Archaeology South-East

ASE

ARCHAEOLOGICAL INVESTIGATIONS ON RAMPION OFFSHORE WIND FARM ONSHORE CABLE ROUTE, WEST SUSSEX

A POST-EXCAVATION ASSESSMENT AND UPDATED PROJECT DESIGN REPORT

Linear Scheme between NGR: 515500, 105200 and 523900, 121500

ASE Project No: 7547
Site Code: TMB 15
Development Consent Order: SI 2014/1873

ASE Report No: 2017402
OASIS ID: archaeol6-308365

By Garrett Sheehan

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By Garrett Sheehan and Kristina Krawiec

With contributions by
Enid Allison, Lucy Allott, Luke Barber, Isa Benedetti-Whitton, Anna Doherty, Hayley Forsyth-Magee, Karine le Hégarat, Kristina Krawiec, Andrew Margetts, Paola Ponce and Elke Raemen

Illustrations by Lauren Gibson

Prepared by:	Garrett Sheehan	Archaeologist	
Reviewed and approved by:	Andy Margetts	Project Manager	
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Archaeology South-East
Units 1 and 2
2 Chapel Place
Portslade
East Sussex
BN41 1DR
Tel: 01273 426830
Fax: 01273 420866
email: fau@ucl.ac.uk
www.archaeologyse.co.uk

Abstract

This report presents the results of an extensive programme of an archaeological watching brief, 'strip, map and sample' investigations, full excavations and geoarchaeological investigations carried out by Archaeology South-East (ASE) between August 2015 and February 2017 along the onshore cable route of the Rampion offshore windfarm. The cable route makes landfall at Brooklands Pleasure Park, East Worthing and runs northwards for c.26.4km towards a new substation adjacent to the existing national grid substation at Bolney, West Sussex.

Previous archaeological investigations, including desk-based assessments and an evaluation trench exercise, had identified a number of zones of potential archaeological importance spanning the Bronze Age to post-medieval periods, as well as zones of geoarchaeological significance. The watching brief and strip, map and sample investigations largely confirmed the results of the evaluation and eighteen zones of archaeological activity were recorded; these areas encompassed a Late Neolithic/ early Bronze Age pit and associated lithic and pottery finds, Middle – Late Bronze Age settlement and land division evidence, including postholes, pits and Cross Dykes, Middle – Late Iron Age pits and enclosure ditches, settlement activity spanning the early to late Romano-British period, a Middle Saxon probable boundary ditch, a late Saxon possible execution burial, 12th – 14th century field systems and settlement evidence, post-medieval field boundaries and probable late 19th century watercress cultivation features.

While the earliest archaeological cut-features were recorded on the Downland and Coastal plain parts of the scheme, the lithic assemblage recovered from plough-soil deposits indicated human activity on the Weald and Greensand/downland margin from the Mesolithic - Early Neolithic. Ditches and pits suggestive of field divisions and settlement enclosures were recorded in this area, demonstrating that land clearance and agricultural activity had commenced on the Weald margin by the Late Bronze Age. This archaeological evidence was supported by the geoarchaeological data which indicated open landscapes with signatures for cereal pollen, from the Middle – Late Bronze Age. The geoarchaeological results also demonstrated that the open areas of grassland that characterised the landscape in the later Bronze Age were replicated in the Roman and medieval periods.

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1.0 INTRODUCTION

1.1 Site Background

1.1.1 This post-excavation assessment and updated project design document (PXA and UPD) relates to archaeological fieldwork which took place along the onshore cable route of the Rampion offshore windfarm. The cable route makes landfall at Brooklands Pleasure Park, East Worthing and runs northwards for *c.*26.4km towards a new substation adjacent to the existing national grid substation at Bolney, West Sussex (Figure1; National Grid Reference located between 517252, 103229 and 523900, 121500).

1.1.2 The fieldwork was conducted in accordance with the agreed Written Schemes of Investigation (WSI; RSK 2015; ASE 2015) and in response to guidelines provided by Historic England, West Sussex County Council (WSCC), East Sussex County Council (ESCC) and the South Downs National Park Authority (SDNPA). The fieldwork comprised a watching brief, targeted strip, map and sample excavation and geoarchaeological investigations.

1.1.3 The linear nature of the Rampion scheme afforded the opportunity to investigate several types of landscape context in conjunction with the archaeological remains. These areas comprised dry valleys, palaeochannels, waterlogged hollows and archaeological deposits. Each area was recorded and where appropriate specialist samples were recovered either in open section or via hand auger. Upon completion of the recording, palaeoenvironmental assessment and radiocarbon dating was carried out.

1.1.4 In addition, Wessex Archaeology carried out test pitting and a borehole survey across the Adur valley and a summary of the results of this work is provided here (Wessex Archaeology 2016).

1.2 Topography and Geology

1.2.1 The site is approximately 26.4km long and runs along a strip of land between East Worthing and the new substation adjacent to the existing National Grid Bolney substation (Figure 1).

1.2.2 The cable makes landfall between East Worthing and Lancing and heads north towards the A27. The cable route continues in a northerly direction, passing south-east of Beggar's Bush before turning to the east, north of Steep Down. The route then approaches the River Adur, south of Upper Beeding disused cement works and quarry. The cable then travels north-east through agricultural land across Mill Hill road where the route gradually ascends towards Beeding Hill. The route then loops in a westerly direction onto Tottington Mount and continues across the ridge, crossing the summit and a cross dyke (NHLE List Entry ID 1016811) before descending down the slope. At the base of Tottington Mount the cables were routed in an easterly direction through agricultural land immediately south of Edburton Road. The route then heads northwards towards the northern boundary of the South Downs National Park and the Low Weald, before crossing the A281 between Henfield and Woodmancote Place and continuing northwards towards Twineham, crossing the B2116. The route then crosses the young River Adur and one of its tributaries, and passes through predominantly agricultural land, before crossing Bob Lane and terminating at the Rampion onshore substation, that will be located due east of the existing Bolney National Grid substation.

1.2.3 The elevation of the cable route ranges from Ordnance Datum at cable landfall, to a maximum of 140m above Ordnance Datum (aOD) at two points on Steep Down, and also Beeding Hill. Between Steep Down and Beeding Hill elevation again drops to *c*. 2m aOD as it crosses the River Adur. Northwards, between Beeding Hill and the village of Blackstone, ground height varies between 25-45m aOD. The final section towards the cable route termination at Wineham gradually falls to *c.*15m aOD.

1.2.4 A desk-based assessment of geoarchaeological potential (Pope 2012) was submitted as part of the Archaeology and Cultural Heritage section of the Environmental Statement in 2012 (RSK 2012a; 2012b) The information below is drawn from this document, with due acknowledgement; for a more detailed description of the geology of the site, please refer to that document.

Landforms

1.2.5 The onshore cable route passed through four landform blocks, which consist of the Wealden Anticline, the West Sussex Coastal Plain, Dry Valleys of the South Downs and river valleys, the main one being that of the River Adur.

- *The Wealden Anticline:* The basic structure of this landscape has been formed by the tectonic uplifting of outcropping Cretaceous rocks. In the southern half of the route the Chalk outcrops as a series of dip and scarp slopes orientated perpendicular to the axis of the major Wealden anticlinorium. The dip slope originates at sea level, the chalk then slopes up to a maximum height of 216m aOD at Truleigh Hill before the main south-facing scarp slope dips down to the Weald. The geology of the cable route across the Weald consists of successive outcrops of the Upper Greensand, Gault Clay and Lower Greensand which had folded into a locally eroded anticlinal structure.

- *West Sussex Coastal Plain:* At the southern limits of the cable route, marine processes of high energy erosion and low energy deposition under intertidal conditions have been influenced by global temperature levels which have fluctuated during the last 500,000 years of the Pleistocene. These fluctuations have resulted in approximately 100,000 year cycles of global warming and cooling resulting in the rise and fall of the sea level. These fluctuations in sea level can be traced across the southern part of the cable route in the form of raised beach deposits and associated periglacial Head.

- *Dry Valleys:* Incised dry valleys are found throughout the South Downs chalk escarpment. Although during the Pleistocene these dry valleys would have been part of an active fluvial system periglacial processes have also played a part in their development.

- *River Valleys:* The Adur Valley is a significant fluvial system and drains a significant part of the central Weald and is one for four major rivers to cut through the South Downs in Sussex. The river system has been established for at least 250,000 years and at least three terraces of preserved fluvial gravel have been identified in the valley.

Geoarchaeological Sedimentary Context

1.2.6 Seven classifications of geoarchaeological sedimentary context (GSC) have been identified – effectively types of deposit differentiated by mode of deposition and potential. These were then used to characterise the likely potential of zones along the cable route, based on British Geological Survey (BGS) geological mapping, the results of previous geotechnical and geoarchaeological studies (both local and regional) and cross-referenced with the West Sussex Historic Environment Record (HER) records.

1.2.7 The seven classifications of GSC are as follows:

- *Alluvial Deposits (Holocene) ADH* - Extensive deep sequences of clays, silts and sands, as part of which significant and laterally extensive peat deposits may be present and represent the infilling of channels, cut off from the main fluvial regime.

  1. Archaeological potential: Pleistocene to Modern High
  2. Palaeoenvironmental potential: Variable, but locally very High

- *Alluvial Deposits (Pleistocene) ADP* - Along the edge of the Adur Valley Pleistocene fluvial deposits may survive buried beneath overlying Head deposits. The deposits are generally high energy sands and gravels, but the potential also exists for low energy clay silt alluvium, localised peat preservation and coarse grained Head deposits of Pleistocene age.

  1. Archaeological potential: Pleistocene dating and human activity High
  2. Palaeoenvironmental potential: Variable but locally High

- *Raised Beach Deposits RBD* - Generally comprised of coarse to fine sands, very rounded flint gravels, fine grained silts and clay of intertidal and terrestrial facies. Potential for the preservation of faunal remains and Palaeolithic artefacts.

  1. Archaeological potential: Pleistocene dating and human activity High
  2. Palaeoenvironmental potential: Variable but locally High.

- *Clay with Flints CWF* - Decalcified clay of varying depths as a result of in-situ geochemical and sub-aerial weathering of remnant Tertiary deposits and the surface of the Chalk geology.

  1. Archaeological potential: Pleistocene dating/human activity Moderate
  2. Palaeoenvironmental potential: Low (unless calcareous)

- *Dry Valley Deposits DVD* - A wide range of deposits that includes Holocene colluvium, Pleistocene gelifluction gravels and high energy fluvial deposits. Colluvial deposits are especially important in reconstructing Holocene landscapes related to Chalk downlands.

  1. Archaeological potential: Moderate to High in colluvium
  2. Palaeoenvironmental potential: Moderate

- *Undifferentiated Head Deposits (Gault Clay AND Lower Greensand) UHD* – Some Head deposits have been poorly characterised and may be comprised of the upper facies of unmapped fluvial sequences

  1. Archaeological potential: Moderate but untested
  2. Palaeoenvironmental potential: Moderate but untested

- *Structural Surface Features (Cretaceous Geology) SSF* - Solid geologies that can give rise to localised depositional contexts such as solution features

  1. Archaeological potential: Moderate but untested
  2. Palaeoenvironmental potential: Moderate but untested

1.3 Scope of the Project

1.3.1 E.ON Climate and Renewables UK Rampion Offshore Wind Ltd (E.ON) was granted development consent (Development Consent Order (DCO) SI 2014/1873) to construct and operate an offshore wind farm in an area off the Sussex coast including associated onshore infrastructure.

1.3.2 Archaeology South-East (ASE) were subsequently commissioned by RSK Environment Ltd to undertake a programme of archaeological fieldwork, the first phase of which entailed an archaeological watching brief on geotechnical site investigations ahead of the development of an Onshore Operations and Maintenance Facility at Newhaven Port East Quay, East Sussex; the results of these investigations are detailed in a separate watching brief report (ASE 2016a). This PXA and UPD details the results of the subsequent phase of fieldwork which encompassed a watching brief, 'strip, map and sample' investigations, full excavations and geoarchaeological investigations along a strip of land in West Sussex, between East Worthing and the new substation adjacent to the existing National Grid Bolney substation, along the onshore cable route of the Rampion offshore windfarm (Figure1; National Grid Reference located between 517252, 103229 and 523900, 121500).

1.4 Circumstances and Dates of Work

1.4.1 The fieldwork stages were as follows:

- Watching Brief Strip, Map and Sample and Geoarchaeological investigations along onshore underground transmission circuits route 17/08/2015 – 16/02/2017: The 26.4km long route was stripped of topsoil and subsoil under archaeological supervision and 21 sites of archaeological potential (including Tottington Mount and Bolney) were identified; further investigations narrowed the number of sites to eighteen, where a number of identified archaeological features were excavated and recorded.

- Set piece Archaeological Excavation at Tottington Mount Cross Dyke 17/08/2015 – 11/09/2015: Advance archaeological excavation of the Scheduled remains of a cross dyke at Tottington Mount, Upper Beeding, West Sussex, Mount' (Scheduled Ancient Monument no (SM31217). The mitigation works were addressed by condition 25 of Development

Consent Order (DCO; SI 2014/1873) and Scheduled Monument Consent was not required.

- Watching Brief, trial trenching and strip, map and sample at site of new onshore substation at Bolney, 21/09/2015 – 27/04/2016: a number of pits and ditches of apparent Late Iron Age/Early Roman date were identified and recorded.

- Watching Brief and Geoarchaeological Borehole at Newhaven Port, 13/05/2016 – 20/05/2016: Structures and deposits related to the late 19th-century construction of the harbour eastern wall were recorded, together with a buried land surface and concrete beams associated with the late 19th-century railyard. Supporting walls and dump deposits relating to the 20th-century construction of platforms and the general raising of the area were also revealed. No pre-19th-century archaeological remains were uncovered. A single borehole was drilled to bedrock (BH03, -28.52m OD) and alternate 0.45m sleeved samples were retained for geoarchaeological recording which was carried out at Southern Testing premises. The rate of recovery was variable due to the high proportion of sand within the alluvium. The chalk was overlain by a coarse black sand and gravel deposit which fined upward into a tufa rich sand deposit. This was overlain by over 29m of occasionally laminated organic silt-clay alluvium. The sediments recovered, whilst not a continuous sequence, have the potential to preserve palaeoenvironmental remains. The results of these investigations are detailed in a separate watching brief report (ASE 2016a)

1.4.2 The archaeological mitigation works were undertaken in relation to requirements 23 and 24 of the DCO (SI 2014/1873).

Archaeology

23.—a) No stage of the connection works, including any trial trenching, shall commence outside the South Downs National Park until in relation to the relevant stage of the connection works a written scheme of archaeological investigation (which accords with the outline onshore written 41 scheme of archaeological investigation) has been submitted to and approved in writing by West Sussex County Council.

(1) The written scheme of archaeological investigation shall identify areas where field work and/or a watching brief are required, and the measures to be taken to protect, record or preserve any significant archaeological remains that may be found.
(2) Any archaeological works or watching brief carried out under the scheme shall be by a suitably qualified person or body approved by West Sussex County Council.
(3) Any archaeological works or watching brief shall be carried out in accordance with the approved scheme.

Archaeology in the South Downs National Park

24.—a) No stage of the connection works, including any trial trenching, shall commence within the South Downs National Park until in relation to the relevant stage of the connection works a written scheme of archaeological *investigation (which accords with the outline onshore written scheme of archaeological investigation) has been submitted to and approved in writing by South Downs National Park Authority.*

(1) The written scheme of archaeological investigation shall identify areas where field work and/or a watching brief are required, and the measures to be taken to protect, record or preserve any significant archaeological remains that may be found.
(2) Any archaeological works or watching brief carried out under the scheme shall be by a suitably qualified person or body approved by South Downs National Park Authority.
(3) Any archaeological works or watching brief shall be carried out in accordance with the approved scheme.

1.5 Archaeological Methodology

1.5.1 The archaeological methodology was initially set out in the various Written Schemes of Investigation (RSK 2015; ASE 2015). All excavation and recording work was carried out in accordance with these document and in line with professional standards and guidelines (CIfA 2014a; 2014b; 2014c; 2014d; 2014e) and in line with guidelines provided by Historic England, West Sussex County Council (WSCC; WSCC 2015) and South Downs National Park Authority (SDNPA).

1.5.2 The site archive is currently held at the offices of ASE; the local museums of the respective districts through which the scheme extends have been approached, however none of them are currently accepting archives.

1.5.3 After the cleaning and planning of the excavation areas the following sampling strategy was employed:

- Linear features (ditches and gullies) had all relationships defined, investigated and recorded. All terminals were excavated. Sufficient of the feature lengths were excavated to determine the character of the feature over its entire course, generally a 1m long segment every 10m; the possibility of recuts of parts, and not the whole, of the feature were considered.

- With the exception of modern disturbances, a minimum 50% of all other contained features was excavated. Further investigation was a matter of on-site judgement, but sought to establish as a minimum their extent, date and function.

