for post-excavation analysis.

- *To determine the potential for riverside activity (e.g. fish traps, wharves, jetties etc.) associated with the relict palaeochannel.*
- *To characterise the nature of the medieval pottery scatter, determine if this material is associated with structural remains and/or features, and assess the relationship between the medieval evidence and the adjacent (apparently) post-medieval hollow-way.*
- *To examine the route of the hollow-way in detail, particularly in relation to adjacent remains and features (such as the palaeochannel), and confirm the origins and history of the route.*

11.3.4 All remaining objectives are retained, and can be augmented by the following additional objective.

- *To consider the depositional history and wider palaeo-environment of the palaeochannel in the context of the established sequence for the River Taw.*

12 POST-DESIGN

12.1 Proposals for further analysis

12.1.1 Correlation between the terrestrial and alluvial sequences has not been achieved using the available stratigraphic record. Notwithstanding the possibility that further archaeological works at the site may inform this discussion, it is proposed that detailed soil micromorphology slides be prepared to compare and contrast specific units within both sequences. This is considered particularly appropriate to examine the apparent morphological similarities between Unit 3 within the palaeochannel and Unit C within the test-pits. This may also confirm whether Unit C is indeed a relict soil horizon.

12.1.2 Radiocarbon dating has demonstrated that the peat formation within the palaeochannel is most likely to be predominantly Iron Age to Saxon in date. Although therefore unrelated to the adjacent Mesolithic remains, this date range correlates well with previously recorded sequences within the Taw estuary. It is therefore proposed that assessment and analysis of up to eight pollen samples from Units 1 – 4 should be carried out, in order to determine preservation and the types of *taxa* represented.

12.1.3 In addition, in conjunction with the detailed soil micromorphology slides recommended above, it is also recommended that assessment and analysis be carried out on up to four pollen samples from the terrestrial sequence sampled in Test-pit 79.

12.1.4 All pollen analysis should also assess for diatoms and foraminifera, to determine if possible the fluvial regime and potential tidal influence on the area overall.

12.1.5 No further artefact analysis *per se* is proposed. However, it is recommended that soil samples taken and retained from the Unit C deposit within the detailed test-pitting area in Trench 54 should be processed to extract additional artefacts, including microdebitage. Quantification of this data will contribute to further detailed distribution analysis of the worked flint scatter, and aid in identifying specific activity zones, including the clarification of hearth sites. Such analysis will concentrate on examining the correlation and/or juxtaposition of key worked flint categories.

12.1.6 Although no further work is proposed on the results of the trenches excavated to examine the route of the hollow-way, the results of any further archaeological works at the site (including the construction watching brief) may elucidate better the alignment, and potentially the date of this feature. The results of all archaeological investigations should be collated and published.

12.2 Dissemination

12.2.1 It is proposed that the archaeological investigations at Barnstaple Western Bypass should be published as a single report within the *Devon Archaeological Society Proceedings*. This publication will present a chronological account of the archaeology of the route. If appropriate, this report may include the results of the various other investigations associated with the project, such as the geophysical, borehole and foreshore surveys, though these are not currently considered within the Programme of Works *etc.* presented below.

12.3 Site Archive

12.3.1 The site archive will be prepared to conform to Appendix 3 of *Management of Archaeological Projects* (English Heritage 1991; MAP2). The archive shall cover all finds, samples and records (drawn, written, photographic and electronic) collected and produced during the works. The archive will be fully catalogued, indexed and internally consistent. The site archive will conform with all requirements of the recipient museum, and any/all appropriate national guidelines (e.g. Walker 1990; MGC 1992 *etc.*).

12.4 Programme of Works

12.4.1 Based on the Task List, a provisional Programme of Works is presented below (**Appendix 3**). The Programme of Works assumes a nominal start date of 7th November 2005, and is currently programmed for completion on 3rd August 2006 (i.e. approximately 9 months).

12.4.2 Project completion will be considered when the report is submitted for publication, and all archives *etc.* deposited at the appropriate recipient organisations. Actual publication may then be delayed, depending on which issue of the *Proceedings* the editor then decides to include the report in.

12.5 Task List

12.5.1 The personnel grades (**Table 9**) and allocations per nominee (**Table 10**) are summarised below, whilst a provisional Task List to achieve the Updated Aims and Objectives is presented in **Appendix 2**.

Table 9: Personnel grade codes

Code	Grade
ESP	External specialist
ILL	Illustrator
ISP	Internal specialist
MAN	Project Manager
MON	Monitors
PRO	Project Officer
TEC	Technician
PUB	Publication grant
MIC	Microfilming fee
ARC	Archive storage grant

Table 10: Task List allocations by personnel grade

Nominee	Grade	Admin	Artefact	Drawing Office	Environmental	External	IT	Management	Stratigraphy	Grand Total
A Creiser	ESP				6.5					**6.5**
A D Crockett	MAN	10.0						13.0		**23.0**
C Chisham	ISP				3.0					**3.0**
C J Wright	PRO								24.0	**24.0**
C Stevens	ISP				3.0					**3.0**
DCC	MON					60.0				**60.0**
H Clark	TEC				13.5					**13.5**
J Neuberger	TEC						2.5			**2.5**
J P Gardiner	MAN							2.0		**2.0**
J Symonds	TEC		3.0				1.0			**4.0**
Kitty Brandon	ILL			9.0						**9.0**
L N Mepham	MAN		6.0							**6.0**
M J Allen	MAN				12.5			1.0		**13.5**
N Cameron	ESP				6.5					**6.5**
R G Scaife	ESP				6.5					**6.5**
R Macphail	ESP				2.0					**2.0**
Rafter	ESP				2.0					**2.0**
S Wyles	ISP				4.5					**4.5**
	Totals	**10.0**	**9.0**	**9.0**	**60.0**	**63.0**	**3.5**	**16.0**	**24.0**	**194.5**

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14 APPENDICES

14.1 Appendix 1: Trench Summaries

Table 11: Trench 51 context summary

Context	Description	Depth (m)
3001	A grey silty loam with abundant fine roots holding small rounded blocky peds together. Present turfline.	0 – *c.* 0.10
3002	A grey silty loam with occasional rounded platey stones. Had a strong prismatic structure. Upper prismatic layer.	0.10 – 0.37
3003	A pale yellowish brown silty loam containing rare stones. A relatively thin layer extending over most of the trench and sandwiched between two prismatic layers. Rusty layer.	0.37 – 0.48
3004	A grey silty loam predominantly in the north of the trench. For *c.* 2m in the north this was indistinguishable from **3002**, until separated by **3003**. Lower prismatic layer.	0.48 – 0.80
3005	A brown organic layer with silty loam. Separate silty bands <100m thickness could be identified but were not all numbered. This layer was sampled in monoliths 3603 and 3604. Peat with silty bands.	0.76 – 1.98
3006	A grey (brown) alluvium. In the N of trench, near the edge of the palaeochannel, was grey changing to grey brown and becoming thicker to S before slumping below the base of the trench. (?Same as **5406**)	1.63 – 2.47
3007	Grey alluvium. A small lens below **3006** that was *c.* 2m long and only seen in the E facing section.	2.11 – 2.38
3008	Angular and rounded gravel in a sand matrix that ran along or near the base of the trench. This was tested to *c.* 1m depth during backfilling and is assumed to be an early Holocene or a possible Quaternary deposit.	2.47 – 2.74
3009	A wide, shallow sided, flat based ditch. The slope of the trench followed its N edge. Filled with **3015** it cut **3002**, **3004** and **3005**.	0 – 0.85
3010	A rusty-looking lens within **3006** and towards its base. It reflected a slight concave ?channel in the underlying gravel.	2.03 – 2.33
3011	A prismatic lens very similar to **3004**, but its N end appeared to override **3004**.	0.47 – 0.72
3012	A yellowish brown fine sandy silt loam that was cut by a field drain near the S edge of the trench.	0.72 – 0.99
3013	A coarse sand with gravel < 0.2m. In distinct current-bedded layers slumping down to the north and butting against silts and peat.	0.98 – 1.88
3014	A strong yellow brown to yellow brown mottled with grey clay loam that was seen only in the N of the trench. The relationship of this natural deposit with **3008** was not resolved, but is likely to overlay **3008**.	>1.54
3015	A grey silty loam with rare stones that formed the fill of ditch **3009**.	0 – 0.85
3016	A grey silty loam forming a lens within **3005**. This expanded from *c.* 0.1m thickness in monolith 3604 to *c.* 0.9m and itself contained layers or lenses of silt and peat. Its southern boundary with **3017** was unresolvable.	1.07 – 1.95
3017	A grey silty loam at the S end of the trench containing frequent, possibly reed, stems.	1.87 – 2.67
3018	The 'cut' of the N river channel, that was truncated in S by **3019**.	0 - 2.77
3019	'Recut' of channel. Its N edge was unclear and is inferred from the N edges of layers **3012** and **3013** and the S edge of lens **3016**.	0 – 2.79