- For layers a decision on-site was made as to the extent that they were excavated. The factors governing the judgement included the possibility that they masked earlier remains, the need to understand function and depositional processes, and the necessity to recover sufficient artefacts to date the deposit and to meet the project aims.

1.5.4 All excavated deposits and features were recorded according to current professional standards using the standard context record sheets used by ASE.

1.5.5 A full digital photographic record of all features was maintained. The photographic record also includes working shots to represent more generally the nature of the fieldwork.

1.5.6 All finds recovered from excavated deposits were collected and retained in line with the ASE artefacts collection policy.

1.5.7 The excavation area and spoil were metal detected for artefact recovery.

1.5.8 Palaeoenvironmental remains were sampled and processed in accordance with current Historic England guidelines (Campbell *et al*. 2011). Bulk samples were processed using tank flotation unless considered detrimental to the samples or recovery rate (such as for waterlogged samples). Waterlogged samples were wet sieved through nested sieves and stored in wet, cool conditions or dried if considered an appropriate form of conservation for the remains.

1.5.9 Samples were collected from suitable excavated contexts, including dated/datable buried soils, well-sealed slowly silted features, sealed hearths, and sealed features containing evident carbonised remains, peats, water-logged or cess deposits.

1.5.10 The sampling aimed to recover spatial and temporal information concerning the occupation of the site. This was best achieved by sampling a range of feature types (pits, ditches, post-holes, cess pits) from across the site, the fills of which can be compared and contrasted. Where clearly defined fills were evident within features with superficially homogenous fills, stratified data was obtained by taking multiple samples spread through the deposits.

1.5.11 A standard bulk sample size of 40litres (or 100% of small features) was taken from dated/datable sealed contexts to recover environmental remains such as fish, small mammals, molluscs and botanicals.

1.5.12 Sub-samples of up to 10 litres were kept aside from the bulk samples for specialist processing and analysis to target retrieval of insects, fish bone and parasites for example.

1.6 Geoarchaeological Methodology

1.6.1 The areas for geoarchaeological investigation has previously been identified in a pre-fieldwork phase of assessment (Pope 2012). This identified landscape zones (Appendix 1: table 1). The sample sites and those selected for assessment are detailed in Appendix 1: table 2. The dry valley sequences were recorded in open sections of the pipe trenches excavated across the scheme, this defined the limit of the depth investigated which varied from 1.20-1.40m in depth. Where waterlogged deposits were not able to be accessed in open section were recorded using an Eikjelcamp gouge auger, and samples were recovered using a Russian head attachment.

1.6.2 The recovered samples were recorded at ASE facilities using the Troels-Smith (1955) scheme of sediment classification (Appendix 6). The scheme breaks down a sediment sample into four main components and allows the inclusion of extra components that are also present, but that are not dominant. Key physical properties of the sediment layers are also identified according to darkness (Da), stratification (St), elasticity (El), dryness of the sediment (Dr) and the sharpness of the upper sediment boundary (UB). The core logs are were supplemented by digital photography.

1.6.3 The waterlogged samples were assessed for plant macrofossils, insect remains, ostracods, foraminifera and pollen. The dry valley sequences were assessed for particle size and molluscan remains, the heavy residues were also examined for artefacts.

Ostracods and forams

1.6.4 Some of the samples were very large and therefore, only part was processed (see Appendix 1: tables 3 - 9). First, they were broken into small pieces by hand or cut up with a knife, placed in ceramic bowls, and dried in an oven. Boiling-hot water was then poured over them, with a little sodium carbonate added to help disaggregate the clay fraction. Each was left to soak overnight. Washing was with hand-hot water through a 75 micron sieve, the remaining residue being returned to the ceramic bowl for final drying in the oven. Because of difficulties in obtaining a good breakdown especially of the organic samples (e.g. <201>) some had to be re-processed. On completion, the samples were stored in labelled plastic bags. For examination, each sample was placed in a nest of sieves (>50, >250, >150 microns, and base pan) and thoroughly shaken. A little of each grade was then sprinkled onto a picking tray and viewed under a binocular microscope. The residues were logged on a presence(x)/absence basis and are shown in Appendix 5: tables 1 - 2.

Particle size

1.6.5 Sixty-three samples were selected for particle size analysis (see Appendix 1: table 10). Prior to particle size distribution analysis by laser granulometry (range 0.01-2000 microns) a representative sample was gathered from the main bulk sample. The sample was then mixed with a spatula to form a homogenous 'paste'. A sub-sample was placed on a plastic watchglass and a weak dispersant solution (c. 0.5ml 3.3% Calgon) was added in order to aid dispersion of the material (Blott *et al*. 2004). Physical disaggregation on a clean watchglass with a rubber pestle was carried out. Any particles observed to be greater than 2mm were removed. The sample was then washed with distilled water into the analyser. Particle size distribution measurements for particles falling within the size range 0.01 to 2000 microns was measured by laser granulometry using a Malven Mastersizer 3000. The results are displayed in Appendix 8; figure 1.

Pollen

1.6.6 Forty-two subsamples were extracted for an assessment of pollen content. The pollen was extracted as follows: (1) sampling a standard volume of sediment (6 grams); (2) adding two tablets of the exotic clubmoss Lycopodium clavatum to provide a measure of pollen concentration in each sample; (3) deflocculation of the sample in 1% Sodium pyrophosphate; (4) sieving of the sample to remove coarse mineral and organic fractions (>125µ); (5) acetolysis; (6) removal of finer minerogenic fraction using Sodium polytungstate (specific gravity of 2.0g/cm3); (7) mounting of the sample in glycerol jelly. Each stage of the procedure was preceded and followed by thorough sample cleaning in filtered distilled water. Quality control is maintained by periodic checking of residues, and assembling sample batches from various depths to test for systematic laboratory effects. Pollen grains and spores were identified using the University of Reading pollen type collection and the following sources of keys and photographs: Moore et al (1991); Reille (1992). The assessment procedure consisted of scanning the prepared slides, and recording the concentration and preservation of pollen grains and spores, and the principal taxa on four transects (10% of the slide; Appendix 1: tables 11 - 14).

Mollusca

1.6.7 All samples were sieved through nests of sieves with 4mm, 2mm, 1mm. 500µm and 250µm by Archaeology South East. The molluscs had been extracted from residues >1mm and were presented in bags labelled with feature and sample numbers; slugs plates were in separate bags. For the majority of samples alternate subsamples only were submitted for assessment. All are from 'grab samples', the majority being 10cm in thickness. The volume/weight of each sample is not known. Molluscs were assessed using a low-power zoom binocular microscope (x7-x40), and identifications made, normally to species level, using standard guides (Evans 1972; Kerney and Cameron 1979; Cameron 2008) and a reference collection when necessary. No attempt was made to sort *Trochulus* shells into individual species. Abundance was estimated using the following scale: S – single specimen; R (rare) – 2-10 specimens; C (common) – 11-50 specimens; A (abundant) – more than 50 specimens. Habitat preferences follow guidelines in (Sparks 1959–60; Evans 1972; Davies 2008). The results are displayed in Appendix 1: table 15.

Plant macrofossils

1.6.8 Wet sieved fractions from samples documented in Appendix 1: table 16 and charred plant macrofossils from samples in Appendix 1: table 17 were scanned under a stereozoom microscope at 7-45x magnifications and their contents recorded. Preliminary identifications were made with reference to modern comparative material and published reference atlases (Zohary and Hopf 2000; NIAB 2004; Cappers *et al*. 2006; Jacomet 2006). Nomenclature used follows Stace (1997).

Insects

1.6.9 The samples submitted had volumes of 5 – 6 litres. Each was gently wet-sieved to 0.3mm and the resulting material was subjected to paraffin flotation to extract insect remains following the methods of Kenward et al. (1980). The paraffin flots were scanned in industrial methylated spirits (IMS) using a low-power stereoscopic zoom microscope (x10). Abundance of beetles (Coleoptera) and bugs (Hemiptera) and their state of preservation was recorded, and the potential of the assemblages to provide detailed environmental data was assessed. Taxa have been categorized into broad ecological groups following Kenward *et al*. (1986) and Kenward (1997) (see Appendix 9: table 1 for groups used). Nomenclature for Coleoptera follows Duff (2012). Invertebrates other than insects were noted where present. The paraffin flots are currently stored in jars of IMS.

1.6.10 The radiocarbon dating was carried out by SUERC laboratories and the results are detailed in Appendix 1: table 18.

1.7 Organisation of the Report

1.7.1 This post-excavation assessment (PXA) and updated project design (UPD) has been prepared in accordance with the guidelines laid out in Management of Research Projects in the Historic Environment (MoRPHE), Project Planning Notes 3 (PPN3): Archaeological Excavation (Historic England 2015).

1.7.2 The report seeks to place the results from the site within the local archaeological and historical setting; to quantify and summarise the results; specify their significance and potential, including any capacity to address the original research aims, listing any new research criteria; and to lay out what further analysis work, if any, is required to enable their final dissemination, and what form the latter should take.

2.0 ARCHAEOLOGICAL and HISTORICAL BACKGROUND

2.1 Introduction

2.1.1 The following section is taken from the Outline Onshore Written Scheme of Archaeological Investigation (WSI) for the scheme prepared by RSK, with due acknowledgemnent (RSK 2015).

2.2 Lower and Middle Palaeolithic

2.2.1 Relative to the majority of Britain, Sussex remained unaffected by glaciation, resulting in positive preservation conditions. Much of it has come to light during the intense industrial and infrastructure development of the county from the nineteenth century onwards, including extensive quarrying.

2.2.2 The first evidence for human activity in Britain and northern Europe probably dates to between 800,000 and 500,000 years BP, with some evidence of very early occupation of this date identified at several sites in France and Spain and, most recently, at Pakefield and Happisburgh on the Norfolk coast (Wenban-Smith 2007; Parfitt *et al*. 2005; Parfitt *et al*. 2010). As the subsequent ice caps advanced and retreated activity patterns are believed to have fluctuated with Sussex being represented by H. Heidelbergensis being driven back south by the ice and archaeologically identified at sites such as Boxgrove (Armstrong 1995; Roberts and Parfitt 1999), and handaxes are known from the gravels of the Adur, as at Henfield (Woodcock 1978).

2.2.3 The warmer interglacial periods which separated these glaciations, when climatic conditions would have allowed the occupation of Sussex, saw sea levels up to some 40m higher than those of the present day, thus rendering large areas of the lower-lying parts of the Weald unsuitable for settlement. Palaeolithic evidence mostly derives from deep deposits, where they have been either redeposited or buried in the course of subsequent geological and climatic events. These deposits include river gravels and alluvium along ancient river terraces; colluvial and solifluction deposits in valleys, valley slopes and hollows; aeolian and loessic deposits, such as brickearth; and residual finds spots, mostly on higher ground and associated with clay-with-flint drift, which were either re-exposed through erosion or never covered by Pleistocene deposits.

2.2.4 The study of the Palaeolithic period in Sussex is, however, very much concerned with the question of the raised beaches and their associated deposits. These relics of ancient coastlines, deposits lying directly on marine platforms cut into the older Tertiary and Cretaceous rocks now left inland, record the former higher sea-levels of the Cromerian, Hoxnian and Ipswichian interglacials. The highest and oldest of these beaches is the ‘Slindon’ or ‘100 ft’ raised beach, which marks the time of maximum marine transgression during the Cromerian interglacial, or Oxygen Isotope Stage (OIS) 13, when the world sea-level was over 30m above that of the present day. Although little trace of the deposits can be seen casually on the ground, exposures in numerous gravel pits have revealed their considerable extent and complexity. Their most northerly limit is marked by a substantial, though now buried, cliff cut into the chalk which still reaches a height of up to 6m in places, as at Amey’s Eartham Pit, Boxgrove, near Chichester. This cliff-line can be traced from north of Funtington to Lavant and Slindon and as far east as Arundel

(Pope 2003). Further marine beach deposits have been identified some 1km to the south of the Goodwood-Slindon raised beach at around 24-27.5m OD. These deposits, known as the Aldingbourne raised beach survive between Fontwell and Westhampnett. Interpreting and dating these deposits remains problematic but recent work suggests the Aldingbourne raised beach may date to the Hoxnian interglacial (OIS 11) (Roberts *et al*. 1997; Bates *et al*. 1997).

2.2.5 The ‘Brighton-Norton/25ft raised beach’ in Sussex is also marked by a now buried cliffline which can be traced eastwards from Westbourne to Hambrook, Chichester, and Westhampnett, then just south of the A27 to Arundel and Brighton. This formation has been dated to OIS 7 (Bates *et al*. 1997), between c. 240,000 and 190,000 years BP. Only one handaxe from Brighton is known to have been found within the beach itself, but two significant handaxes have been found in the deposits which overlie the beach. The first from Broadwater, Worthing is one of the finest examples of a flat subtriangular handaxe yet found in Sussex (Woodcock 1978). The latest of the known raised beach deposits in Sussex is the Pagham formation, which can be traced from Brighton to Pagham at around 3m OD and currently dated to OIS 5e (the Ipswichian interglacial) between around 125,000 and 110,000 years BP (Pope 2003).

2.2.6 There are five Palaeolithic find-spots (handaxes and implements) recorded in the general vicinity of the onshore cable route (Lancing College, Sompting, Henfield, and 2 x Small Dole), although none are located within the study area.

2.3 Upper Palaeolithic and Mesolithic

2.3.1 The last Glaciation was not an episode of uniformly cold climate, but a complex sequence of cold stadial periods and warmer interstadial periods when at times the summer temperature approached that of the present day. The large amount of water locked up in the ice sheets resulted in a world-wide lowering of the sea-level, so that Britain became part of the continent of Europe. Thus both man and the large herds of animals upon which his existence depended could move freely into Britain during the milder periods (Woodcock 1978).

2.3.2 It was not until the last glacial retreat (at about 12,000 BC) that southern England became permanently available for human exploitation. Evidence from the earliest millennia after the ice age is scarce, with much of it lying inundated beneath the North Sea and English Channel. Re-colonisation of the British Isles during the early Mesolithic period is thought to have occurred from the east. Cultural material remains restricted to lithic assemblages. Hunting camps have been found at the rock shelters in the High Weald, in the Low Weald, on the clay-with-flints on the Downs and on the Coastal Plain.

2.3.3 Of 59 cave/rock shelter sites in England and Wales known to have been used in the Mesolithic, 17 are in the Sussex part of the Ashdown Forest, the first being identified as early as the 1930s. Sussex material representing the Mesolithic can be produced from some 500 find-spots. While sites with microliths still cluster on the Lower Greensand, survey work has revealed equally significant concentrations of flint material on the Weald Clay and the Ashdown Sands and, rather fewer on the Chalk, one example being from the parish of Elsted (Jacobi 1978).

2.3.4 Mesolithic implements (tranchet tools or microliths) are recorded at five locations within the study area: Plot 02/01 (RSK ID 24), Plot 08/02 (RSK ID 79), near Small Dole (RSK ID 95), Plot 05/02 (RSK ID 136), and adjacent to Plot 01/12 (RSK ID 49).

2.4 Neolithic

2.4.1 There is strong evidence that during this period there existed in Sussex socially coherent and autonomous groups occupying discrete territories. Environmental evidence suggests that the Downs were lightly wooded in the Neolithic, but with extensive, though local, clearance around settlement sites and perhaps smaller areas cleared for the construction of communal monuments. The available evidence suggests a mixed subsistence economy in the Neolithic, with collected resources continuing to form a significant component of the Neolithic diet (Thomas 1999; Drewett 2003). The evidence for Neolithic settlement sites in Sussex is still very scant. Neolithic pit sites are now known at a number of locations in the county, though it is now widely recognised that these might not always represent settlement sites per se. Such sites have been recorded at causewayed enclosure sites such as Whitehawk, the Trundle and Offham (Drewett 2003), while a cluster of pits was also recorded in proximity to the North Marden oval barrow (Down and Welch 1990), as well as at New Barn Down (Curwen 1934), Rookery Hill, Bishopstone (Bell 1977). Most recently, a cluster of Early Neolithic pits excavated at Peacehaven have produced one of the largest assemblages of Plain Bowl pottery from the county, and a very large and a highly significant assemblage of charred cereals, radiocarbon dated to the 36th-35th centuries BC (Hart 2015). Other non-monumental Neolithic sites in Sussex include a series of surface flint concentrations, thought to indicate plough-spread occupation levels and some evidence for sporadic occupation of the Wealden rock shelters.

2.4.2 A concentration of Neolithic flint axes have been found around Hastings, also isolated finds of flint axes have been recorded deep in the High Weald and along river valleys in the Low Weald. These patterns may in part be distorted by the activities of local archaeologists such as the concentration at Hastings. However, the distribution does suggest that the farming communities in the downs had links with the interior of the Weald, exploiting its natural resources. It is likely that the extensive concentrations of flintwork on the Downs represent the last surviving traces of the settlement sites of the people constructing the causewayed enclosures and long barrows and digging the flint mines (Drewett, 1978).

2.4.3 The most studied class of Neolithic site in Sussex is the causewayed enclosure, eight of which are now known from Sussex (Drewett 2003). These occur in two loose groupings on the South Downs: one to the east of the River Adur, including Whitehawk, Offham and Combe Hill and another to the west of the River Arun, including the Trundle, Court Hill, Barkhale, Bury Hill and Halnaker Hill (Healy *et al*. 2011). A variety of long barrows and oval barrows are also known in the county, also in two loose clusters which broadly correspond to the distribution of causewayed enclosures. Up to 20 such sites are now recorded in Sussex, though few have been subject to controlled archaeological excavation (Healy *et al*. 2011), the notable exceptions being

North Marden (Drewett 1986), Alfriston (Drewett 1975) and Bevis Thumb (Drewett 1981).

2.4.4 The mining of flint for both local use and probably extensive trading was clearly a major activity from the beginning of the Neolithic in Sussex and probably represent some of the earliest Neolithic activity in southern Britain (Bayliss *et al*. 2011). There are now eleven known areas of flint mining in Sussex, concentrated between the Rivers Arun and Adur (Barber *et al*. 1999; Crouch 1969; Russell 2001). These range from the massive mining complexes like that at Harrow Hill, with over 160 shafts, down to the single shaft at Slonk Hill. Other flint mines are known from Long Down, Blackpatch, Cissbury, Windover Hill, Church Hill, Lavant Down, Stoke Down, Bow Hill, and Compton Down. All of these flint mines, with the exception of Windover Hill, are to the west of Whitehawk. The absence of flint mines to the east of Whitehawk may be due to the fact that there are good flint outcrops in the cliff face, perhaps therefore removing the need to dig flint mines (Drewett 1978).

2.4.5 The middle and late Neolithic in Sussex remain poorly represented. No cursus monuments are known in the county (Garwood 2011) and finds of Peterborough Ware are scarce and notably from non-monumental contexts such as pits (Garwood 2007). With the exception of a few sherds of Grooved Ware from the flint mines at Findon very little else demonstrably late Neolithic is known from Sussex until the Beaker period. Only one henge monument has so far been positively identified in the county at Lavant in West Sussex (Garwood 2011); the identification of other henge monuments in Sussex (Russell 2002) has more recently been called into question (Garwood 2003). The general dearth of these monuments, if taken to indicate a continuation of territorial organization from the causewayed enclosures, would suggest a change in, or collapse of, the social order in Sussex during the late 3rd millennium BC (Drewett, 1978).

2.4.6 Ten instances of Neolithic flint tools including polished axes, arrowheads, scrapers, knives and flakes are recorded within the study area, at six broad locations: west of Plot 01/06 (RSK ID 45 and 129), Broadwater (RSK ID 51, 104, 130 and 131), Beeding Hill (RSK ID 76), Truleigh Hill (RSK ID 94), Twineham Place (RSK ID 116), and Plot 04/01 (RSK ID 128).

2.5 Bronze Age

2.5.1 The beginning of the Beaker Period in Britain is marked by the arrival of new pottery types from the continent and a new burial rite involving the single inhumation of individuals in a crouched position under small round barrows with interrupted ditches, a practise demonstrable by the presence of distinctive beaker pottery and grave-goods such as jewellery, jet and bone and metal objects.

2.5.2 Some 1000 prehistoric round barrows and ring ditches are recorded in Sussex, with over 90 percent situated on the South Downs (Garwood 2003) and many concentrated along the top of the downland escarpment. Recent research on the Sussex barrow evidence has emphasised the sacred and liminal character of the downland escarpment as a boundary between settlement to the south and the natural ‘wilderness’ of the Weald to the north (Field 1998). Rich burials comparable to those the Wessex culture are scarce in Sussex, with the exception of those excavated at Oxteddle Bottom and Hove (Ellison 1978).

2.5.3 While burials similar to those of the Wessex Culture are virtually unknown in Sussex (possibly with the exception of the barrows at Oxteddle and Hove) the scale and density of round barrows in Sussex has been argued to be on a par with those in the core areas of Wessex (Garwood 2003). Perhaps the most impressive burial in Sussex, the Hove barrow, contained grave goods including a red amber cup, dagger and whetstone (Crouch 1969). Known Bronze Age barrows within the study area for the onshore cable route are located on Beeding Hill ('Mill Hill barrow group' RSK ID 69/ 93/ 96/ 111/ 112/ 113/ 118/ 119/ 149) and RSK ID 85; on the summit of Steep Down (RSK ID 11); and Truleigh Hill (RSK ID 97 and 114).

2.5.4 With the advent of the Middle Bronze Age settlement sites become archaeologically visible for the first time in Sussex. These generally consist of small groups of roundhouses, often incorporating a principal house with one or two ancillary houses (Drewett 1982) and usually set within a wider landscape of fields. Some 20 Middle Bronze Age settlements are now known in Sussex, including both enclosed and unenclosed examples, including such sites as Blackpatch (Drewett 1982), Mile Oak (Russell 2002), Patcham Fawcett (Greatorex 2002) Highdown (Hamilton 2003), Itford Hill (Burstow and Holleyman 1957a), and, most recently at Peacehaven (Hart 2015), to name but a few. Recent fieldwork has now demonstrated the existence of extensive field systems of Middle and Late Bronze Age date (Yates 2007).

2.5.5 The near-total excavation of the settlement on Itford Hill and an urnfield barrow on Steyning Round Hill provided information on socio-economic aspects of the later Bronze Age. An important discovery is the Itford Hill cemetery barrow, excavated in 1971, providing the first firm link between a contemporary settlement and burial place in the whole British Bronze Age (Ellison 1978). Although Late Bronze Age occupation sites and field systems are widespread on the West Sussex Coastal Plain, completely defined and excavated sites of this date remain rare in the county. While Late Bronze Age pottery is sometimes found in association with Middle Bronze Age hut platforms, it is often associated with the disuse and abandonment of the structures, such as at Downsview (Rudling 2002) and Peacehaven (Hart 2015). There appears to be a marked concentration of Late Bronze Age settlement to the west of the Adur on the coastal plain and the lack of settlement in East Sussex may reflect a shift in settlement away from the downs in favour of areas such as the Willingdon Levels as evinced by the spectacular Late Bronze Age platform site at Shinewater (Hamilton 2003; Greatorex 2003).

2.5.6 'Ancient trackways' through the uplands, including the South Downs Way, although reused throughout successive periods, are thought to have been established in the Bronze Age, connecting the south east to Wiltshire (Crouch 1969; RSK ID 31 and 34). A number of so-called cross-ridge dykes are also known on the South Downs. These landscape features occur in a variety of locations and are often very poorly dated, although a Late Bronze Age/Early Iron age date seems probable (Hamilton 2003).

2.5.7 In addition to the known sites and monuments listed above, there are five records of Bronze Age find-spots recorded within the study area, comprising pottery and metalwork, located at: Broadwater (RSK ID 9 and 12), on the summit of Steep Down (RSK ID 18), Plot 04/02 (RSK ID 19), and a hoard of metalwork from west of Plot 01/09 (RSK ID 145).

2.5.8 Further find-spots from the study area, undated other than to the prehistoric period, and generally consisting of worked lithics, sometimes in considerable numbers as in the case of RSK ID 152 and 138, most likely date to the Neolithic and/or Bronze Age periods: Plot 01/10 (RSK ID 138), Plot 08/01 (RSK ID 139), Old Erringham Farm (RSK ID 140), Plot 04/02 (RSK ID 150), Plot 03/01 (RSK ID 152), Plot 03/02 (RSK ID 160), Plot 04/06 (RSK ID 161), and Plot 04/08 (RSK ID 163).

2.6 Iron Age

2.6.1 Territorial groups formed at the end of the Bronze Age were forced to strengthen strongholds under the threat of invasion from Belgic tribes, eventually resulting in Sussex coming under the control of the Regni (Armstrong 1995).

2.6.2 The concentration of settlement sites in West Sussex which typified Late Bronze Age and Early Iron Age occupation continues in the Middle Iron Age (Hamilton 2003). However, the recent discovery of an extensive Middle Iron Age enclosure complex at Peacehaven (Riccoboni 2008; Hart 2015) suggests that the absence of known settlement sites on the downs in east Sussex may be more apparent than real. Fieldwork and aerial photography has greatly increased our knowledge of Iron Age settlement on the West Sussex coastal plain and the evidence suggests the existence of extensive field systems on the coastal plain in the Iron Age, with small farmsteads at sites such as North Bersted (Bedwin and Pitts 1978) and Oving (Bedwin and Holgate 1985). One important activity about which little is known is the production of salt from sea water (Bedwin 1978).

2.6.3 The majority of Iron Age occupation is concentrated on the higher ground of the Downs, although there is a growing body of evidence for settlement off the downs (Hamilton 2003). The limited number of Iron Age house plans from Sussex sites is all the more remarkable when compared with the characteristic small round houses known from many Bronze Age sites. The presence of rectangular structures at sites such as Peacehaven (Hart 2015), Park Brow (Hawley 1927; Smith 1927) and Bishopstone (Bell 1977) suggests the reorganisation of domestic space and the emergence of a new house type during the Iron Age (Hamilton 2003).

2.6.4 If it is true that Iron Age house plans are difficult to identify, then the methods of disposal of the dead are equally elusive, and few Iron Age burials are known. The restricted number of burials cannot account for more than a very small proportion of the population. This would imply either some form of exposure rite, or shallow burials in or near the domestic area, as at Bishopstone (Hamilton 2003; Bedwin 1978).

2.6.5 At least 50 Iron Age sites are known on the Sussex Downs. Although the most conspicuous and well known of these are the hill-forts, the basic social and economic unit of the Iron Age is the small agricultural settlement, which carries on the Bronze Age tradition of mixed farming, exemplified by Itford Hill. Many settlements are located on south-facing spurs, though not necessarily on the highest point, and are often surrounded by, or adjacent to, contemporary field systems (Bedwin 1978).

2.6.6 The settlements of the Iron Age are more numerous, more varied, and frequently larger than those of the Bronze Age. Some have an enclosing earthwork which may be substantial enough to be regarded as defensive, as was probably the case at Bury Hill, or it may simply serve to demarcate the domestic area, as at Bishopstone. Alternatively, enclosure may be effected by means of a wooden palisade; Muntham Court and the early Iron Age site at Park Brow are good examples of this (Burstow and Holleyman 1957b; Hawley 1927; Smith 1927). The palisade is a well-known feature on Bronze Age sites, and it is therefore not surprising that it is so far known only on early Iron Age sites. Finally, there are open settlements such as Slonk Hill (Hartridge 1978). Even in the absence of an earthwork or palisade, the domestic area may effectively be defined by the edge of a trackway and the inner boundary of a field system, and there is always the possibility of the existence of a thick hedge having served the same purpose (Bedwin 1978).

2.6.7 The arable contribution is indicated by the presence of fields contemporary with the settlement, and by the discovery of grain, often charred, in pits and other features. The pastoral element in the economy is well attested by the presence of animal bones, those of cattle and sheep occurring most frequently. The diet was sometimes supplemented by marine shellfish, the remains of which have been found on several sites (e.g. Bishopstone; Bedwin 1978). The evidence from sites such as the Caburn (Drewett and Hamilton 1999) and Bishopstone (Bell 1977) suggests the structured depositional practices seen in Wessex (Hill 1995) also occur in Sussex (Hamilton 2003).

2.6.8 Superimposed on this continuum of agricultural communities are the twenty hill-forts. It is unlikely that all these hill-forts share a common function; however two phases of hillfort construction have been identified, giving rise, successively, to what Cunliffe has described as early hill-forts and developed hillforts (Bedwin 1978).

2.6.9 The first of these phases, the early hill-forts, is dated by its pottery to the earliest part of the Iron Age, centring on the 6th and 5th centuries BC; examples of this phase are Harting Beacon, Hollingbury, Chanctonbury, Ranscombe Camp, and Belle Tout. The earliest hillforts tend to be sited along the northern escarpment of the downs (Hamilton 2003). The characteristic developed hill-forts, Cissbury, Torberry, and the Trundle, are all west of the Adur, each with strong defences (Bedwin 1978).

2.6.10 It is difficult to avoid the conclusion that these hill-forts became the political and economic centres of a given area. In Sussex this is particularly evident because, to the west of the Adur, there is one developed hill-fort on each block of Downland between the main rivers, a pattern which is continued into the eastern part of Hampshire. Such hillforts would be at the top of an economic pyramid, the base of which consists of many outlying farmsteads. They would inevitably become natural foci for trade and specialist activities in the same way as a small market town serves local farms today (Bedwin 1978; Hamilton 2003).

2.6.11 On the Downs, east of the Adur, no strictly comparable series of developed hill-forts exists. However, on each block of Downland, there is a hill-fort which is occupied in the later part of the Iron Age, namely Devil's Dyke, the Caburn, and perhaps Castle Hill, Newhaven (Bedwin 1978).

2.6.12 The appearance on the Downs of the first defended sites (early hill-forts) and the first land boundaries (cross dykes RSK ID 6 and others outwith the study area on Steep Down, RSK ID 99 on Tottington Mount, RSK ID 78 on Beeding Hill, and RSK ID 82 on Mill Hill) can be regarded as responses to population pressure. By the time of the developed hill-forts, the pattern has crystallized in the form of large, heavily defended sites like the Trundle and Cissbury. These hillforts are the centres of much larger territories, in which the boundaries are the main rivers; it is possible that early Iron Age cross dykes have become obsolete by this time (Bedwin 1978).

2.6.13 Iron Age settlement, field systems, or trackways have been identified through aerial photograph assessment at Steep Down (RSK ID 17, 34 and 40), west of Lambleys Barn (RSK ID 36), Beeding Hill (RSK ID 73, 83, 84 and 86), and also on nearby Lancing Hill. However, these are dated on form only and pending excavation, may in fact be Roman in origin. Additionally, Iron Age find-spots have been made in the study area at East Worthing (RSK ID 44) and at Applesham Farm, Coombes (RSK ID 124).

2.6.14 Outwith the study area but of considerable significance is the site of an Iron Age shrine and Romano-Celtic temple near Lancing Ring; including 35 graves of possible prehistoric date, evidence for longevity is recorded with a find-spot of Roman coins.

2.7 Romano British

2.7.1 Sussex was invaded by the Romans in AD 43. Documentary evidence cites Togidubnus, the leader of the Belgic tribe of the Regni came to an independent agreement upon arrival of the Romans, however, the Roman territory was restricted in area in Sussex through the natural barrier of the Weald (Crouch 1969). Togidubnus founded Chichester [NOVIOMAGUS REGINORUM] as a local capital which was linked to Londinium by Stane Street (Armstrong 1995). Stane Street was completed by AD70, with evidence for posting stations at Hardham and Alfoldean (Crouch 1969), while a further posting station is known at Iping (Rudling 2003).

2.7.2 Fieldwork has identified an abundance of rural farmsteads across Sussex, particularly on the coastal plain and the Downs (Rudling 2003) Cunliffe draws attention to the strong element of continuity from late Iron Age to Roman in the rural settlement pattern in the Regni, and cites certain specific examples of 'early' villa development in the first century AD, e.g. the proto-palace at Fishbourne, the Angmering villa (Cunliffe 1973). Fishbourne Roman palace is probably the best preserved and largest of its type in Britain, a substantial seat of power and wealth, and possibly the home of Cogidubnus following his agreement with the Roman invaders. There is also some evidence for continuity in field systems from the Late Iron Age, as shown at sites such as Eastwick Barn (Barber *et al*. 2002).

2.7.3 Cunliffe has suggested that villas may represent the large estates of the local aristocracy who, it may be assumed, would have continued to hold their land after the death of Togidubnus and the absorption of the Regni into the Roman administrative system (Down 1978). There are several useful reviews of the villas of Sussex (e.g. Rudling 1998; Scott 1993).

2.7.4 Roman occupation of the Weald area of Sussex was a pattern of sparse occupation based on major defended enclosures lying on the northern edge of the forest (Dry Hill, High Rocks, Castle Hill) and smaller enclosures deeper into the High Weald (Philpots, Garden Hill, Saxonbury). This penetration may be ascribed to pressure from Belgic tribes to the north; however, the association of both Garden Hill and Saxonbury with iron-making suggests that the reasons may be economic rather than political (Cleere 1978).

2.7.5 Consideration of the road system in the Weald is fundamental to any survey of the Roman settlement pattern. It is, of course, known in detail thanks to the work of Margary (Margary 1965; Margary 1967). There are two distinct Roman road systems in the Weald - the north-south trunk roads, linking London with the South Downs and the coastal plain, and a network of minor contour roads orientated towards a group of ports between Bodiam and Hastings. The main features are the three north-south trunk roads- Stane Street (Margary's route 15), the London-Brighton road (route 150), and the London-Lewes road (route 14). These are linked by an east-west road along the South Downs, but there is no major east-west connection between this group of roads and the next major north-south road to the east (route 13). A fourth north-south route linked Chichester with the other Civitas settlements of Winchester and Silchester. Together, these north south routes would also have served as transportation links to and from the important groups of iron working sites in the Weald (Rudling 2003). They are, however, connected by a series of what Margary calls prehistoric trackways, running along the main Wealden ridges (Cleere 1978).