Table 12: Trench 52 context summary

Context	Description	Depth (m)
5201	A grey brown silty loam with rare stones but abundant roots. Crumb structure. Topsoil.	0-0.25
5202	A grey with common small red brown mottles silty loam. This only differed from **5205** in its proportion of mottling. Middle fill of **5208**.	0.57 – 0.76
5203	A yellow brown silty clay loam with a columnar structure and a sharp boundary with **5204** below. ?Alluvium.	0.20 – 0.33
5204	A grey silty loam that was mostly stone-free except towards its base which was very stony. Cut by ditch **5208** and to its W sealed by **5207**. ?Palaeosol. (?Same as **5403**)	0.33 - 0.46
5205	A grey silty (?clay) loam containing some small stones. In E cut by field drain and boundary with **5207** was unclear. Top fill of **5208**.	0.20 – 0.76
5206	A grey silty clay with small rounded stones. Lowest fill in **5208**.	0.76 – 0.85
5207	A grey brown silty loam with common medium stones. This only occurred to W of ditch **5208**. Colluvium closely post-dating ditch. (=**5402**)	0.38 – 0.62
5208	A shallow ditch or scoop with gently sloping sides and a rounded base. It was respected by ploughsoil **5207**.	0.39 – 0.85
5209	A 2.43m wide ditch that was not quite parallel to **5208**. It cut ?alluvium **5203**.	0.20 – 0.85
5210	A pale yellowish brown silty loam with rare small stones. The top fill of ditch **5209**.	0.25 – 0.57
5211	A pale grey silty clay loam containing many angular stones. Below **5210**, this formed a fill of ditch **5209**.	0.57 – 0.70
5212	An orange brown clay loam with few stones. Below **5211** and a fill of ditch **5209**.	0.70 – 0.79
5213	A stone-free dark grey silty clay. Below **5212** and a fill of ditch **5209**.	0.79 – 0.83
5214	An almost black sand forming the primary fill of ditch **5209**.	0.83 – 0.88
5215	A possibly water-erroded gully at base of ditch **5209**.	0.88 – 1.15
5216	Almost black sand derived from natural and filling **5215**.	0.88 – 1.15
5217	Natural geological deposits varied from vertically pitched bedded hard shales, sometimes separated by clay, through to almost black sand.	>0.44

Table 13: Trench 53 context summary

Context	Description	Depth (m)
5301	A greyish brown silty loam. Turfline	0 – 0.04
5302	A greyish brown silty loam. Topsoil.	0.04 – 0.23
5303	A pale yellowish brown silty loam with occasion stones. Fill of **5310**.	0.23 – 0.43
5304	Void. Same as **5305**.	
5305	A dark yellowish brown silty clay with common small stones. Only in N. A fill of **5310**.	0.21 – 0.55
5306	A yellowish brown clay loam with few stones. Occurred in centre of hollow-way **5310**.	0.43 – 0.55
5307	Dark yellowish brown silty loam with abundant stones. Only in S of **5310**.	0.21 – 0.61
5308	A greyish brown with dark grey mottles silty clay containing few stones. A fill of **5310**.	0.51 – 0.72
5309	Void. Same as **5310**.	
5310	The 5.74m wide 'cut' of a hollow-way. The N side rose gently to the base of topsoil **5302**, the S side rose steeply at first then more gradually.	*c.* 0.35 – 0.72
5311	Rounded cobbles forming the metalling of hollow-way **5310**.	0.54 – 0.70
5312	A pale greyish brown silty clay with frequent rounded slate. Only on the S of the hollow-way and possibly a part of the metalling.	0.59 - 0.78
5313	A greyish brown clay with abundant vertically pitched shale or slate. Natural.	> *c.* 0.50

Table 14: Trench 54 context summary

Context	Description	Depth (m)
5401	A grey brown silty loam with rare stones but abundant roots. Crumb structure. Topsoil. This was mechanically removed before hand-digging pits.	0-0.25
5402	Group number for ploughsoil. ?Medieval. (Same as **5207**.)	-
5403	Group number for ?palaeosol. ?Late Meso/Early Neo. (?Same as **5204**)	-
5404	Group number for palaeosol/natural interface. ?bA/C	-
5405	Group number for natural, which varied but seemed to be shale or slate in folded bedding planes. In places was vertically pitched. Some shale had been metamorphosed to slate and some had degraded back to clay.	-
5406	Group number for alluvium, mostly encountered within 1m of south-west of trench. (?Same as **3006**)	-
5407	Group number for lens of *in situ* burning within **5402**, and only seen in Test-pit 68.	-

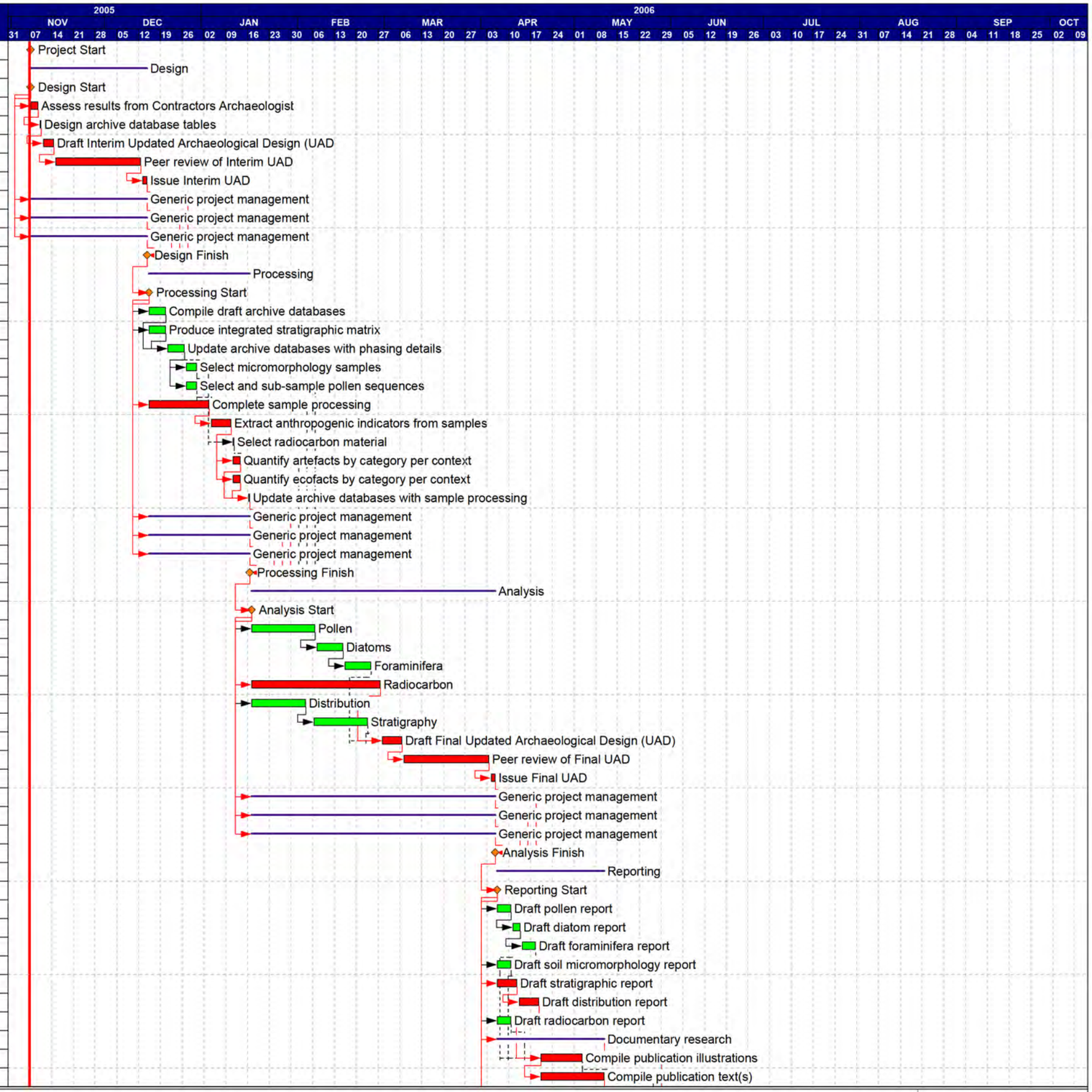
14.2 Appendix 2: Task List

Task ID	Section	Task	Department	Grade	Days
1010	Design	Assess results from Contractors Archaeologist	Management	MAN	2.0
1020	Design	Design archive database tables	IT	TEC	0.5
1030	Design	Draft Interim Updated Archaeological Design (UAD)	Management	MAN	2.0
1050	Design	Issue Interim UAD	Management	MAN	2.0
1060	Design	Generic project management	Admin	MAN	1.0
1070	Design	Generic project management	Artefact	MAN	1.0
1080	Design	Generic project management	Environmental	MAN	1.0
2010	Processing	Compile draft archive databases	IT	TEC	2.0
2020	Processing	Produce integrated stratigraphic matrix for all archaeological works	Stratigraphy	PRO	1.0
2030	Processing	Update archive databases with phasing details	Stratigraphy	PRO	1.0
2040	Processing	Select micromorphology samples	Environmental	ISP	0.5
2050	Processing	Select and sub-sample pollen sequences	Environmental	ISP	2.5
2060	Processing	Complete sample processing	Environmental	TEC	13.5
2070	Processing	Extract anthropogenic indicators from samples	Environmental	ISP	4.5
2080	Processing	Select radiocarbon material	Management	MAN	1.0
2090	Processing	Quantify artefacts by category per context	Artefact	TEC	3.0
2100	Processing	Quantify ecofacts by category per context	Environmental	ISP	3.0
2110	Processing	Update archive databases with sample processing data	IT	TEC	1.0
2120	Processing	Generic project management	Admin	MAN	2.0
2130	Processing	Generic project management	Artefact	MAN	1.0
2140	Processing	Generic project management	Environmental	MAN	2.0
3010	Analysis	Pollen	Environmental	ESP	4.0
3020	Analysis	Diatoms	Environmental	ESP	4.0
3030	Analysis	Foraminifera	Environmental	ESP	4.0
3040	Analysis	Radiocarbon	Environmental	ESP	2.0
3050	Analysis	Distribution	Stratigraphy	PRO	2.0
3060	Analysis	Stratigraphy	Stratigraphy	PRO	2.0
3070	Analysis	Draft Final Updated Archaeological Design (UAD)	Management	MAN	2.0
3090	Analysis	Issue Final UAD	Management	MAN	1.0
3100	Analysis	Generic project management	Admin	MAN	2.0
3110	Analysis	Generic project management	Artefact	MAN	1.0
3120	Analysis	Generic project management	Environmental	MAN	1.5
4010	Reporting	Draft pollen report	Environmental	ESP	2.5
4020	Reporting	Draft diatom report	Environmental	ESP	2.5
4030	Reporting	Draft foraminifera report	Environmental	ESP	2.5
4040	Reporting	Draft soil micromorphology report	Environmental	ESP	2.0
4050	Reporting	Draft stratigraphic report	Stratigraphy	PRO	3.0
4060	Reporting	Draft distribution report	Stratigraphy	PRO	3.0
4070	Reporting	Draft radiocarbon report	Environmental	MAN	2.0
4080	Reporting	Documentary research	Stratigraphy	PRO	3.0
4090	Reporting	Compile publication illustrations	Drawing Office	ILL	9.0
4100	Reporting	Compile publication text(s)	Stratigraphy	PRO	5.0
4110	Reporting	Generic project management	Admin	MAN	3.0
4120	Reporting	Generic project management	Artefact	MAN	1.0
4130	Reporting	Generic project management	Environmental	MAN	4.0
5010	Editing	Internal review of publication text(s)	Management	MAN	2.0
5020	Editing	Action internal editorial comment	Stratigraphy	PRO	2.0
5040	Editing	Action external editorial comment	Stratigraphy	PRO	2.0
5050	Editing	Generic project management	Admin	MAN	1.0
5060	Editing	Generic project management	Artefact	MAN	1.0
5070	Editing	Generic project management	Environmental	MAN	1.0
6010	Dissemination	Submit text(s) for publication	Management	MAN	1.0
6020	Dissemination	Publication fee	External	PUB	1.0
6030	Dissemination	Submit archive for microfilming	Management	MAN	1.0
6040	Dissemination	Microfilming fee	External	MIC	1.0

Task ID	Section	Task	Department	Grade	Days
6050	Dissemination	Submit microfilm to relevant repositories	Management	MAN	1.0
6060	Dissemination	Submit archive for museum curation	Management	MAN	1.0
6070	Dissemination	Archive storage fee	External	ARC	1.0
6080	Dissemination	Generic project management	Admin	MAN	1.0
6090	Dissemination	Generic project management	Artefact	MAN	1.0
6100	Dissemination	Generic project management	Environmental	MAN	1.0