2.7.6 The putative line of the Roman road from Chichester to Brighton (RSK ID 3) passes through Sompting, running south of the church through Sompting Abbotts Park and then along the line of the modern road to North Lancing. In the 18th century, and presumably earlier, the road from Chichester ran south of that line, following the course of the modern West Street before turning north along Busticle Lane and east along Bull Pit Lane, where it joined the course of the Roman road (Hudson 1987).

2.7.7 Religious sites also form an important component of the Romano-British landscape in Sussex (Rudling 2008). Several shrines have been excavated over the years at sites such as Chanctonbury Ring, Slonk Hill and Lancing (Rudling 2001).

2.7.8 The Roman Greensand Way (RSK ID 2) passes through the southern part of Henfield parish by way of Oreham Common, crossing the river south of Stretham Manor towards higher ground on the west; the crossing was apparently by ferry, though a ford existed at Stretham in the later nineteenth or earlier twentieth century.

2.7.9 Within the study area, records for Roman burials occur either side of Plot 02/01 at Worthing (RSK ID 8 and 21), and also on Beeding Hill (RSK ID 109). In addition, numerous instances of Roman find-spots are recorded, a cluster in east Worthing (RSK ID 20, 35, 46, 47, 48 and 50), Plot 03/01 (RSK ID 167), at Church Farm, Worthing (RSK ID 110), and at Old Erringham Farm (RSK ID 70).

2.8 Anglo-Saxon

2.8.1 *"AD 477. In this year AElle and his three sons, Cymen, Wlencing and Cissa, came into Britain with three ships at the place which is called Cymenesora, and there killed many Britons and drove some into flight into the wood which is called Andredeslea."*

This account marks the beginning of Saxon Sussex as described in the Anglo-Saxon Chronicle. Such is almost the limit of direct historical reference to Sussex until the period of its conversion to Christianity. It is, however, supplemented by what we know of events elsewhere in southern England, and by a growing body of archaeological evidence (Bell 1978).

2.8.2 As pressure on the Roman Empire mounted, troops were steadily withdrawn from Britain until by AD 410 probably few remained, and those remaining would have been predominantly garrison troops. Simultaneously Saxon raids on the channel coast became more intense, and the expedient adopted by Romano-British leaders was to enlist the help of Anglo-Saxon mercenaries to whom they ceded territory (Bell 1978).

2.8.3 As a rule, Saxons kept clear of Roman settlement sites (Crouch 1969). The main areas settled during the fifth century can be identified by the distribution of cemeteries of that period. All the known examples, except Highdown, are between the lower Ouse and Cuckmere rivers (White 1999). This was an area apparently devoid of Romano-British villa estates and thus likely to have been selected for a treaty settlement of AngloSaxon mercenaries. Six Anglo-Saxon cemeteries provide the bulk of the archaeological evidence for the early period; these are Highdown, near Worthing, and the group between the rivers Ouse and Cuckmere: Alfriston, Selmeston, South Malling, Beddingham and Bishopstone (Bell 1978). The available evidence suggests a significant decline in population in the centirues following Roman withdrawal, accompanied by a shift in settlement away from upland locations in favour of valleys (Gardiner 2003). Key settlements for this period include Botolphs in the Adur Valley (Gardiner 1990) and Bishopstone (Bell 1977; Thomas 2010). Throughout the pagan period many burials were made in barrows, both reused prehistoric examples like that which formed the focus of the Bishopstone cemetery (Bell 1977) and also Mill Hill (RSK ID 74), and newly constructed mounds, examples of which were excavated on New Barn Down and found to contain individual burials. Clusters of numerous small barrows are known at Firle Beacon and the Bostal, Rottingdean (Bell 1978).

2.8.4 Bishopstone cemetery was an exposed spur crest overlooking the mouth of the Ouse, a spot which had been occupied from the Neolithic and where a Romano-British settlement had been in existence until the late fourth or early fifth century. Surviving settlements may frequently have obscured all trace of early Saxon origins, and there is some evidence that pagan cemeteries have sometimes been covered by Christian graveyards, such as at Steyning, where burials have been found below a cottage near the church (Bell 1978). A Saxon promontory fort has also been recorded in the parish of Henfield (Curwen 1929). Saxon cemeteries have also been excavated at Apple Down, north of Chichester (Down and Welch 1990) and Eastbourne (Doherty and Greatorex 2016).

2.8.5 Within the late Saxon settlement pattern there developed central places, some of which were to become towns, such as Steyning (Gardiner and Greatorex 1997). Other settlements established at this time include Botolphs (Gardiner 1990) and Erringham (Holden 1980) in the Adur Valley, which remains one of the best understood areas of Saxon Sussex (Gardiner 2003). The growth of towns were the result of two factors: one, a state of emergency created by Scandinavian raids, the other the growth of market centres. Alfred responded to this threat by reorganizing the defences of southern Britain around a series of fortified burhs; those in Sussex were Lewes, Chichester, Burpham, and Hastings (Bell 1978).

2.8.6 Archaeological sources enable us to document the genesis of individual settlements, but a more general framework is provided by place-name and historical studies. As yet no type of place-name has been identified which can be associated with the initial invasion phase. The earliest groupings are those with the suffix -ham, which appear to have been founded in the 5th and 6th centuries AD. A slightly later date is attributed to places with the suffix -ingas, e.g. Hastings. Nearly all enduring parish/town names in the vicinity of the onshore cable route apparently originated in the Anglo-Saxon period. The origins and meanings are summarised in the table below (Mills 2003).

Parish/ Town name	**Derivation**	**Translation**	**Morphology**
Worthing	OE Pers.name + ingas	Settlement of the family or followers of a man called Weorth	Ordinges 1086
Lancing	OE Pers.name + ingas	Settlement of the family or followers of a man called Wlanc	Lancinges 1086
Sompting	OE Sumpt + ingas	Settlement of the dwellers at the marsh	Sultinga 956 Sultinges 1086
Coombes	OE Cumb	The Valleys	-
Steyning	OE Pers.name or OE stan or staen + ingas or staning or staening	Settlement of the family or followers of a man called Stan; or the dwellers at the stony place	Staeningum c.880 Staninges 1086
Bramber	OE Bremer	Bramble thicket	Bremre 956 Brembre 1086
Fulking	OE Pers.name + ingas	Settlement of the family or followers of a man called Folca	Fochinges 1086 Folkinges c.1100
Shoreham	OE Scora + ham	Homestead by a steep bank or slope	Sorham 1073 Soreham 1086
(Upper) Beeding	OE Pers.name + ingas	Settlement of the family or followers of a man called Beada	Beadingum c.880 Bedinges 1086
Edburton	OE Pers.name + tun	Farmstead of a woman called Eadburh	Eadburgeton C12th
Woodmancote	OE Wudumann + cot	Cottages of the woodsmen or foresters	-
Henfield	OE Han + feld	Open land characterised by stone or rocks	Hanefeld 770 Hamfelde 1086

Parish/ Town name	Derivation	Translation	Morphology
Twineham	OE Betweonan + eam	Place between the streams	Tuineam l.C11th

Table 1. Place-name analysis

2.8.7 With the foundation, in some numbers, of these surviving places the settlement pattern begins to resemble that of the medieval period, and henceforth the bulk of potential evidence is in historical sources. The most comprehensive historical source is the Domesday survey made just after the Norman Conquest. It lists 337 places in Sussex, the majority of them in the Coastal Plain, downland valleys, and at the scarp foot of the Downs (Bell 1978; Gardiner 2003).

2.8.8 The vast majority of Domesday manors and places listed in the charters have survived to become the villages of today. The Domesday survey provides evidence of a range of economic activities far more extensive than the archaeological record; 87 watermills are recorded; coastal and riverine fisheries; quarries, in one case for millstones; and one ironworking site. Salt production is recorded in connection with 34 settlements, particularly those on what would have been tidal estuaries like the Adur (Holden and Hudson 1981). Arable agriculture emerges from the Domesday Book as an important element in the late Saxon economy (Bell 1978).

2.8.9 The system was one of multiple estates with centres mostly on the Coastal Plain, downland valleys and in a zone just north of the Downs, but with scattered dependent territories many of which were in the Weald. The importance of the dependent territories as areas for pannage and grazing is further emphasized by drove roads linking them with estate centres in the south. Saxon estates, or sometimes portions of them, seem to be quite frequently preserved in parish boundaries which would have become established once a church had been provided at the estate centre (Bell 1978).

2.8.10 Pagan Saxon burials are frequently concentrated on parish boundaries, which in certain instances seem to reflect boundaries of Roman or Iron Age date. Some Sussex boundaries may go back at least to the early Saxon period. A notable proportion of pagan burials in the Worthing area are on parish boundaries (Bell 1978).

2.8.11 No good evidence has been found of continuous occupation from late Roman to Saxon times. Many archaeologically attested Saxon settlements failed, and were deserted. Those that survived often shifted location, and we should not suppose that because a Domesday Book settlement is a nucleated village today it need necessarily have been more than a manor farm then (Bell 1978).

2.8.12 Structures believed to be Anglo-Saxon in origin include St Botolphs Church north of Coombes, and St Mary's Church at Sompting Abbots (RSK ID 15). In addition, the remains of a chapel (RSK ID 72) and at a hut with a large quantity of loom weights have been excavated at Old Erringham Farm (RSK ID 75), together with a find of Saxon pennies (RSK ID 141). Two sunken floored buildings of Saxon date have also been excavated and recorded at Botolphs.

2.9 Medieval

2.9.1 A central, even dominant, theme of medieval Sussex, is the story of reclamation of farmland from forest, heath, and marsh. The medieval period should be studied against the division of Sussex into the Weald on the one hand and the Downland and coastal plain on the other. It is probably realistic to conceive the Weald's course of development as being from that of a frontier. The would-be pioneering lords and peasants faced new conditions in which they could not ply their traditional farming skills inherited from the downland and Coastal Plain, or live as they had been accustomed. The woodmen moulded the wild to their own needs and in turn were moulded by the nature of the environment with which they were in contact (Brandon 1978).

2.9.2 The earliest medieval towns in Sussex are late Saxon. The four Sussex burhs are Hastings, Lewes, Burpham and Chichester. Of these, Burpham never developed into notable settlement. There is one other town of this early period not mentioned in the Burghal Hidage, the undefended port of Steyning (see for instance Gardiner 1988; Gardiner 1993; Gardiner and Greatorex 1997). The locations of the burhs were presumably chosen for their strategic strength and they are not necessarily on previously occupied sites. The valleys of the Adur and the Cuckmere are not covered by this defensive chain. The Adur gap is occupied by the late Saxon town of Steyning, where a settlement existed as early as the eighth century. Its omission from the Burghal Hidage may suggest that it did not achieve the status of a town until 1016 when it acquired a mint. This is not a necessary conclusion, however, because it does not seem to have been the burh builders' policy to guard every vulnerable point on the Wessex borders, but merely to provide reasonably spaced garrisons or refuges (Freke 1978).

2.9.3 The Norman invasion, by William Duke of Normandy, landed at Pevensey, already under Norman influence during Edward the Confessor's reign (Crouch 1969). The distribution map of features acquired by Norman towns immediately indicates administrative and economic expansion. The Saxon walls which protected the towns against external disorder are replaced by castles imposing internal discipline. These citadels are the visible manifestations of a foreign power, and the growth of the coastal towns is a less obvious consequence of the same fact. The feudal overlords and many of the ecclesiastical establishments maintained direct links with France. Each of the inland feudal towns established outports to handle their shipping as their defensive locations became a handicap to trade. The new towns of Seaford, New Shoreham, Littlehampton, and Winchelsea had no defences or administrative functions (Freke 1978). The administration of medieval Sussex following the Norman Conquest was based on a system of rapes, often considered a Norman innovation, though this is not universally accepted (cf. Adams 1999; Jones 2003). Initially, four rapes were established at Hastings, Pevensey, Lewes and Arundel, with the rape of Bramber (in which the study area lies) added in 1086 and a sixth ultimately added at Chichester (Jones 2003).

2.9.4 Norman castles are perhaps the most striking remnants of the period. Some of the Sussex castles were imposed upon already established towns, their sites being chosen for strategic reasons that did not necessarily respect the layout of the previous settlement (Freke 1978, see also Jones 2003). The years 1200 – 1350 sees an enormous expansion in the number of towns. In the 150 years after the Conquest seven new towns were founded, but between 1200 and 1350 at least 26 new markets and fairs were established, double the total for the previous half-millennium. However, urbanisation in the late medieval period almost stops, due in no small part to the ever changing coastline of Sussex (Woodcock 2003) and many of the speculative foundations of the preceding 150 years fail or decline. Towns such as Winchelsea and Rye have been the subject of extensive and integrated programmes of work in recent years (see for instance Martin and Martin 2004; Martin and Martin 2009). Resulting 'deserted medieval villages' (DMV) are speculated within the study area at Sompting (RSK ID 159), Coombes (RSK ID 14), Old Erringham (RSK ID 71), and Woodmancote (RSK ID 90); and also, outwith the study area, Botolphs and Edburton.

2.9.5 In the Middle Ages and later Worthing was a small agricultural and fishing hamlet of less importance than the neighbouring village of Broadwater. Two centres of settlement, Sompting and Cokeham, were recorded in the eleventh century; they formed two vills (villages) in the thirteenth century.

2.9.6 The river Adur has always been important, for its effect on the landscape as a means of communication, and in providing employment. Sometimes it was called the Beeding River. In the early Middle Ages it formed a wide estuary between Bramber castle, King's Barn, and Wyckham (in Steyning) on the west and Upper Beeding church and Horton Hall on the east; much sea shingle is said once to have been visible at King's Barn, and in the eleventh century Steyning had a thriving port (see for instance Hudson 1980; 1987). In the Middle Ages salt was extracted from tidal marshland within the parish (RSK ID 16 and 143), and numerous examples are known along the valley base, but just outwith the study area, at Coombes and Botolphs (Holden and Hudson 1981). Later, as in most parishes of the Adur valley, land was gradually reclaimed.

2.9.7 Of the main medieval settlements on the west and east sides of Beeding, King's Barns, an Anglo-Saxon or earlier settlement west of the river Adur, was linked more closely to Steyning parish than to Upper Beeding. The eastern part of the parish was divided between the manors of Horton and Tottington, which each lay north-south across it, separated by the long strip of land which formed a detached part of Henfield. Two important roads passed through the parish in the Middle Ages. One was the road between Steyning and Shoreham, which crossed Bramber bridge, ascended Beeding Hill, and continued southwards past New Erringham in Old Shoreham parish.

2.9.8 There was woodland yielding 13 swine at Woodmancote manor in 1086. In 1639 it comprised 103 acres, lying south of the modern Park Farm, which occupies the site of a lodge on rising ground. The park was mentioned as a road destination in the later seventeenth century, but the date of disparking is not clear. A close west of Wick Farmhouse was called 'Warren' in 1768 and later free warren had been claimed at Wick manor. There were parks in the nineteenth and earlier twentieth centuries at Woodmancote Place, and at Bramlands in the southwest corner of the parish.

2.10 Post-medieval - Modern

2.10.1 Descriptions of the principal parishes are presented below, drawing upon contemporary description from A Topographical History of England, published 1848 (Lewis); and the Victoria County Histories, Volume 6 (Hudson 1987):

2.10.2 WORTHING, a market-town, in the parish of Broadwater, hundred of Brightford, rape of Bramber, W. division of Sussex, containing 4702 inhabitants. The town is lighted with gas, paved, and abundantly supplied with water. It contains some good streets, handsome terraces, crescents, and villas; in front of the esplanade are two or three hotels, some baths. The esplanade is nearly three-quarters of a mile in length, and is twenty feet wide, forming a neat gravelled terrace, the waves flowing up to its base; the views from it are most extensive, commanding the English Channel, the Isle of Wight, Brighton, and the whole range of coast as far as Beachy Head. The Brighton and Chichester railway was opened to Worthing at the close of 1845: a station is fixed about half a mile from the centre of the town. Here is a chapel, a handsome building, erected in 1812 by the inhabitants.

2.10.3 The coastline of Worthing offers little geological resistance to erosion and there is some evidence for the flooding of reclaimed land in the late Middle Ages. By the late 16th century, however, a shingle bar seems to have grown up off shore, causing silting. Lagoons east and west of Worthing were recorded in 1587, and after the 16th century a large mass of land, later known as the salt green, the salt grass, or Worthing Common, gradually came into being south of the modern shore line. During the 18th century the shingle bar was apparently driven gradually on shore, causing the common to be eroded away. Erosion had begun by 1748, when the common still contained c. 50 a., and by c. 1810 most of the common had disappeared, giving rise to the fine beach noted during the late eighteenth century. Afterwards the mainland itself began to be eroded, creating a continuous problem for the town, which may have been exacerbated by the extraction of clay, sand, and other materials from the beach in the late eighteenth and nineteenth centuries.

2.10.4 Groynes were built west of Worthing by 1804, and in front of the houses on the edge of the beach by 1810. The esplanade built between 1819 and 1821 acted as a further sea defence. The presence of groynes had led to the accumulation of shingle, and Worthing's former fine, hard sands had been replaced by a pebbly beach.

2.10.5 During the first fifteen years of the nineteenth century, the entertainment facilities of the resort greatly increased. Other possible hindrances to the resort's development were removed by the building of a direct turnpike road from Horsham and London after 1802 and the opening of a market in 1810.

2.10.6 In the 1920s and 1930s Worthing expanded rapidly as a dormitory for commuters to Brighton and London, who were already important to the town by 1924. Growth in that direction was facilitated by the electrification of the railway line in 1933. After the Second World War Worthing at first benefited like other resorts from an increase in holiday-making. Since the Second World War, however, the residential and dormitory functions of the town have become much more important than its function as a resort.

2.10.7 SOMPTING, a parish, in the union of Steyning, hundred of Brightford, rape of Bramber, W. division of Sussex, containing 515 inhabitants. The parish comprises 2854 acres, of which 1800 are arable, and the remainder pasture, common, or waste.

2.10.8 Sompting was well known in the nineteenth century for its orchards, and particularly its fig trees, sheltered by high flint walls. The walls remained prominent in the village in 1978 when many orchards survived. In the nineteenth century, the fertile soil around the village encouraged the development of market-gardens and the glass-house industry. After the Second World War expansion was more rapid.

2.10.9 COOMBES comprises 1,280 a. (518 ha.). The northern boundary was already apparently an estate boundary in 956. The western boundary also seems to be old, since it follows a probably ancient downland track. Land use is divided between arable and pasture. The strip of land along the river in the east part is reclaimed marshland. There is little woodland in the parish; it is likely that the same was true in the Middle Ages.

2.10.10 The parish contains two settlements, Coombes village and Applesham. They lie on the edge of the flood-plain of the river, one in the north and one in the south, and probably correspond to two Saxon estates. Coombes was the larger settlement in 1086, but it later declined. Only 5 houses were left in 1840, including the parsonage. In 1976 there were 7, and a number of deserted house-sites could be seen. The roads shown in 1677 survived as tracks in 1875, but by 1976 all but one had disappeared, and the church could be reached only by a footpath through a field. Neither Coombes village nor Applesham seems ever to have lain on an important route.

2.10.11 STEYNING (St. Andrew), a market-town and parish, formerly a representative borough, in the hundred of Steyning, rape of Bramber, W. division of Sussex, containing 1495 inhabitants. The name is supposed to be derived from the Steynestreet, an ancient road which passed through this part of the country from Arundel to Dorking. It appears in the Saxon age to have been of considerable note, a church or monastery having been built here. The land in the vicinity is fertile, and the adjoining downs afford good pasturage for sheep.

2.10.12 BEEDING (St. Peter), a parish, partly in the union of Steyning, and partly in that of Horsham, hundred of Burbeach, rape of Bramber, W. division of Sussex; comprising Upper and Lower Beeding, and containing 1389 inhabitants. In the Middle Ages, the parish was called Beeding or, more usually, Sele. Upper Beeding contained the medieval Sele priory.

2.10.13 The original site of the village seems to have been between the church and Castle Town, along the major route that led from the river crossing at King's Barn to the summit of Beeding Hill. It is likely that the church was built where a settlement already existed, and though there is no documentary evidence for houses nearby, apart from Sele priory and its successor the rectory house, nevertheless house foundations are said to have been traced to the southeast near the supposed line of the road. Moreover, that line is continued further south-eastwards by Hyde Street, where several seventeenth- or eighteenth-century buildings survive.

2.10.14 After c. 1800 there was much building in the parish, the number of houses more than doubling in the first half of the nineteenth century and then increasing by more than half in the second. Outside the village some houses had been built at Castle Town by 1808. Detached houses and bungalows were built east of Castle Town on the south side of the Henfield road during the twentieth century. Twentieth-century houses and bungalows were also built south-east of Horton Hall on the Henfield road and south of the village on the Shoreham road.

2.10.15 EDBURTON (St. Andrew), a parish, in the union of Steyning, partly in the hundred of Poynings, rape of Lewes, E. division, and partly in the hundred of Burbeach, rape of Bramber, W. division of Sussex, containing, with the hamlet of Fulking, 318 inhabitants. It comprises 2243 acres, of which 792 are waste land or common.

2.10.16 Truleigh Farm occupies the same Upper Greensand outcrop as Edburton village, forming another link in the chain of closely spaced settlements at the downs' foot which includes Tottington in Upper Beeding to the west and Perching and Fulking to the east. There is no evidence of a nucleated settlement. In the 19th century some flint farm cottages were built south-west of the farmhouse; they were still occupied by farm tenants in 1984. In 1901 there were only 16 houses in the parish. Some further scattered houses were built in the twentieth century, but Summersdeane Farm was demolished during the Second World War and not rebuilt.

2.10.17 WOODMANCOTE, a parish, in the union of Steyning, hundred of Tipnoak, rape of Bramber, W. division of Sussex, containing 378 inhabitants. The road from London to Brighton, by way of Horsham, runs through the parish.

2.10.18 The church and Woodmancote Place, the chief manor house, lie close to the parish boundary in the southwest, on land that falls away northwards from the HenfieldBrighton road. The final element of the place name Woodmancote indicates a settlement, but the only buildings in the parish recorded nearby are the two successive rectory houses, the school, and the house called Rectory Cottage in 1984, which was converted in the twentieth century from the nineteenth-century outbuildings and stables of the earlier of the two rectories.

2.10.19 The Henfield-Brighton road was a turnpike between 1777 and 1876, together with the branch road from Poynings common to High Cross which forms part of the eastern boundary of the parish.

2.10.20 HENFIELD (St. Peter), a parish, in the union of Steyning, hundred of Tipnoak, rape of Bramber, W. division of Sussex, containing 1763 inhabitants. This place belonged to the Saxon earl Warbald and his countess Tedburga, the site of whose castle is still pointed out, with the moat by which it was surrounded, now inclosing a piece of ground called the Chapel Garden; and in the vicinity, foundations are frequently discovered by the plough, the only remains of a residence of the early bishops of Chichester, to whom the manor was given by King Osmand, about the year 770. The parish comprises 4862a. 1r. 34p., of which 2078 acres are arable, 1200 meadow, 484 pasture, and about 100 rough and waste.

2.10.21 Scattered settlement had begun by the seventeenth century around Henfield common. In the 1830s Henfield was said to consist chiefly of one street, most of whose inhabitants were tradespeople. From the mid 19th century the village became favoured by moneyed people for retirement and residence. There was much other building in the village after c. 1850, the opening of the railway in 1861 encouraging development. Further houses were built in and north of Nep Town Road in the earlier twentieth century.

2.10.22 The Adur Navigation (RSK ID 1), Brighton and Portsmouth Railway (RSK ID 4), and Horsham Railway (RSK ID 5) which all cross the onshore cable route were constructed in the nineteenth century.

World War Two

2.10.23 Primarily recorded through aerial photograph survey by the Historic Environment Record and the National Monuments Record, numerous examples of remnant WWII features are recorded within the study area. These include bomb craters (RSK ID 57, 59, 60 and 61), pillboxes (RSK ID 37, 53, 63, 64 and 65), anti-tank blocks (RSK ID 38, 62, and 68), batteries or gun emplacements (RSK ID 58 and 87), air raid shelter (RSK ID 56), operational bases (RSK ID 89, 171 and 172), or military camps (RSK ID 144 and 67). Not all of these features have survived; however those that are preserved within the line of the onshore cable route are identified in the field reconnaissance survey.

2.11 Geoarchaeological background

2.11.1 A geoarchaeological desk based assessment was undertaken (Pope 2012) in which four main landforms were identified: The Wealden Anticline, The West Sussex Coastal Plain, Dry Valleys and River Valleys. These were then broken down into geoarchaeological sedimentary contexts: ADH- Alluvial Deposits Holocene, ADP- Alluvial Deposits Pleistocene, RBD- Raised Beach Deposits, CWF- Clay with Flints, DVD- Dry Valley Deposits, UDH- Undifferentiated Head Deposits, SSF- Structural Surface Features, which are shown in Appendix 1: table 1.

2.11.2 A geoarchaeological and palaeoenvironmental assessment was then carried out by Wessex Archaeology (2015) which comprised a watching brief on geotechnical site investigation (SI works; 249 test pits and 39 boreholes). A deposit model was then produced based on this data which detrmined that a series of purposive boreholes and test pits should be undertaken across the Adur and colluvial deposits. The results of this purposive work are provided in section 5.0.

2.11.3 The Chalk downland landscape through which the cable route passes contains a wide diversity of regionally and nationally important archaeological sites from early prehistory through to the medieval period. These include Cissbury Ring Neolithic flint mines and Iron Age Hillfort, three Prehistoric to Romano-British settlements on Park Brow, the Steep Down cross-dykes and field systems, Coombes medieval settlement, Old Erringham medieval settlement, Thundersbarrow Hill Iron Age hillfort and a Romano-British settlement Truleigh and Beedings Hill funerary landscapes (Bronze Age to Saxon). These sites can be expected to have developed within landscapes undergoing transformation of one sort or another, from Neolithic clearances to extensive cultivation in later periods. While the record of the sites will provide important social and economic evidence related to each period of human activity, the record of the transformation of the landscape itself, in terms of vegetation conditions, erosion rates and soil stability will be preserved as part of the sedimentary archive within the dry valley systems and associated waterlogged deposits.

2.11.4 Given the poor preservation of pollen within calcareous Chalk Downland environments analysis of molluscan assemblages has led our understanding of these landscapes, augmented by the results of alluvial archaeology from river valleys where present. Despite a long history of research (Godwin 1940; Dimbleby 1976; 1984; Sheldon 1978) there are very few clear and extensive palaeoenvironmental sequences offering clarity of vegetation history for the chalk with most studies giving only an indication as to on site conditions rather than regional trends (Thomas 1977; 1982; Evans and Jones 1979; Preece and Bridgland 1999), or providing wider scale records for river catchment areas which might include, but do not define, the Chalk Downland landscape histories in isolation (Thorley 1971; Burrin and Scaife 1984; Scaife and Burrin 1992; Waller and Hamilton 2000).

2.11.5 More successful and useful studies have been focused on Chalk downland dry valley sediment sequences and have comprised wider landscape surveys of a sort pioneered by Martin Bell in the 1970's and taken forward by other researchers (Bell 1981; Wilkinson 2003). These studies have examined changing environmental conditions on the Chalk through a combination of molluscan analysis, sediment sampling of cross-valley transects, recovery of artefacts associated with colluvial sediments and identification of settlement evidence preserved beneath colluvium (Allen 1997a; 1997b; 2002; 2005a; 2005b; 2005c; 2005d; Allen and Scaife 2007; Bell and Noble 2012; Wilkinson *et al*. 2002; Wilkinson 2003; French *et al*. 2003; French and Lewis 2007). These studies have shown the complexity of landscape scale as a factor of local settlement/occupation history. This may or may not reflect national trends and off site development of valley sequences controlled by factors of slope, hydrology, vegetation cover and agricultural activity in terms of soil stability and colluviation. Wider research questions underlying this work are long standing, for example:

- How far back in time do dry valley sequences extend, can older (pre-Devensian head deposits be identified?), what range of depositional environments and range of periglacial processes be identified.
- What can be determined about late glacial vegetation history and landscape change? Can human impact be determined prior to the Holocene.
- What is the natural vegetational succession of the chalk? Can the impact of grazing by wild and domesticated animals (Vera 2000) be identified? Can other human impacts through burning, forest clearance and soil erosion be linked to the settlement record of the landscape.
- To what extent are important records of human settlement preserved beneath colluvial sequences? How can they be interpreted alongside the field monuments of the Chalk Downland valley sides and plateaus?

2.11.6 More recently detailed consideration of the regional characteristics of the archaeological and palaeoenvironmental records of the British Isles on a region by region basis has led to the development of a more localised region and sub-regional basis. This had led to the emergence of new research themes which have been informed by the record of local prehistoric ecologies and human impact from modern multi-disciplinary studies and the wider body of data from development-driven projects. The regional research framework model provides a starting point for the questions we should be asking of our data, as well as shaping approaches to mitigation. For the Chalk Downlands of Sussex the research agenda for the South East Region, the Solent Thames Corridor, The South West Region Research Framework and that produced for the Stonehenge and Avebury World Heritage Sites can be drawn upon to frame the following landscape-specific questions.

- Does the relative lack of Clay-with-Flints coverage of plateau areas across the South Downs, compared to that of the Hampshire, Surrey, Kent, Dorset and Berkshire downlands relate to significant differences in landscape evolution and later landscape use by prehistoric communities?
- What factors underpinned the evidence for more wooded, closed landscapes for the Sussex Chalk downlands in the early Holocene compared to Chalk downland landscapes of Wessex? (Allen and Gardiner 2009)
- What was the wider impact of the earliest Neolithic communities responsible for the flint mines between the rivers Adur and Arun?
- How prevalent are Late Neolithic/Early Bronze Age (Beaker) occupation areas within Sussex Chalk Downland dry valleys?

2.11.7 It has long been supposed that waterlogged sequences, those with the highest palaeoenvironmental potential, are rare within the downland (Wilkinson 2003). The large, wide Adur Valley has not seen the formation of in situ peat deposits that characterise other rivers of the region such as the Ouse. Recent deposit modelling carried out on the seaward end of the valley has demonstrated thick deposits of sand and laminated clays which are difficult to recover due to the tidal pressure on the water table (ASE 2016b). As a consequence no absolute chronology exists for the Adur, or for the tributary steam system that forms the wider fluvial catchment.

2.11.8 The neighbouring Arun Valley has received more attention with both the offshore zone characterised by the Palaeo-Arun project (Gupta *et al*. 2009) and a sequence examined at Amberley Wild Brooks (Waller and Long 2010, 13). The investigation into the sediments at Broadwater, Worthing, part of the wider Adur fluvial system, demonstrated the survival of deposits from the late Glacial through to the Bronze Age (Pope *et al*. forthcoming). This represents the only comparable sequence from the valley.

2.11.9 It is the later evolution of the lower Adur that has been somewhat easier to understand. The progressive movement of the channel eastwards and longshore drift of shingle has led to the mouth of the river also moving eastwards, becoming frequently blocked with shingle, leading to back barrier silting. This led to the building of a new port (New Shoreham), 1km to the east in the 11th century AD. However, this port was prone to the same problems throughout the medieval period and by the mid-eighteenth century the river mouth and harbour entrance lay a further 6km east (Robinson and Williams 1983). An artificial cut was made through the shingle spit at Kingston in 1760 but again the shingle began to block this entrance which had to be stabilised with groynes and breakwaters.

2.12 Previous archaeological investigations

2.12.1 Following desk-based assessment (DBA) of the scheme's archaeological potential, the EIA submission included 80% geophysical survey of areas of potential physical impact from the onshore cable-route and associated infrastructure (RSK 2012a; 2012b), and a subsequent programme of trial trenching was targeted on the identified geophysical anomalies (Wessex Archaeology 2014).

2.12.2 The evaluation trenching revealed a much lower level of archaeological survival than suggested by the results of the DBA; archaeological deposits were identified in only 22 of the excavated 211 trenches. The identified archaeological remains encompassed pits, postholes and drainage/boundary ditches, ranging in date between the Bronze Age and post-medieval period (Wessex Archaeology 2014).

3.0 ORIGINAL RESEARCH AIMS

3.0.1 The main aim of the project as defined in the WSI (RSK 2015) was to:

- Define the extent of the known, and identify previously unknown, archaeological remains that could be impacted during the course of the construction works.

3.0.2 The objectives were as follows:

- Prepare an assessment of findings and project design for post-excavation assessments.
- Carry out specialist analysis of environmental samples.
- Prepare and publish an integrated report of the results of the mitigation phase.

4.0 ARCHAEOLOGICAL RESULTS

4.1 Introduction

4.1.1 As part of the stratigraphic assessment, individual contexts, referred to thus [***] have been sub-grouped and/or grouped together and features are generally referred to by their sub-group (SG**) or group label (G**). In this way, linear features, such as ditches which may have numerous individual slots and context numbers, are discussed as single entities, and other cut features such as ring-gullies, pits and postholes are grouped together by structure, common date and/or type. Environmental samples are listed within triangular brackets <**>, and registered finds thus: RF<*>. References to sections within this report are referred to thus (3.7).

4.1.2 The 2014 evaluation had identified a number of areas of archaeological potential, along the cable route and further areas of archaeological potential were identified during the subsequent watching brief; in addition, the route crosses the Scheduled Monument on Tottington Mount (Scheduled Ancient Monument no. SM31217). These areas were assigned letters, running alphabetically from north to south along the route. Twenty-one areas of archaeological potential (Sites A to U) were identified in total and subjected to further investigation; Site C was targeted on Wessex's evaluation trenches 1229 and 1230, where a shallow (0.21m max. depth) east-west running ditch, identified as a field boundary was located (Wessex 2014). No ditches were recorded here during the subsequent watching brief, however, the monitoring took place during very wet weather. Sites N and P were targeted on remains of Iron Age or Romano British field systems recorded by the West Sussex HER. Linear and other discrete anomalies were recorded by the geophysical survey at this location (RSK 2012a; 2012b); however, neither the evalution (Wessex 2014) nor watching brief (this document) identified any archaeological features in these areas.