14.3 Appendix 3: Programme of Works

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish
1	Project Start	0	0	07NOV05	
1000	Design	28d *	28d *	07NOV05	14DEC05
1001	Design Start	0	0	07NOV05	
1010	Assess results from Contractors Archaeologist	3d	3d	07NOV05	09NOV05
1020	Design archive database tables	1d	1d	10NOV05	10NOV05
1030	Draft Interim Updated Archaeological Design (UAD	2d	2d	11NOV05	14NOV05
1040	Peer review of Interim UAD	20d	20d	15NOV05	12DEC05
1050	Issue Interim UAD	2d	2d	13DEC05	14DEC05
1060	Generic project management	28d *	28d *	07NOV05	14DEC05
1070	Generic project management	28d *	28d *	07NOV05	14DEC05
1080	Generic project management	28d *	28d *	07NOV05	14DEC05
1999	Design Finish	0	0		14DEC05
2000	Processing	23d *	23d *	15DEC05	16JAN06
2001	Processing Start	0	0	15DEC05	
2010	Compile draft archive databases	4d	4d	15DEC05	20DEC05
2020	Produce integrated stratigraphic matrix	4d	4d	15DEC05	20DEC05
2030	Update archive databases with phasing details	4d	4d	21DEC05	26DEC05
2040	Select micromorphology samples	4d	4d	27DEC05	30DEC05
2050	Select and sub-sample pollen sequences	4d	4d	27DEC05	30DEC05
2060	Complete sample processing	14d	14d	15DEC05	03JAN06
2070	Extract anthropogenic indicators from samples	5d	5d	04JAN06	10JAN06
2080	Select radiocarbon material	1d	1d	11JAN06	11JAN06
2090	Quantify artefacts by category per context	3d	3d	11JAN06	13JAN06
2100	Quantify ecofacts by category per context	3d	3d	11JAN06	13JAN06
2110	Update archive databases with sample processing	1d	1d	16JAN06	16JAN06
2120	Generic project management	23d *	23d *	15DEC05	16JAN06
2130	Generic project management	23d *	23d *	15DEC05	16JAN06
2140	Generic project management	23d *	23d *	15DEC05	16JAN06
2999	Processing Finish	0	0		16JAN06
3000	Analysis	57d *	57d *	17JAN06	05APR06
3001	Analysis Start	0	0	17JAN06	
3010	Pollen	15d	15d	17JAN06	06FEB06
3020	Diatoms	7d	7d	07FEB06	15FEB06
3030	Foraminifera	7d	7d	16FEB06	24FEB06
3040	Radiocarbon	30d	30d	17JAN06	27FEB06
3050	Distribution	14d	14d	17JAN06	03FEB06
3060	Stratigraphy	14d	14d	06FEB06	23FEB06
3070	Draft Final Updated Archaeological Design (UAD)	5d	5d	28FEB06	06MAR06
3080	Peer review of Final UAD	20d	20d	07MAR06	03APR06
3090	Issue Final UAD	2d	2d	04APR06	05APR06
3100	Generic project management	57d *	57d *	17JAN06	05APR06
3110	Generic project management	57d *	57d *	17JAN06	05APR06
3120	Generic project management	57d *	57d *	17JAN06	05APR06
3999	Analysis Finish	0	0		05APR06
4000	Reporting	25d *	25d *	06APR06	10MAY06
4001	Reporting Start	0	0	06APR06	
4010	Draft pollen report	3d	3d	06APR06	10APR06
4020	Draft diatom report	3d	3d	11APR06	13APR06
4030	Draft foraminifera report	3d	3d	14APR06	18APR06
4040	Draft soil micromorphology report	3d	3d	06APR06	10APR06
4050	Draft stratigraphic report	5d	5d	06APR06	12APR06
4060	Draft distribution report	5d	5d	13APR06	19APR06
4070	Draft radiocarbon report	3d	3d	06APR06	10APR06
4080	Documentary research	25d *	25d *	06APR06	10MAY06
4090	Compile publication illustrations	10d	10d	20APR06	03MAY06
4100	Compile publication text(s)	15d	15d	20APR06	10MAY06



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Finish date	03AUG06
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Run date	04MAR05
Page number	1A

Wessex Archaeology
Barnstaple Western Bypass Devon

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish
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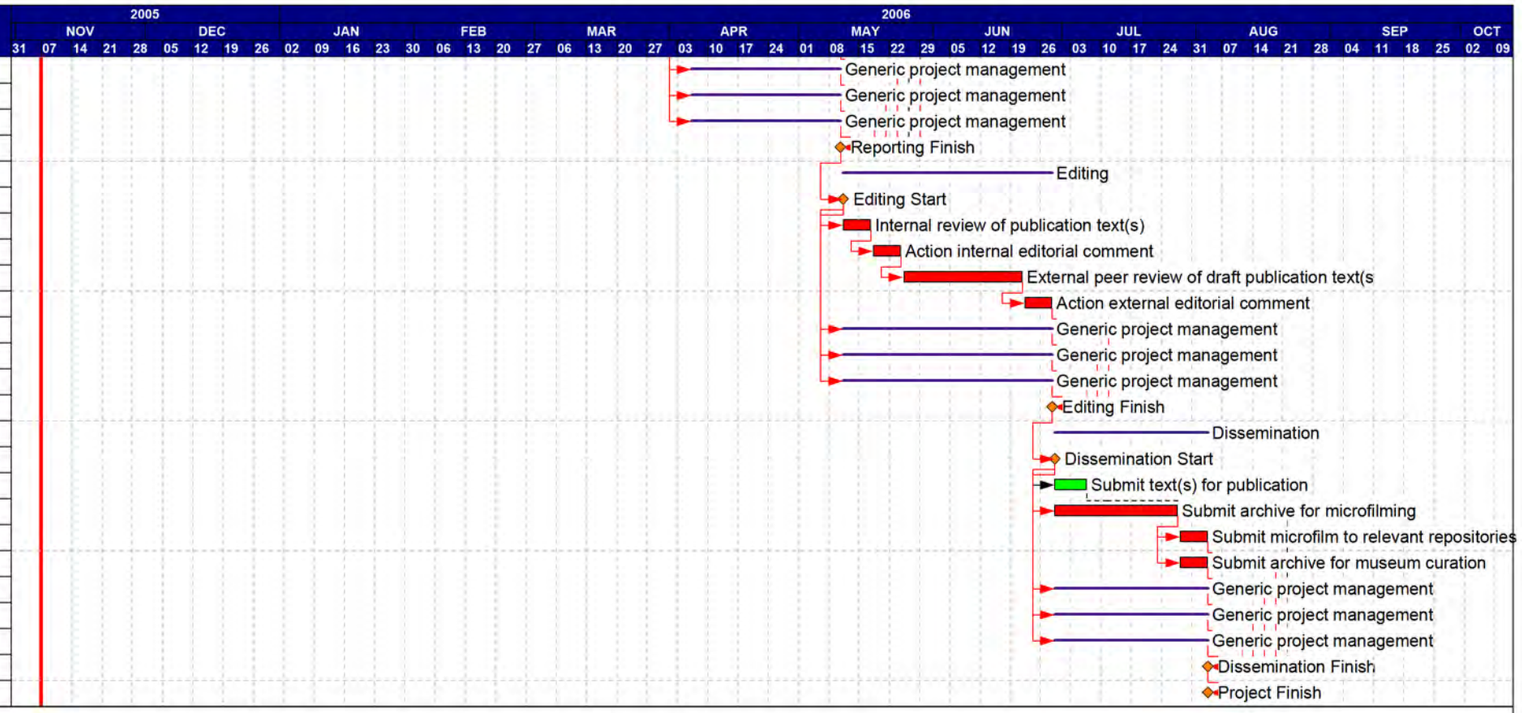
4120	Generic project management	25d *	25d *	06APR06	10MAY06
4130	Generic project management	25d *	25d *	06APR06	10MAY06
4999	Reporting Finish	0	0		10MAY06
5000	Editing	35d *	35d *	11MAY06	28JUN06
5001	Editing Start	0	0	11MAY06	
5010	Internal review of publication text(s)	5d	5d	11MAY06	17MAY06
5020	Action internal editorial comment	5d	5d	18MAY06	24MAY06
5030	External peer review of draft publication text(s	20d	20d	25MAY06	21JUN06
5040	Action external editorial comment	5d	5d	22JUN06	28JUN06
5050	Generic project management	35d *	35d *	11MAY06	28JUN06
5060	Generic project management	35d *	35d *	11MAY06	28JUN06
5070	Generic project management	35d *	35d *	11MAY06	28JUN06
5999	Editing Finish	0	0		28JUN06
6000	Dissemination	25d *	25d *	29JUN06	03AUG06
6001	Dissemination Start	0	0	29JUN06	
6010	Submit text(s) for publication	5d	5d	29JUN06	06JUL06
6030	Submit archive for microfilming	20d	20d	29JUN06	27JUL06
6050	Submit microfilm to relevant repositories	5d	5d	28JUL06	03AUG06
6060	Submit archive for museum curation	5d	5d	28JUL06	03AUG06
6080	Generic project management	25d *	25d *	29JUN06	03AUG06
6090	Generic project management	25d *	25d *	29JUN06	03AUG06
6100	Generic project management	25d *	25d *	29JUN06	03AUG06
6999	Dissemination Finish	0	0		03AUG06
9999	Project Finish	0	0		03AUG06