4.1.3 The results of the investigations at the remaining 18 sites are described below sequentially from north to south; the features from each of these areas will be discussed further, within their chronological framework, in section 7. The site archive generated by the investigation of these areas of archaeological remains is quantified in Table 2, below.

Type	Description	Quantity
Context sheets	Individual context sheets	878
Context register	Context register sheets	34
Plan and Section sheets	A1 Multi-context permatrace sheets 1:10 and 1:20	27
Drawing register	Drawing register sheets	21
Photos	Digital images	412
Photographic register	Photograph register sheets	24
Environmental sample sheets	Individual sample sheets	69
Environmental sample register	Environmental sample register sheets	13
Special finds register	Special finds register sheets	2
Watching brief forms	Individual watching brief forms	72
Field record	Field record sheets	68
Test pit record	Test pit record sheets	9

Table 2: TMB15 Site archive quantification table

4.2 Site A, Bolney Sub-station (Figures 2 - 3)

4.2.1 Site A was focused on the site of a new substation at Bolney and comprised an area of purposive archaeological trench excavation, a strip map and sample investigation and a watching brief during intrusive groundworks. The site was situated on the Low Weald, at elevations between 26 to 29m aOD, on a bedrock geology comprised of Upper Tunbridge Wells Sand; Sandstone and Mudstone.

4.2.2 The evaluation trench excavations identified a circular feature, G6, which was determined upon investigation to be a tree-throw, while the watching brief on groundworks did not identify any archaeological features or deposits.

4.2.3 A strip, map and sample area measuring *c*.566m in area was extended around WA Trench 1411 from the Wessex evaluation, where a north-south running ditch, dated on pottery evidence to the C12th/13th, was identified. The SMS investigation revealed that this ditch G2, was one of a number of intercutting, and likely contemporaneous ditches (G1, G3, G5 and G4), which together delineated a rectangular field system oriented on a north-south/east-west axis.

4.2.4 Three discrete sub-circular features were recorded within this field system; these included a pit with evidence of light scorching on its sides G87 containing a charcoal-rich fill from which a quantity of pottery in a grog-tempered fabric was recovered. The others were an isolated posthole G85 and a probable hearth or fire-pit G86.

4.2.5 Although the evaluation recorded medieval pottery from the G2 ditch, it would appear that either this material was intrusive, or that an on-site error was made in labelling this material, as the SMS investigation recovered 296 pottery sherds in grog-tempered fabrics, of probable mid-1st century date. This earlier date would appear to be confirmed by the presence of fragments of a ceramic triangular loom weight, recovered from the terminus of ditch G1.

4.2.6 In addition, ditch G5 was truncated by a circular pit G81, which was devoid of any dateable artefactual or environmental material.

4.3 Site B, Great Wapses Farm (Figure 4)

4.3.1 Site B was located in Twineham, south of Great Wapses Farm, just south of a waterlogged field boundary. The site was situated at an elevation of *c*.7m aOD on a bedrock geology of Weald Clay Formation; Mudstone.

4.3.2 This site comprised an SMS investigation, based on the potential for encountering early medieval archaeology, as indicated by the trial trench evaluation (WA Trench 1313).

4.3.3 The SMS identified a group of shallow intercutting ditches G7, G8, G9 and G10, which appeared to delineate an irregular, piecemeal field system. Pottery recovered from the fills of these ditches indicated a 12th or 13th century date for their primary usage, confirming the findings of the evaluation. Analysis of OS mapping indicates that the main curving, southeast to north aligned, ditch G7, may have been utilised as a drainage feature up to the 1970s.

4.3.4 In addition two pits G88 and G103 were identified, neither of which contained any dateable material, although G103 did cut ditch G7 and is therefore of C12th/13th or later date.

4.4 Site D, Morley Farm (Figures 5 - 6)

4.4.1 Site D was located west of Morley Farm, between the B2116 and the stream known as Cutler's Brook (likely the same as the 'alders stream' from which the surrounding Parish of Albourne derives its name).

4.4.2 The site was situated at an elevation of between 12 and 19m aOD, sloping downwards from north to south towards the stream, and was situated on a bedrock geology of Weald Clay Formation; Mudstone, with bands of Sandstone in places.

4.4.3 This site comprised an SMS investigation, based on the potential for preservation of palaeoenvironmental material due to its location adjacent to a watercourse; and archaeological potential based on its position as a local landscape high point and the evidence of medieval settlement indicated by the trial trench evaluation (WA trial Trenches 1220 and 1225).

4.4.4 The SMS identified three discrete zones of archaeological activity within the site; the northernmost zone comprised a, somewhat scattered, group of, largely undated, or not closely dated, features G25, G118, G119, G24 and G23. The northernmost feature consisted of a broad, shallow pit G25 with evidence of *in-situ* burning on its base and sides. Its primary fill was charcoal-rich silt, containing some fired-clay fragments, including pieces of a ceramic weight, possibly of Iron Age to early Roman date, and a quantity of burnt bone, while its upper fill comprised a firm clay silt. The bone fragments were too small to determine species and taking into consideration the presence of probable loom weight fragments, it is more likely that this burnt feature represents the remains of a domestic hearth rather than a cremation pyre.

4.4.5 A single isolated probable posthole G118 was located *c.*50m southeast of this hearth, from which no artefactual or dateable environmental material was recovered. A broad, shallow, ditch G24, measuring at least 14m long by 2.5m wide and 0.17m deep, was located *c.*24m to the south of this posthole. It was filled with a single clay silt deposit from which a fragment of hearth lining was recovered. This consists of a hard-fired sandy clay with adhering fuel ash slag. Although the latter has some signs of iron staining it is not considered to be enough to suggest iron-working.

4.4.6 The ditch G24 appeared to truncate a circular pit G119, from which crumbs of fired clay were recovered. A second sub-circular pit G23, was located *c.*1m south of ditch G24, this pit also displayed evidence of *in-situ* burning and contained a charcoal-rich primary fill, however; as no burnt bone was recovered, and given the distance between it and G25, it cannot be presumed that it relates to the burnt pit to the north.

4.4.7 The second zone of activity was situated 130m to the south and comprised a pit G120 and what appeared to be the western side of a sub-square or sub-rectangular enclosure, comprised of a ditch G27 with a recut G26. No dateable artefactual or environmental material was recovered from any of these features, although the photographic record does indicate that the pit contained some fired clay and charcoal, suggesting that it might possibly relate to the burnt features (at least one of which, G25, was a, possibly Iron Age/Roman, hearth) to the north.

4.4.8 The third zone of archaeological activity within Site D comprised an area of ditches and pits/postholes, indicative of medieval settlement. The earliest phase was represented by a broadly north-south aligned ditch, G11, measuring 6m in surviving length, the fills of which produced pottery of C12th date. This ditch was truncated to the north by a later ditch, G12, with a likely contemporary east-west ditch, G84, adjoining its eastern side midway along its length and extending beyond the limit of excavation. Pottery recovered from the fills of these two ditches indicated a C12th – 13th date for their in-filling.

4.4.9 The southern end of G11 was truncated by what was clearly the western end of sub-rectangular or sub-square enclosure ditch, G13. Recovered artefactual material, including pottery and a rotary quern fragment, indicated a C13th - mid-14th date for the use of this enclosure.

4.4.10 Extending across the excavation area, to the south of these intercutting enclosure ditches, were a number of ditches, which likely formed elements of a field system; the majority of these (G14 – G17, G10 – G22 and G72) contained pottery of C12th-13th date, as did an isolated pit G92, (which may have served as a soakaway for the terminus of ditch G22) and a group of six postholes, G91, whose overall form was unclear but which surely relate to a small agricultural building of some sort.

4.4.11 A single east-west ditch, G18, and an oval pit, G93, produced pottery of C13th – 14th date and were therefore contemporary with the enclosure ditch G13, to the north.

4.4.12 This zone also included a group of features from which no artefactual material was recovered; these include ditch G73 and pits G90 and G121 and the shallow remains of a field boundary, G83, which appeared to define the northern boundary of this zone of activity. Despite the lack of recovered dating evidence it seems reasonable to assume that these features relate to one or more of the phases of medieval activity identified in this area. The C12th – 13th ditch G21 corresponds to the southern side of a still extant field boundary which is visible on the earliest available mapping and the undated ditch G83 matches the position of its northern edge. It is also apparent that the southern end of the C12th-13th ditch G12 and the northern end of the C13th-14th ditch G13 both arc towards a similarly long-lived boundary ditch in the field to the east of the excavation area. It is apparent, therefore, that the features between the shallow boundary ditches G83 and G21, represent internal divisions within an enclosed field that dates back at least to the C12th-13th.

4.5 Site E, Woodhouse (Figure 7)

4.5.1 Site E was located south of Cutler's Brook, adjacent to Woodhouse Wood at an elevation of between 14.75 and 16.30m aOD, sloping downwards from south to north, towards the brook, on a bedrock geology of Weald Clay Formation: Mudstone.

4.5.2 Five features were identified. Two parallel northeast-southwest aligned linear features, G138 and G139, while devoid of diagnostic artefactual material, can reasonably be identified as land drains, of likely recent date. Two much-denuded linear features G74 and G75 produced lithic material and pottery of Late Bronze Age date and a broad, shallow pit G122 contained small quantities of fire-cracked flint, fired clay and C13th-14th pottery. The base and sides of pit G122 displayed evidence of *in-situ* burning and it contained charcoal-rich fill, from which the pot, fired-clay and flint were recovered.

4.5.3 It is possible that both the Late Bronze Age linear features and the medieval hearth were isolated features on the edge of their respective settlements or field systems. However, it is equally likely, given the obviously truncated and incomplete condition of the features, that this area has been subject to significant erosion from movement of soil downslope and that other associated, shallower features may have worn away.

4.6 Site F, Woodmancote (Figures 8-11)

4.6.1 Site F was located at Woodmancote, to the east of Henfield, between Furner's Lane and the A281. The site was situated at elevations of between 22.69 - 32.60m aOD, sloping upwards, gently, from a stream south of Furner's Lane, and then dropping away, gradually, to a central depression, incorporating a second stream, before rising again, more steeply, towards the southwest.

4.6.2 The site's geology varied along its length; from Folkestone Formation: Sandstone, overlain by Head: clay, silt sand and gravel at its northern end to Gault Formation: Mudstone, overlain by Head, towards the centre of the site, and back to Folkestone Formation, overlain by Head, to the south. In addition, the Head deposits were overlain by discrete peat deposits on the south side of the stream at the northern end of the site and on the north side of the stream in the central part.

4.6.3 Subsoil deposits in this area produced a small group of worked flints (16 pieces) that display characteristics of a blade-orientated industry. The small assemblage comprises seven flakes, four blades, three blade-like flakes, a bipolar core and a fragmentary core. These pieces display slight to moderate post depositional edge damage, indicating that they have been subject to minimum post-depositional disturbance. The small group may comprise a few pieces that are slightly later, but overall it provides limited evidence for Mesolithic or Early Neolithic activity in the vicinity of this site.

4.6.4 A number of features, mostly ditches but with some pits and postholes, were recorded in this area. The northernmost feature comprised a broadly east-west aligned ditch G131. This ditch had a broad, shallow profile and was filled with sandy clay silt, derived from the underlying geology, from which two flint flakes of Late Neolithic/Early Bronze Age date were recovered.

4.6.5 Situated *c*.19m to the southwest of this ditch was a broadly north-south shallow drainage gully G130. This gully was undated, but was positioned on an identical alignment to a ditch G129, located *c*.35m to the west. Ditch G129 became progressively shallower to the south before petering out, although a somewhat irregular feature G127, to the south and positioned along the same alignment, likely represents the disturbed remnants of the same feature. This disturbed southern section produced some residual Mesolithic or Early Bronze Age flint flakes, as well as several tiny pot fragments, which *may* have been of Roman date and some poorly dated vitrified CBM and mortar fragments. It is possible that all three ditches may be have been contemporary parts of the same field/enclosure system.

4.6.6 A single posthole, G128, perhaps the remains of a fence line associated with the ditch, was located just west of ditch G129.

4.6.7 The remnants of a posthole structure, G134, comprised of a broad south-northeast oriented arc of four postholes, was located *c.*16m west of ditch G127/G129. This post arc may have been associated with a cluster of other cut-features situated to its west; these included an oval pit G132, which produced some tiny scraps of pot of later Iron Age to earliest Roman date, as well as a small group of residual earlier flint flakes. Located just west of this pit was a cluster of stakeholes G135 and a larger, steep-sided pit G133. While no clear form could be determined from the arrangement of these stakeholes and the posthole, they were clearly elements of a structure that appeared to be positioned on a northeast-southwest alignment and measured 7.7m long by 4.4m wide. Also suggestive of domestic occupation in this area was a small quantity of fire-cracked flint, recovered from the G134 posthole arc and pit G133 and a similarly small quantity of fuel ash slag from one of the G134 postholes. Taking together the small amount of artefactual evidence from these postholes and ditch G128/129 date spanning the later Iron Age to earliest Roman periods may cautiously be assigned to the occupation evidence in this part of Site F.

4.6.8 A broadly north-south aligned ditch, G28, was recorded *c.*60m southwest of this area of probable occupation, on the north side of a small stream just east of an area of organic silt and peat deposits. This ditch contained a series of water-lain deposits and its position was aligned with a modern enclosure, indicating that this was a drainage feature of recent (i.e. late post-medieval) date.

4.6.9 A cluster of linear and pit features was also recorded on the southern side of the small stream, at Woodmancote Place. The northernmost feature in this part of Site F was a small pit or isolated posthole G137, filled with charcoal-rich silt. Situated *c.*5m southwest of this feature was an east-west oriented, irregular silt-filled pit or hollow G70, from which pottery of later Iron Age or earliest Roman date was recovered.

4.6.10 A ditch, G29, with a clear recut, G30, was situated *c.*40m to the south of these two pits. This ditch curved in a broad west to southeast arc and its profile became progressively broader and shallower to the east. The initial cut was filled by a series of water-lain silt and organic peat deposits, while the recut was filled with a single deposit of water-lain silt, from which a much abraded fragment of possible medieval brick was recovered.

4.6.11 Located *c.*13m south of the, possibly later medieval, ditch G29/G30 was an east-west aligned ditch, G31, and situated a further *c.*20m to the south was a parallel ditch, G70, along the line of an extant field boundary. The fills of both of these ditches produced pottery of late post-medieval to modern date, with sherds of what may have been the same vessel recovered from both.

4.6.12 Located between these relatively modern boundaries, close to the southern edge of G31, was a broad depression, filled with a spread of somewhat humic silt, G80, which produced a small number of potsherds of later Iron Age or early Roman date, as well as two residual pieces of flintwork of likely Mesolithic date. Given the irregular shape and broad, shallow profile of this feature, as well as the humic nature of its fill, it is likely that this was a naturally-formed depression, and that the artefactual material is all the result of secondary deposition due to water action. However, lithic material and pottery sherds are again indicative of both Mesolithic exploitation and late prehistoric/ early Roman settlement activity in this area.

4.6.13 A third zone of activity within this site comprised a group of parallel, broadly east-west linear features and a number of small pits, located *c*.60m south of the modern boundary ditch G70.

4.6.14 The northernmost features in this zone of activity comprised two sub-circular pits G123, filled with silt deposits, derived from the underlying Head deposits, and devoid of dateable material.

4.6.15 G33 was situated *c*.12m south of these pits and comprised a broad, shallow linear depression, measuring 2.55m in overall width, with a number of more pronounced, interweaving linear depressions visible within its extent. Parallel to this feature, at a distance of *c*.3m to the south, was a gully G34. Neither feature produced any diagnostic material, however, both were positioned parallel with, and close to, a large ditch G35, which was of unequivocally Roman origin.

4.6.16 The primary fills of the ditch comprised water-lain sandy and organic silts SG150, from which a pot group of likely 1st/ 2nd century date was recovered, along with a single flint core fragment of earlier prehistoric date. A group of grey ware sherds, of likely late 3rd -4th century date were recovered from later water-lain silt fills, SG151, while the final fill comprised a possible intentional in-fill deposit of more firm clay silt, SG152, from which a sherd of oxidised pot of 12th/ 13th century date was recovered.

4.6.17 Two, parallel, ovoid features, G125 and G126, intercut with the northern side of the ditch, although their stratigraphic relationship with the ditch was unclear and neither produced any dateable material. Two, similarly undated, small pits or postholes, G124, were recorded to the south of the ditch, both filled with sandy silt deposits containing angular sandstone fragments.

4.7 Site G, Oreham Common (Figure 11)

4.7.1 Site G was located on the south side of Horn Lane, east of Oreham Common at elevations of between 28.60 – 28.90m aOD. The underlying bedrock geology of the site comprised Weald Clay; Mudstone. Horn Lane comprises the putative route of the Roman Greensand Way, however, no features related to the Roman road were found during investigations within this site or the surrounding fields. The road crossing was undertaken via directional drilling at this location and it remains possible that archaeological features related to the Roman road remain preserved beneath the modern road surface.

4.7.2 Two shallow linear features, one northeast-southwest aligned, G141, and the other oriented in the opposite direction, G36, were recorded, alongside a sub-rectangular pit G140. All three features were filled with firm silt clay deposits, from which no dateable material was recovered.

4.8 **Site H, Oreham Manor** (Figures 12)

4.8.1 Site H was located south of Site G, to the east of Oreham Manor Farm, on land sloping downwards from the north towards a stream to the south, at elevations of between 13.90 – 20.80m aOD. The underlying bedrock geology of the site was comprised of Mudstone, overlain by alluvial deposits of silt clay towards the stream.

4.8.2 A number of shallow linear features (G37, G38, G39, G40, G41 and G42) were identified extending across the strip in this area; the majority of which contained no dating evidence. The exceptions to this were an east-west aligned drainage gully, G40, dated on the basis of a ceramic land drain fragment to the later post-medieval period, a gully terminus, G38, which contained a, likely residual, flint flake of probable Late Neolithic - Early Bronze Age date and a northwest – southeast aligned ditch, G41, which was previously identified in the evaluation and dated to the 12th century on the basis of recovered pottery. Ditch G42, ran parallel, and was similar in size and profile, to ditch G41 and therefore may, cautiously, be assigned a similar date.

4.8.3 In addition, two small undated pits, G142, were located north of the post-medieval gully G40.

4.9 **Site I, Truleigh Sands** (Figures 13-14)

4.9.1 Site I was located on the south side of a stream at Truleigh Sands and was situated at elevations of between 14.30 – 22m aOD, rising steadily towards the southwest from a stream at the northern end of the site. The underlying geology of the site comprised a bedrock geology of sandstone, overlain by river terrace deposits of sand, at the southern end of the site, giving way to Gault Formation; Mudstone as the ground rose, towards the southwest.

4.9.2 The terminus of an east-west aligned, v-shaped gully, G154, was recorded at the northern end of the site; it was filled with sandy silt, from which no dateable material was recovered. Located *c*.49m south of this gully was a *c*.10m wide band of sandy silt, SG184, which was determined upon investigation to be fill of a naturally-formed hollow on the downslope towards the stream.

4.9.3 Three parallel, broadly east-west aligned shallow linear features, G43, recorded to the south of this hollow, were determined to be agricultural furrows, of unknown date. An isolated posthole, G153, was identified in this area, close to the western edge of excavation, which was also undated.

4.9.4 A zone of dense archaeological activity was identified *c*.21m upslope from these furrows. The northernmost features of this zone were two adjoining sub circular pits, SG192 and SG193, situated close to the western edge of excavation. Two similar abutting pits, SG196 and SG197, were recorded *c*.8m to the south. These likely associated pits taken together formed a feature group, G152, which remains undated. A nearby posthole, G149, and rectilinear slot, G150, may have been associated with these pits.

4.9.5 Located between the northern and southern features of G152, was a broadly east-west aligned shallow linear feature, SG194, which was typologically similar to the furrows, G43, recorded in the north of Site I.

4.9.6 Situated just south of these undated features was a, possibly oval or sub rectangular, pit, G94, which contained no dateable material, but which was heavily truncated by an Iron Age ditch, G44. Ditch G44 was northwest – southeast aligned, steep-sided ditch, which was filled by a series of silt deposits from which grog-tempered pottery of Middle to Late Iron Age date was recovered. This ditch extended beyond both limits of the strip and was recut by a ditch of similar form, G45, which terminated before the eastern limit of excavation. The recut contained a single clay silt deposit, which also produced some small sherds of Middle - Late Iron Age pot.

4.9.7 The terminus of a broadly north to east aligned L-shaped feature G46 was located *c*.4m south of these Iron Age ditches, from which two sherds of 12th century pottery were recovered. Two postholes, G147, recorded to the south of this feature, may have been associated with it; however, they may, equally, have been contemporary with the later Iron Age activity recorded in this area.

4.9.8 Situated to the south of the medieval feature G46 was a broadly north – south aligned, flat-bottomed ditch, G47, which appeared to be turning towards the west as it reached the limit of excavation. Both this ditch, and a subsequent recut, G48, produced a small amount of Middle-Late Iron Age pottery, as well as residual earlier lithic material. This ditch and its recut were therefore contemporary with the recut ditch G44/G45 to the north, and these ditches may have demarked either side of a curved northwest to south running route way.

4.9.9 Two broad, shallow pits, G146, were positioned in a row parallel to the east side of these ditches, and, although devoid of dateable material, may reasonably be assumed to have been associated with the Iron Age activity recorded in this area.

4.9.10 A ditch, G49, was recorded *c*.4.40m west and south of ditch G47/G48, from which a sherd of flint-tempered pot, of later prehistoric date, was recovered. This ditch was positioned along a similar orientation to the possible route way to the north, and may, likewise, have been of later Iron Age date.

4.9.11 Ditch G49 was cut, towards the east, by a ditch of similar form, G50, the fill of which produced pottery of mid-1st to late 2nd century date. This ditch appears to represent a reorganisation of the later Iron Age field systems in this area during the early Roman period. This early Roman evidence also helps to refine the dating for the Iron Age activity in this area, as this reinstatement/ realignment indicates that the Iron Age ditches were still likely elements of a visible functioning field system, the origins of which is unlikely to have pre-dated the Roman period by more than a few generations.

4.9.12 A cluster of cut features were located to the west of these ditches, and although no dateable material (aside from a small quantity of likely residual flint) was recovered from them, it is likely, based on proximity, that they are contemporary with the later Iron Age/ Roman activity outlined above. It may be that these features are elements of an area of domestic or industrial activity, enclosed by the westernmost ditches G49/G50, further evidence for which was recorded *c*.90m to the south (see below).

4.9.13 The most significant feature in this cluster was an unusual curvilinear forked gully G51, with steep sides and a flat base, which may have been a wall-trench or run-off gully for a small structure. Further structural evidence was represented by two postholes, G148, located just north of the gully. A small silt-filled pit, G151, positioned to the north of these postholes may also have been associated with this structure.

4.9.14 A broadly northeast-southwest oriented, admittedly widely-spaced, line of four postholes, G143, was situated to the south of the forked structure.

4.9.15 Situated *c.*40m south of this zone of dense activity was, what appeared to be, a broadly east – west aligned, flat based ditch, G96. This ditch was filled with firm clay silt, containing moderate amounts of angular sandstone fragments, from which several sherds of Late Bronze Age, Post Deverel-Rimbury (PDR) wares, were recovered.

4.9.16 A second feature of Late Bronze date was located, amongst a zone of further later Iron Age activity, *c.*40m to the south of the ditch G96. This feature was an east-west oriented, broadly sub rectangular pit, G95, filled by sandy clay silt, from which three sherds of PDR wares were recovered.

4.9.17 The later Iron Age features in this zone were almost certainly directly associated with the cluster to the north, and again included ditches and postholes. A group of four postholes, G53, was recorded to the east of pit G95, and were clearly elements of a structure which extended beyond the eastern excavation limit. A north-south aligned ditch, with a rounded northern terminus, G54, was identified, at a right angle to a second ditch, G57, to the south. These ditches appeared to form the southeast corner of a rectangular or square enclosure, which enclosed a group of four large postholes, G56, which likely formed the corner of a structure aligned with the enclosing ditches. These features produced a significant quantity of flint and grog-tempered wares of Middle – Late Iron Age date.

4.9.18 Running parallel to the western side of ditch G54 was a similarly aligned ditch, this time with a southern terminus, G55, the fills of which contained a group of sherds representing the remains of several vessels of Late Iron Age to early Roman date. A possible oven brick or kiln bar was also recovered. As with the ditches and structural features to the north, these features indicate evidence of continuing use and adjustment of a settlement enclosure, and/or field system, spanning the later Iron Age into the earliest Roman period.

4.9.19 The southernmost zone of archaeological activity assigned to this site comprised an apparently isolated curvilinear gully, G58, located *c.*770m southwest of the later Iron Age settlement activity outlined above. This feature was situated east of Longlands Wood and north of Edburton Road, at an elevation of approximately 43m aOD, at a point where the Weald transitions to the chalk downlands.

4.9.20 The gully curved around from the northwest limit of excavation towards the northeast for *c.*4.50m before ending in a rounded terminus and measured no more than 0.20m in maximum depth. Its primary fill was composed of firm green grey silt clay, which was overlain by soft grey clay silt. Despite the shallow depth and likely denuded nature of this feature, a considerable quantity of 3rd/4th century pottery was recovered from its upper fill, alongside a small quantity of tiny coloured glass fragments. Both fills also produced significant amounts of animal bone, dominated by cattle teeth, followed by large and medium mammal bone fragments and teeth as well as a single sheep/goat tooth. A single large mammal long bone also exhibited signs of burning.

4.9.21 Despite the seemingly isolated nature of this curvilinear gully, in the context of the archaeology exposed along the project route, the quantity of artefactual material and faunal remains suggests that it must, in fact, be related to an area of later Romano-British settlement, likely located just beyond the project boundaries.

4.9.22 In addition; at the foot of Tottington Mount, to the south of Edburton Road, evidence for Late Saxon settlement and/or farming activity was represented by pottery recovered from a colluvial deposit (9000), which overlay the Head deposit.

4.10 Site J, Tottington Mount (Figure 15)

4.10.1 Site J comprised the excavation of the Scheduled Monument 'Cross dyke on Tottington Mount' (Scheduled Ancient Monument no. SM31217), situated near the summit of a chalk spur, at an elevation of *c.*157m aOD.

4.10.2 Cross dykes are substantial linear earthworks typically between 0.2km and 1km long and comprising one or more ditches arranged beside and parallel to one or more banks. They generally occur in upland situations, running across ridges and spurs. They are recognised as earthworks or as cropmarks on aerial photographs, or as combinations of both. The evidence of excavation and analogy with associated monuments demonstrates that their construction spans the millennium from the Middle Bronze Age, although they may have been re-used later. Current information favours the view that they were used as territorial boundary markers, probably demarcating land allotment within communities, although they may also have been used as trackways, cattle droveways or defensive earthworks. Cross dykes are one of the few monument types which illustrate how land was divided up in the prehistoric period. They are of considerable importance for any analysis of settlement and land use in the Bronze Age. Very few have survived to the present day and hence all well-preserved examples are considered to be of national importance.

4.10.3 The monument comprises a north/northeast to south/southwest aligned ditch, which cuts across the northern slope of a chalk spur known as Tottington Mount, which projects to the northwest from the main ridge of the Sussex Downs. It was hoped that the excavated section of the cross dyke would contain archaeological and palaeoenvironmental evidence relating to the construction and original purpose of the monument.

4.10.4 The archaeological mitigation entailed the excavation of a section of the cross dyke and revealed that the ditch, G59, measured 2.30m wide and 0.48m in maximum depth and had a broad, shallow profile with steeply sloping sides and a broad, flat base.

4.10.5 The primary fill was composed of a firm, mixed deposit of chalk and silt clay, which was heavily rooted and was devoid of any artefactual material or suitably dateable organic remains. It was speculated by the excavator that this may have been bank material, which had eroded into the ditch.

4.10.6 This possible slumped-bank material was overlain by heavily rooted, loose brown silt with frequent amounts of chalk pebbles. A number of flint flakes, mostly in a poor condition, and representing different periods spanning the Mesolithic to Late Bronze Age, were recovered from this layer, along with a single sherd of Late Iron Age/early Roman grog-tempered ware and an amorphous iron concretion.

4.10.7 In addition, a modern pipe trench, SG276, was recorded cutting across the dyke from east to west.

4.11 Site K, Mill Hill (Figures 16)

4.11.1 Site K was located on Mill Hill, *c*.370m south of the cross dyke on Tottington Mount and situated on a bedrock geology of Lewes Nodular chalk Formation, at an elevation of *c*.180m aOD.

4.11.2 The site comprised the remains of a northeast-southwest oriented, concrete and red brick structure, G63, with a footprint measuring approximately 63m by 25m.

4.11.3 Originally thought to be a World War II building, cartographic analysis subsequently identified the site as being the remains of a pre-war farm building; possibly a greenhouse, stables or water tank. The site was littered with asbestos and, taking into account the high-level of contamination, it was considered that a geomatic and photographic survey was an adequate level of recording.

4.12 Site L, Mill Hill Road (Figure 17)

4.12.` Site L was located *c*.440m south of Site K, extending from just north of Mill Hill Road, to south and east of the road, to the east of Anchor Bottom.

4.12.2 The site was situated on a bedrock geology of Lewes Nodular Chalk formation, pitted with frequent solution features filled by firm brown clay, at elevations of between *c*. 150 - 160m aOD.

4.12.3 An east-west oriented inhumation, G60, was recorded on the northern side of Mill Hill Road, at an elevation of 160m aOD. This comprised the burial of an adult male individual aged 25-35 years old at the time of death. The skeleton was placed in an extended supine position, with the arms placed on the sides of the body. The orientation of the body was east-west with the head placed at the west, and no associated finds or remains of coffin or grave furniture were present.

4.12.4 Evidence of trauma was represented by a well-healed fracture on the left arm, evidence of stress on the vertebrae due to repeated bending, lifting or twisting motions and, most significantly, two cut marks located at the mid length of the neck which were produced by a sharp blade or knife that in order to reach the bone had to cut through all soft tissues of the neck and throat, proving fatal.

4.12.5 A bone sample submitted for radiocarbon dating indicated that the individual dated to the Late Saxon-Early Norman period (Beta-422509; 1010 ± 30 BP; 985-1115 Cal AD) and died around the early 10th century.

4.12.7 Several of the chalk solution features in this area were investigated in order to confirm whether they were in fact geological in origin or anthropogenic cut features. The majority were confirmed as geological in origin, however a single pit, G61, was identified, *c.*700m south of the inhumation outlined above. This feature had a broad, concave profile and was filled by brown clay silt, similar in appearance to the surrounding solution deposits, from which three sherds of a single shell-tempered vessel of Saxo-Norman date, were recovered.

4.13 Site M, Adur floodplain (Figure 18)

4.13.1 Site M was located on the floodplain on the west side of the Adur and east of Coombes Road, between a broadly north-south running branch of the Ladywell Stream and a similarly aligned drainage ditch. It was situated on a bedrock geology of Seaford Chalk Formation, which was overlain by alluvial deposits of clay and silt, at elevations of between 1.75m – 2m aOD.

4.13.2 The site comprised a cluster of medieval cut features and deposits, to the west of a recut curvilinear feature. The curvilinear feature, G62, and recut, G63, were northwest to south aligned, with initially gently sloping sides, which then stepped down abruptly to a flat base. It was exposed for a length of 15.50m and measured 1.60m wide by 0.45m deep. Both the initial cut and the recut were filled by a series of waterlain deposits and a medieval iron nail shank and three lead cut-offs were recovered from the recut (see section 7.2.40).

4.13.3 The cluster of features, to the west of the ditch, were divided into five typological groups; the northernmost group comprised three amorphous spreads of clay silt, G158, containing significant quantities of fired clay, displaying purple and pink discolouration characteristic of briquetage (see sections 6.6.4-5).

4.13.4 Located to the immediate south of this group of waste deposits was a group of six, broadly sub-rectangular or keyhole-shaped, cut features, G157. These features had the appearance of ovens or hearths, with intense heat-discolouration evident on their sides and bases and fire-reddened and soot-coloured silt fills, from which a small group of oxidised 12th century potsherds were recovered. The truncated features probably relate to surviving parts of a saltern mound recorded by the NMP truncated by bulldozing known to have occurred in the 1960s or 1970s (John Mills pers comm).

4.13.5 A north-south oriented, sub rectangular trough G162 was positioned at the southeast edge of this cluster. This cut measured and 1.70m long by 0.90m wide and 0.17m deep and was filled with material similar to the waste deposits to the north.

4.13.6 Two abutting sub-circular pits, with steep concave profiles, G161, were positioned at the western edge of the feature cluster. These pits were filled with probably water-lain silt deposits, containing occasional to moderate amounts of small fired-clay and charcoal fragments.

4.13.7 Possible evidence for the remains of superstructures associated with these features was represented by four postholes, G160. Two of these, [13020] and [13065], were positioned at the western ends of two of the hearth/oven – type features, with the remaining two, [13044] and [13063], positioned by the northern end of the rectangular cut G162.

4.14 Site O, Valley Barn (Figure 19)

4.14.1 Site O was located approximately 2.7km west of Site M, to the north of Valley Barn and Steep Down Hill. It was situated on a bedrock geology of Seaford Chalk Formation at elevations of between 90.38m and 90.50m aOD.