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Wessex Archaeology
Barnstaple Western Bypass Devon

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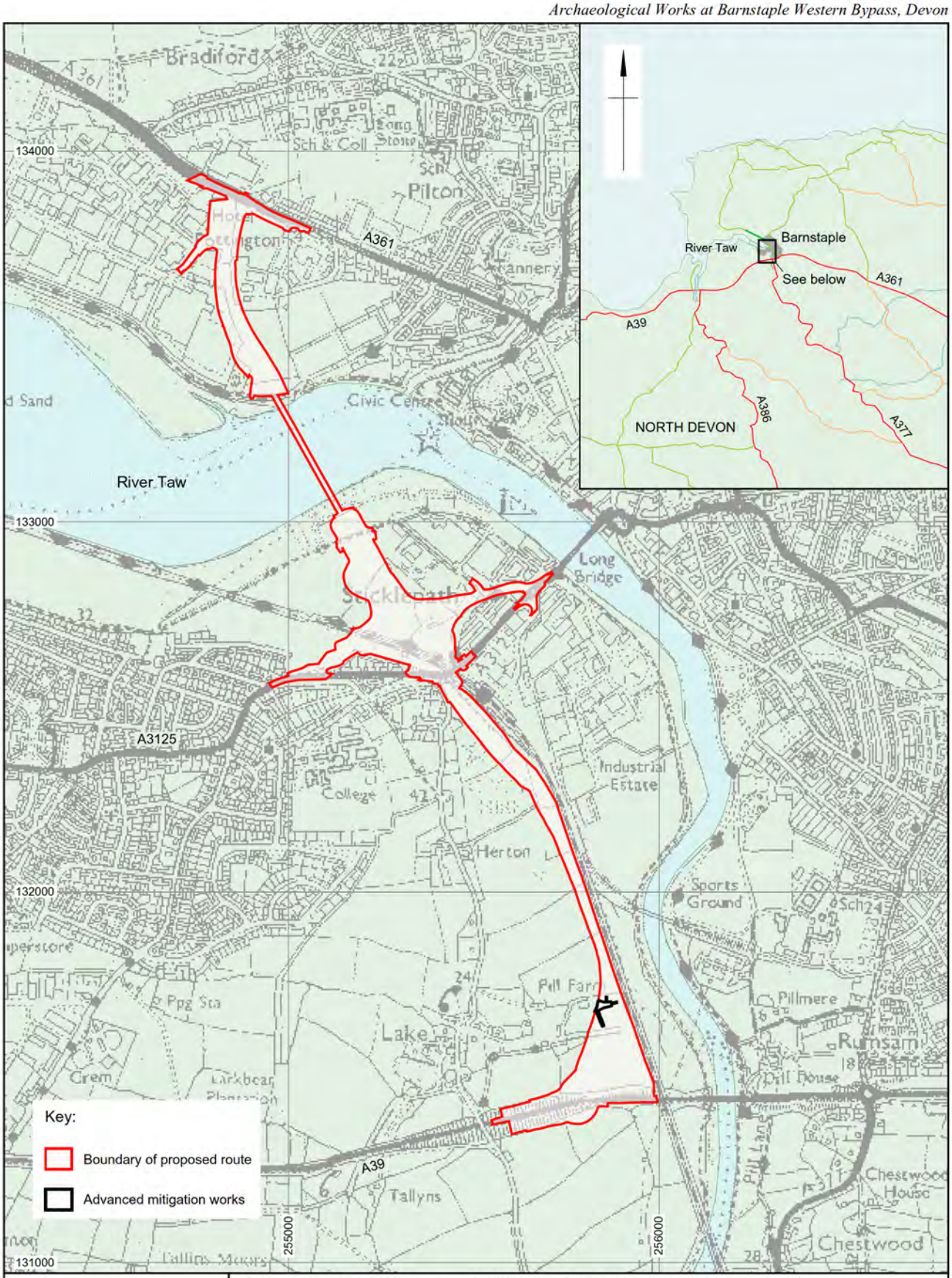
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point



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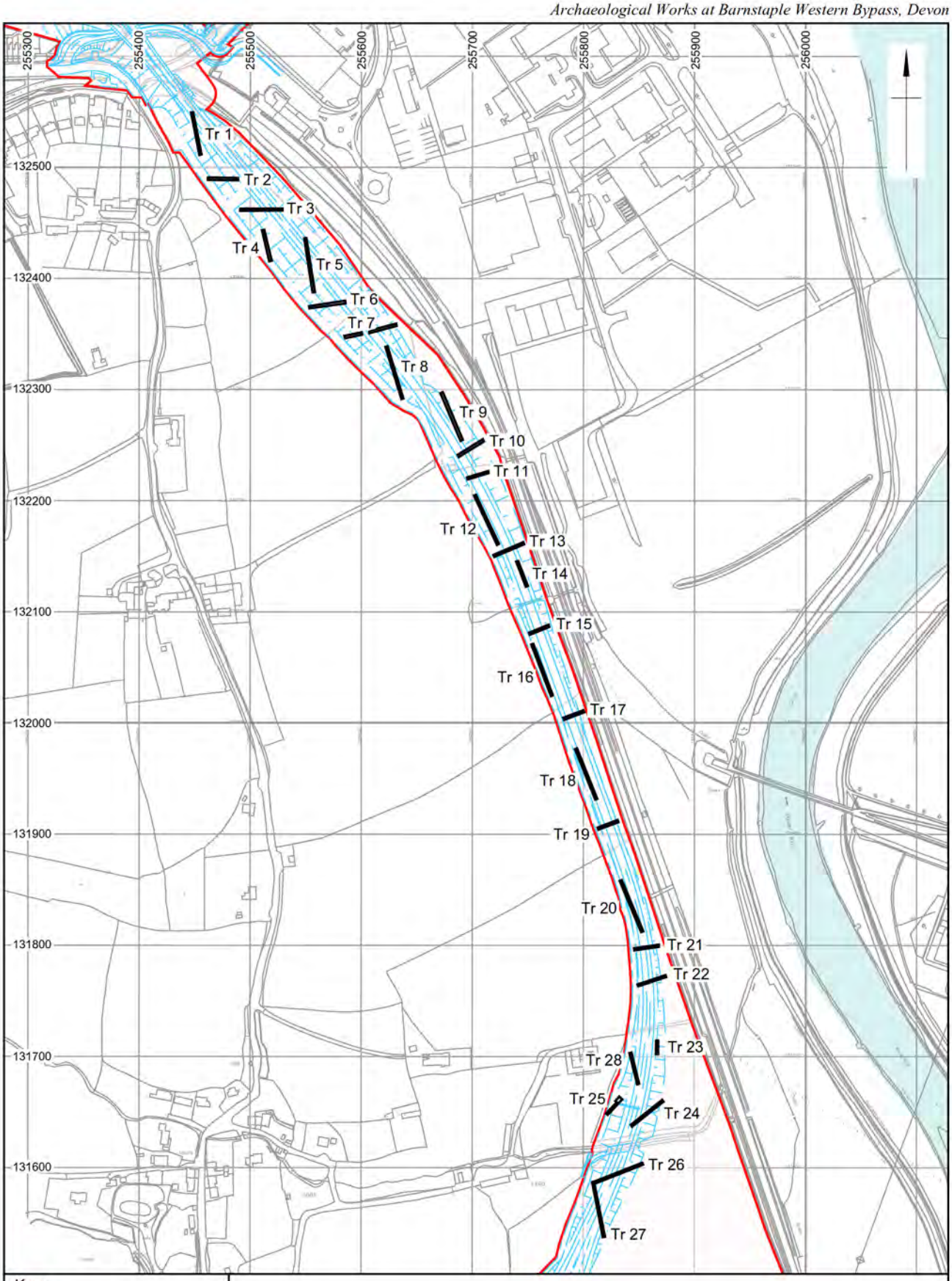
Site location

Figure 1



Key:
- Boundary of proposed route
- Proposed route
- Evaluation trench

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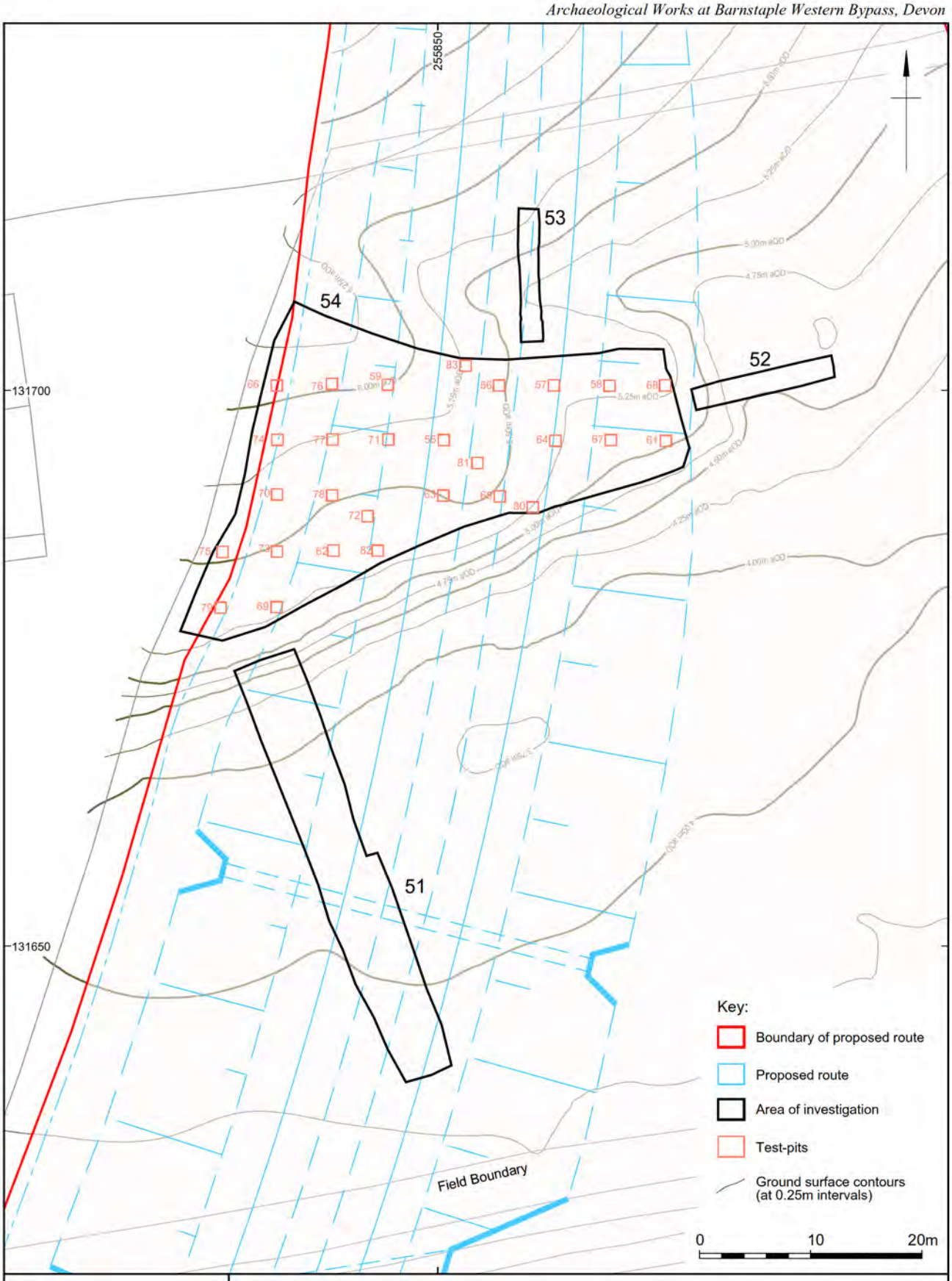
Evaluation trench array

Figure 2



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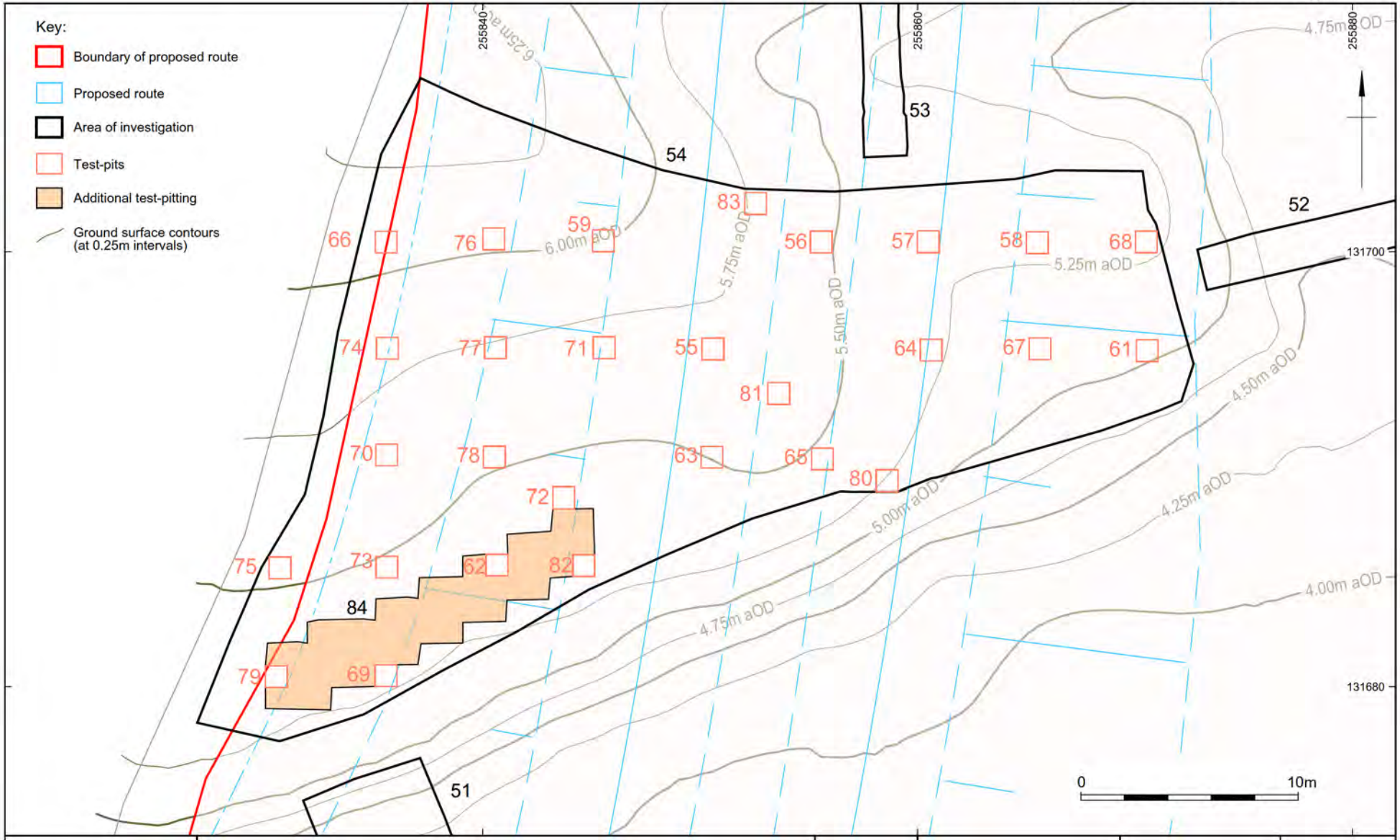

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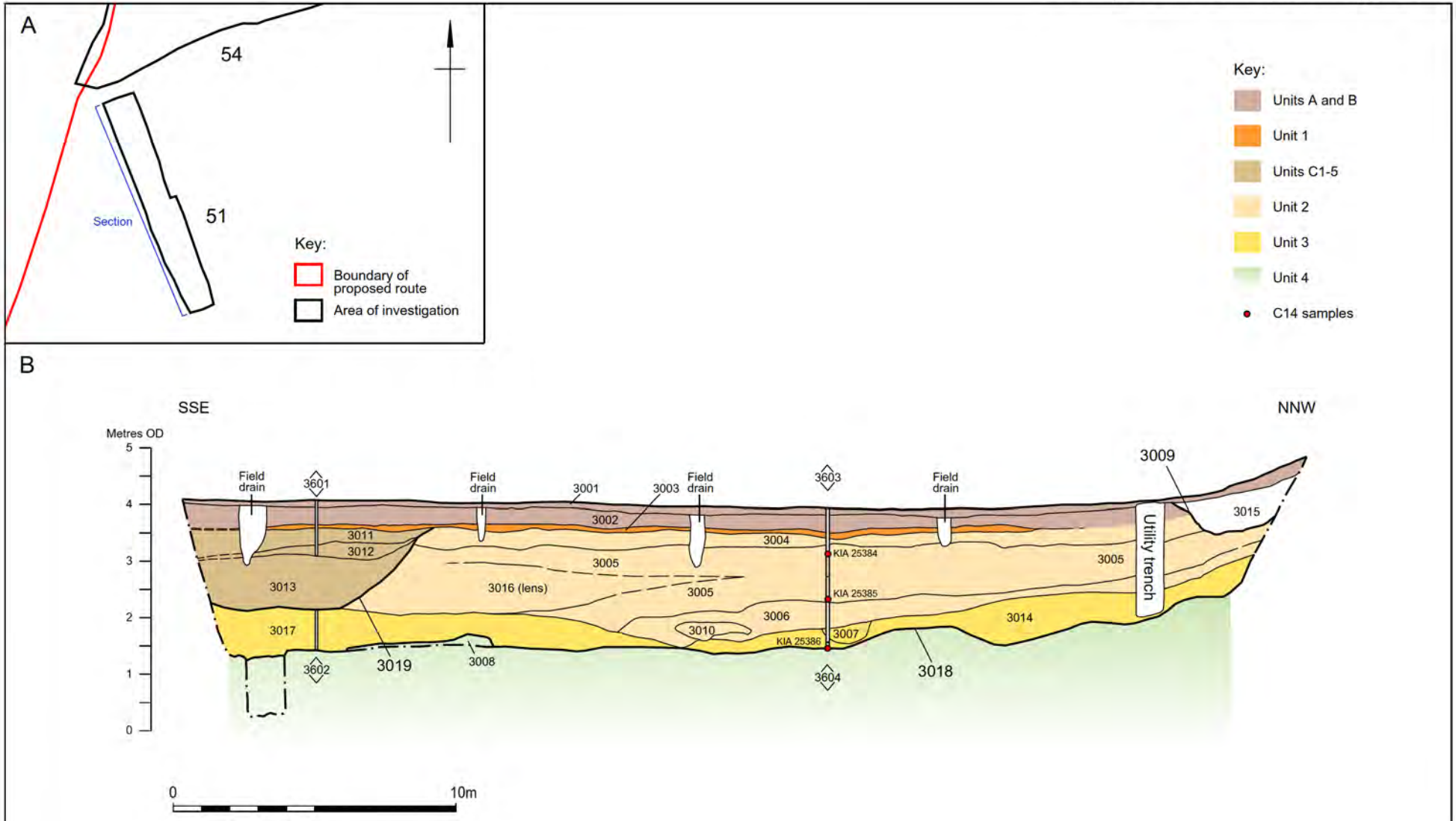

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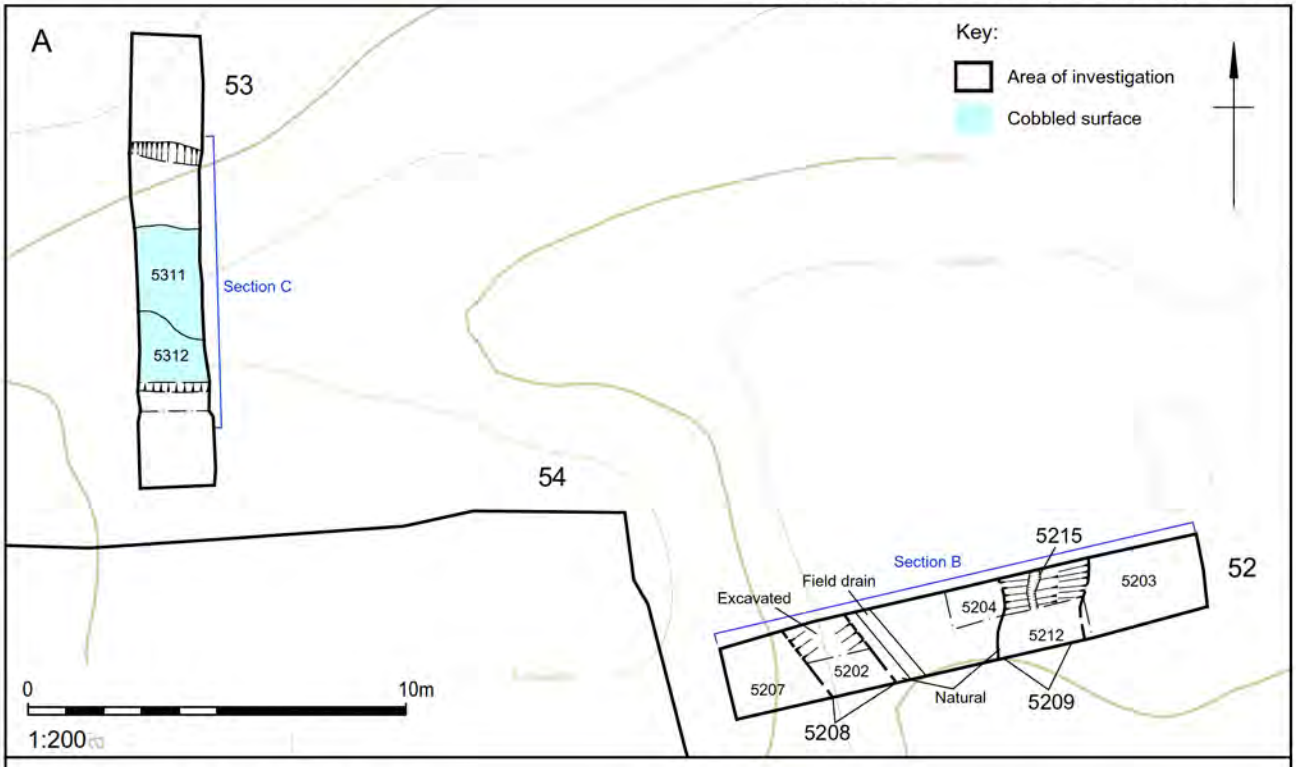
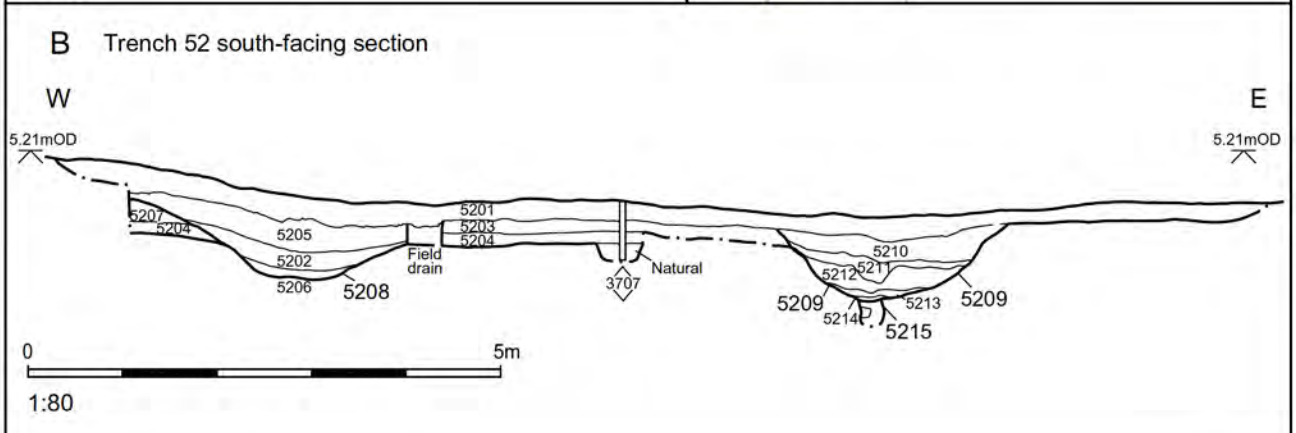
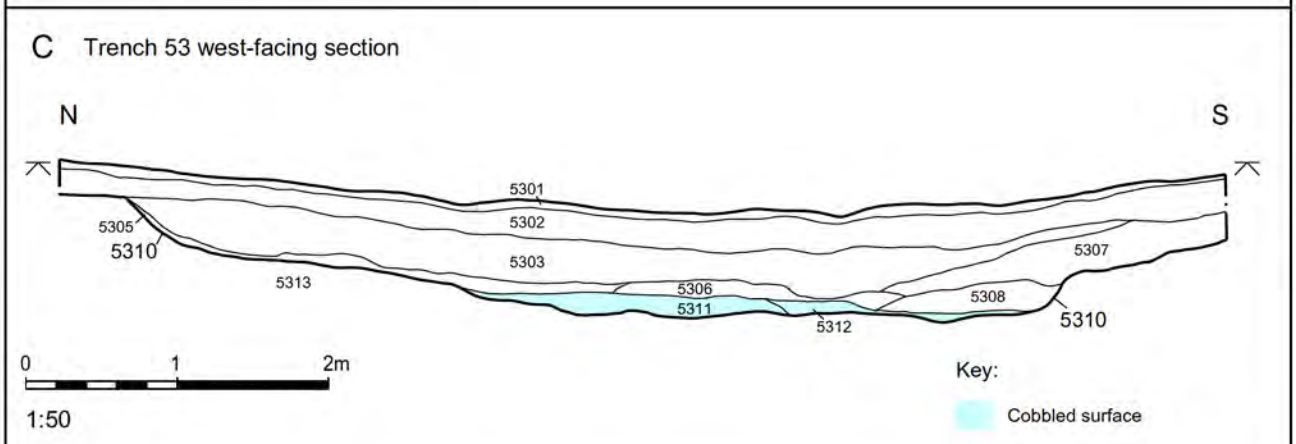
East-facing section of Trench 51

Figure 5







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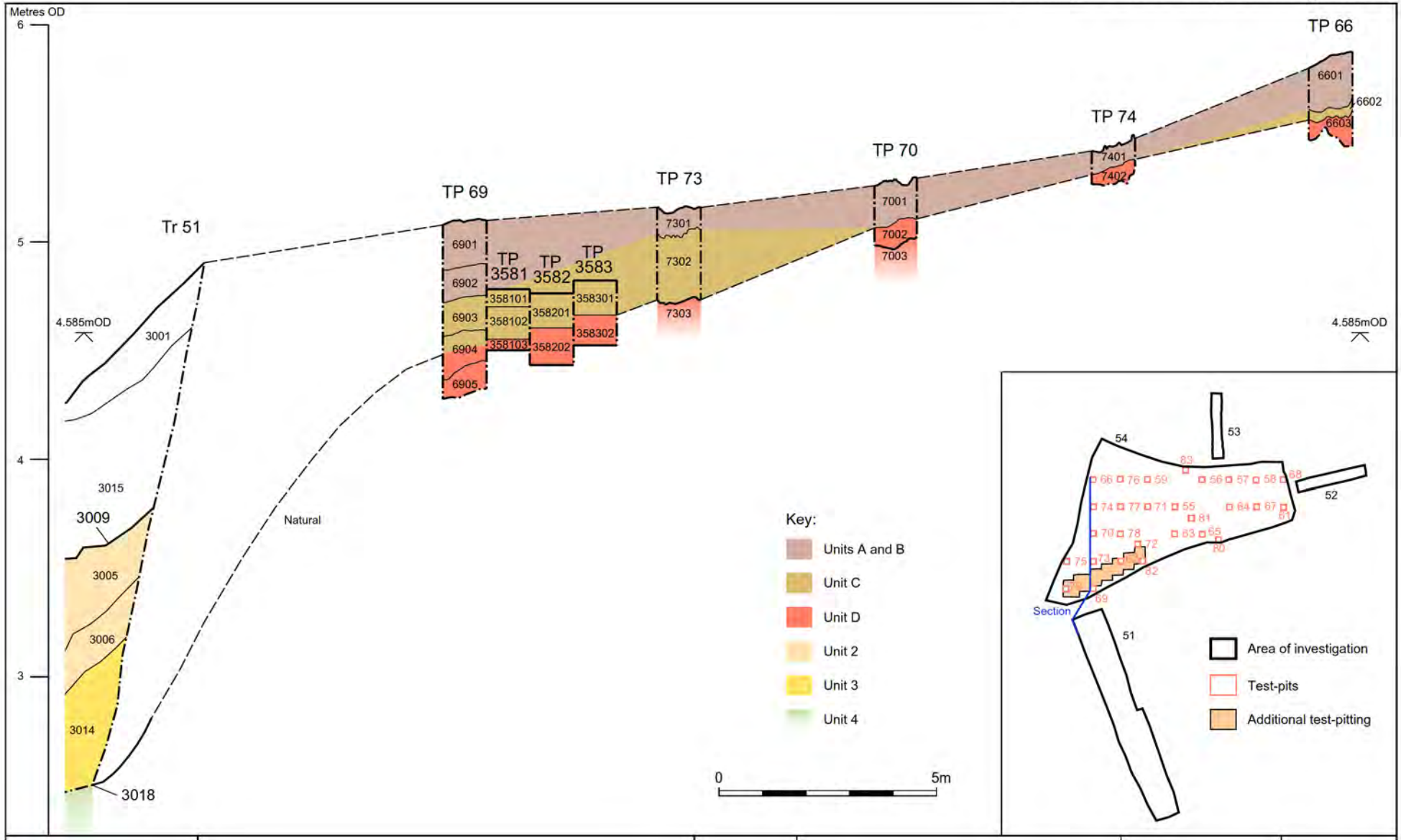
Plans and sections of Trenches 52 and 53

Figure 6



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Schematic section through stratigraphic sequence at Trench 54

Figure 7

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Trench 54 worked flint distribution - all categories (inc. burnt flint)

Figure 8

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Trench 54 worked flint distribution - cores, microliths and blades

Figure 9

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