4.14.2 This site comprised a single northeast-southwest aligned ditch, G163, measuring 2.30m wide by 0.50m deep by at least 34m long. This ditch had a broad, concave profile and was filled by a primary deposit of fine clay silt, from which very fragmentary flint-tempered sherds of uncertain later prehistoric date were recovered. This was overlain by an upper fill of lighter silt containing large amounts of small chalk fragments throughout.

4.14.3 While the pottery recovered from this ditch is largely undiagnostic, it can at least be assigned to a date somewhere between the Middle Bronze Age and earlier Middle Iron Age (see section 6.2.26; Doherty pers. comm.), which indicates a broad date for the ditch’s construction.

4.14.4 Despite the apparent lack of any settlement evidence in the immediate vicinity of the ditch, contemporary agricultural activity nearby is suggested by the presence of similarly broadly late prehistoric pottery in colluvium [15006], recorded downslope, *c*.600m to the east.

4.15 Site Q, Beggar’s Bush (Figure 20)

4.15.1 Site Q was located *c*.950m southwest of Site Q, between Steep Down Hill and Beggars Bush, just west of Titch Hill Road. It was situated on a bedrock geology of Newhaven Chalk Formation at elevations of between 56m and 67m aOD.

4.15.2 This site comprised three shallow ditches, G164, two broadly north-south aligned and the other running in the opposite direction. The eastern, northwest-southeast aligned ditch, SG305, matches the location of a field boundary depicted on the OS maps from the 1870s to 1890s, while the east-west ditch, SG365, is depicted as a field boundary for the first time on the 1961 OS. The second north-south ditch, SG306, located west of SG365, was very ephemeral and shallow, ran parallel to Titch Hill Road, and may simply represent the remains of a hedge line.

4.15.3 These ditches were previously identified during the evaluation and assigned a tentative Romano-British date, on the basis that they appeared to form elements of sub-square enclosures; however, further on-site and cartographic investigation indicates that all three are boundaries of post-medieval to modern date.

4.16 Site R, Titch Hill Summit (Figure 21)

4.16.1 Site R was located on Titch Hill summit, between Lambleys Barn and The Nore. It was situated on a bedrock geology of Tarrant Chalk Member at an elevation of *c*.89m aOD.

4.16.2 The site comprised an east-west aligned ditch and a north-south running gully, which ran into its north side, G64. The remains of a low bank, surviving to a height of 0.14m, were recorded on the southern side of the ditch and a single sherd of mid-C18th to mid-C19th date pot was recovered from this bank material.

4.16.3 This group of features appears to comprise a post-medieval field boundary with an associated drainage gully.

4.17 Site S, Lambley's Lane (Figures 22 - 23)

4.17.1 Site S was located between Lambley's Lane and the A27. It was situated on a bedrock geology of Tarrant Chalk Member, overlain by Head and subsequent colluvial deposits to the south, at elevations of between 15m to 37m aOD.

4.17.2 The site comprised a circular pit and a large ditch, in the northern part of this area, and a concentration of pits and postholes (often containing quantities of fire-cracked flint), as well as a possible sunken trackway, which produced worked flints and prehistoric pottery, to the south.

4.17.3 The northernmost feature in this area was a broadly circular pit, G77, which contained two fills; the primary fill consisted of a probably dumped deposit of charcoal-enriched silt, which produced lithic material of likely Neolithic to Early Bronze Age date as well as some fragmentary undecorated rim sherds of Grooved Ware or Beaker Ware vessels. The secondary fill appeared to have been deposited through silting processes and contained a single sherd of Grooved Ware or Beaker Ware. In addition, a number of unstratified surface finds of pottery and flint indicative of a Late Neolithic/Early Bronze Age date were recorded across this area.

4.17.4 Located 35.6m south of this pit was an apparently northwest–southeast aligned ditch G76, which measured approximately 10m in width by in excess of 1.60m in depth. Its earlier fill comprised a dumped layer of charcoal-rich silt, which produced fragments of medium-sized mammal bones as well as fired clay fragments and 18 sherds from at least two different vessels of probable C7th- to 8th- century date. The upper fill of the ditch appeared to have been derived from the surrounding Head geology and appeared to have been the result of intentional in-filling of redeposited 'natural' material, perhaps representing the slighting of an associated bank. If this interpretation is correct the profile of the ditch would indicate that the bank was on the northern, steeper, side.

4.17.5 The lithic and ceramic material recovered from the southern concentration of features, north of the A27, indicated a Late Bronze Age date for this area of occupation, with the possible exception of a single pit, SG338, which contained part of an undecorated Middle Bronze Age Deverel-Rimbury urn. These features could be subdivided into three groups; northern, G100, and southern, G101, pit/posthole clusters, perhaps indicative of two distinct structures, and a shallow northeast-southwest ditch, or sunken trackway, G102, which demarcated the northern limit of this area of Late Bronze Age activity. The feature produced 77 pieces of flint in good condition perhaps indicating that it was not subject to much reworking. This would indicate that the ditch interpretation may be more correct than a trackway.

4.17.6 These Late Bronze Age features were sealed by colluvium, G71, which contained pottery of Late Bronze Age/Early Iron Age date as well as a mixed flint assemblage dating from the Middle Neolithic to the Late Bronze Age/Early Iron Age.

4.18 Site T, Upper Brighton Road (Figure 24)

4.18.1 Site T was located south of the Upper Brighton Road, within an area of small fields divided by water-logged boundaries, on the western outskirts of Broadwater. It was situated on a bedrock geology of Tarrant Chalk Member, overlain by Head, at elevations of between 3.50m to 4.60m aOD.

4.18.2 The site comprised a series of low earthworks, G156, located on the southern side of an east-west waterlogged drain. Hand investigation revealed that the earthworks consisted of a network of interconnected, partially open, broadly east-west running ditches, with branches extending off to the north and south. The maximum depth of these ditches was 0.80m and all were filled by between 0.20-0.30m of firm grey clay, of alluvial origin. No artefactual material was recovered from this feature.

4.19 Site U, Upper Brighton Road (Figure 25)

4.19.1 Site U was located west of Broadwater and east of Loose Lane. It was situated on a bedrock geology of Tarrant Chalk Member, albeit close to the boundary with the Lambeth Group, overlain by Head, at elevations of between 2.50m to 4.50m aOD.

4.19.2 The site comprised six shallow ditches or gullies; four of which were east-west aligned, one north-south aligned and the final one appeared to form the southwest corner of a sub-rectangular or sub-square enclosure.

4.19.3 Of the four parallel east-west ditches, two, G104 and G116, contained ceramic material of post 1850 date, one G117 contained two conjoining sherds of 1st – 3rd century pottery and the fourth, GP115, was undated. Both the undated ditch and the ditch containing Roman pot were of similar form and size to the mid C19th - C20th examples, and it is possible that the conjoining Roman sherds were residual. It is probable that all four ditches were of contemporary date and represent the remains of early modern hedge lines or similar shallow plot boundaries.

4.19.4 The north-south gully G114 was positioned to the north of the east-west running ditches described above. The fill contained neck fragments from a late C19th/ early C20th wine bottle and was therefore likely to be broadly contemporary with the east-west ditches to its south.

4.19.5 The sixth ditch comprised a right angled corner of what was likely a sub-square or sub-rectangular enclosure G78, the bulk of which clearly extended beyond the limit of the cable route strip. This ditch contained a small amount of residual worked flint, of Mesolithic to Neolithic date, and fire-cracked flint as well as a single piece of fuel-ash slag and pottery and CBM of later C18th-mid C19th date. Considering the pottery and CBM evidence it is likely that this enclosure represents the remains of a field system, which may have slightly pre-dated the ditches/ gullies outlined above.

5.0 GEOARCHAEOLOGICAL RESULTS

5.1 Waterlogged Deposits

5.1.1 The lithology and palaeoenvironmental results of each sample sequence will be described by location due to the dispersed nature of the data (Figure 26).

5.2 Herring Stream (Fields 118-119)

5.2.1 This sample site was located between Areas A and B (Fields 118-119; Figure 26) and a small auger survey was undertaken perpendicular to the course of the Herring Stream. The auger survey, comprising a transect of 4 cores, demonstrated stream deposits survived to a depth of 3.45m bgl (2.8m OD). The deposits infilling the channel were characterised by a mottled organic silt clay with occasional woody fragments and visible seeds. The upper 1.70m of the channel fill was extremely oxidised and dry. A sample core <201> was recovered using a Russian auger and samples were submitted for palaeoenvironmental assessment and dating.

Radiocarbon Dating

5.2.2 Two samples of waterlogged wood from <201> were submitted for radiocarbon dating which both returned age determinations from the Iron Age, 2.97mbgl\3.28m OD 756 to 679 cal BC, 671 to 606 cal BC and 598 to 414 cal BC (SUERC 75845, 2456±29) and 3.19mbgl\3.06m OD 756 to 472 cal BC and 466 to 430 cal BC (SUERC 75846, 2466±29).

Ostracods and forams <201>

5.2.3 The results of the microfaunal assessment are shown in Appendix 1: table 3 and seven sub-samples were analysed covering a continuous section between 2.44mbgl\3.81mOD and 3.45mbgl\2.8mOD. None of the samples contained any ostracod remains, suggesting the peaty water had decalcified their shells. Cladocera (water-fleas) were present, which are related but have organic valves, and were found in four samples along with caddis-fly tubes in three, both of which would attest to this being a healthy freshwater habitat. Many of the samples in this section (and in others) contain organic spheres of various sizes, usually with a small apical hole. These are usually referred to as (freshwater) algal spheres but some could be eggs.

5.2.4 Iron tubes (containing rootlets) and iron nodules occur in five samples. According to Candy (*in* Ashton *et al.* 2005) these are often associated with weathering or near-surface groundwaters, formed prior to the onset of fully terrestrial conditions, or pedogenic activity, although in this case the iron nodules could be derived from the Weald Clay. Charcoal occurs in the top three samples (down to 2.95mbgl) which if not due to natural fire, may indicate human presence. In such an organic-rich environment, with evident decalcification taking place, it is therefore puzzling that in the lowermost three samples (3.07mbgl and below) *Bithynia* opercula occur (unlike the shell of this mollusc which is aragonitic and usually is not preserved, the opercula are calcitic). The presence of this mollusc may indicate reworking of older deposits in the area.

Pollen <201>

5.2.5 The single sample assessed from <201> contained a high concentration and preservation of pollen (Appendix 1: table 14). The sequence has an assemblage characterised by high values of herbaceous taxa. Grasses dominate with dandelions and a range of taxa similar to that recorded in <609> /<610> (see section 5.3.6 and 5.3.22). The lesser tree/shrub assemblage is dominated by hazel with alder and oak. Aquatic and spore values are negligible. Microcharcoal is occasionally recorded.

Summary

5.2.6 The assessment of the Herring Stream demonstrates that sediment was accumulating within the channel from at least the Iron Age. The channel is a small tributary of the Adur river system. There have been few investigations into these smaller channels and this assessment has demonstrated that valuable palaeoenvironmental data survived within these buried sediments.

5.2.7 The microfossils demonstrated variable preservation which is in all likelihood due to post-depositional weathering via seasonal fluctuations in the water table. The presence of a small amount of freshwater mollusc remains (*Bithynia*), which are usually found in slow-flowing and calcium rich freshwater contexts, and may suggest reworking of older deposits further upstream during flooding episodes.

5.2.8 The pollen demonstrated good preservation with the assemblage dominated by grasses. The dryland was characterised by mixed woodland, with the site itself likely fringed with alder. This likely characterises the environment of the Late Iron Age-Romano British period.

5.3 Site F (Field 86)

5.3.1 The topography of this area was characterised by a pronounced slope and an area of low-lying ground which was colonised by tall reeds and sedges. The mapped geology of this area is the junction of the Gault and Folkestone Formation overlain by Head deposits. This area suffered heavy damage when a mechanical excavator sank into the soft sediments of the low-lying area. In order to mitigate this, a section of the damaged area was hand-cleaned and recorded and 3 blocks of sediment were recovered <609> and four bulk samples <608> (0.15-0.78m bgl, 21.52-20.74m OD). The low-lying area was also investigated using a hand auger, <603>, which demonstrated the Gault was overlain by a light grey laminated silt sand (0.50-1.86mbgl, 21.69-20.33m OD). The two samples <603> and <609> overlap between 21.52 to 20.74m OD. This was trended into a thin deposit of whitish grey silt sand which in turn was overlain by a dark grey brown organic silt clay. This was overlain by a silty peat which demonstrated extensive rooting.

5.3.2 This low lying area corresponds to a possible small tributary of the River Adur which is likely to have been fairly slow flowing and stagnant. The geological mapping was not supported by the deposits recorded in the field and this is due to a lack of data from the area.

Radiocarbon dating

5.3.3 Two samples of bulk sediment (humic acid) were submitted from sample <603> for radiocarbon dating from which the following age determinations were recovered; 1.46mbgl/20.77m OD SUERC-75848 3907±25, 2471-2344 cal BC and 2325-2301 cal BC; 0.75mbgl/21.44m OD SUERC-75847 2822±27, 1048-909 cal BC. This means the sediment was accumulating between the Late Neolithic through to the Late Bronze Age.

5.3.4 In addition, a sample of waterlogged wood (unidentifiable) was recovered from <609> 0.48mbgl/21.28m OD SUERC75849, 3017±29 BP 1389-1338, 1318-1191, 1177-1163 and 1144-1131 cal BC and a piece of *Corylus avellana* (hazel) charcoal 0.65mbgl/20.87m OD SUERC 75850, 3494±29 BP, 1896-1742 and 1710-1701 cal BC.

Pollen

5.3.5 The results of the assessment of sample <603> indicate a very high concentration and preservation of pollen between 1.61 and 0.50m; below 1.61m a very limited number of remains are recorded (Appendix 1: table 11). The section of the core with a high concentration of remains dates from approximately 2470 to at least 990 cal BC. During this period, the assemblage is dominated by tree and shrub pollen including alder (*Alnus*), oak (*Quercus*), hazel (*Corylus* type) and lime (*Tilia*) with lesser amounts of elm (*Ulmus*) and birch (*Betula*) and sporadic occurrences including yew (*Taxus*) and ivy (*Hedera*), Herbs are generally limited, dominated by grasses (Poaceae) and sedges (Cyperaceae). Above 0.70m, however, the quantity and range of herbaceous taxa increases to include mugwort (*Artemisia*), ribwort plantain (*Plantago lanceolata*), cinquefoil (*Potentilla* type), buttercup / water crowsfoot (*Ranunculus* type) and cereals (*Cereal* type); conversely oak, lime and elm values decrease considerably. Aquatic taxa are near minimal, whilst spores are dominated by buckler (*Filicales*) and polypody (*Polypodium vulgare*) ferns. Microcharcoal values are minimal throughout the sequence.

5.3.6 The results of the assessment of sample <609> indicate a very high concentration and preservation of pollen throughout the sequence (Appendix 1: table 12) which dates from approximately 1900 to at least 1100 cal BC. During this period, the assemblage is dominated by tree and shrub pollen including alder with lower numbers of oak and hazel, and more sporadic occurrences of including lime, birch and willow (Salix), yew, beech (*Fagus*) heather (*Calluna vulgaris*) and honeysuckle (*Lonicera periclymenum*). The quantity and range of herbaceous taxa is reasonably large: grasses dominate with sedges, mugwort, ribwort plantain, cinquefoil, buttercup/water crowsfoot, cereals, dock / sorrel (*Rumex* sp.) and thistle (*Cirsium* type). Aquatic taxa are near minimal, whilst spores are dominated by buckler/polypody ferns and bracken (*Pteridium aquilinum*). Microcharcoal values are minimal throughout the sequence.

Ostracods and forams

5.3.7 The results of the microfaunal assessment for sample <609> are shown in Appendix 1: table 5. The four sub-samples were from sediment blocks within the interval 0.24 and 0.78m bgl. The contents are similar to what was found in <201> (see sections 5.2.3-4). Plant debris (mainly a fibrous peat) was found in all samples usually with a good seed content. Insect remains were also present as well. The upper two samples (down to 0.36m) contained abundant cladocera (water-fleas) with the thick organic templates of actual freshwater ostracods preserved in the topmost sample – these were *Cypria opthalmica*, one of the most resilient of all ostracods (the “slum ostracod” it has been called), living in the most “trying” of environments. The occurrence of iron tubes in the same two samples may also indicate a degree of weathering (cf. <201>). Organic spheres (?eggs) and charcoal occur in one sample each.

5.3.8 The results of the microfaunal assessment for sample <603> are shown in Appendix 1: table 4. Seven sub-samples were analysed covering a near-continuous section between 1.29m and 1.86mbgl. This section was particularly disappointing as all the samples contained nothing but plant debris (a hard peat in the uppermost two samples), with an increasing silt component down-hole.

Plant macrofossils <608>

5.3.9 Four samples extracted from the peat deposit adjacent to monolith <609> at depths 0.15-0.3m, 0.4-0.5m, 0.6-0.7m and 0.8-0.9mbgl which produced small quantities of uncharred organics including grass culms, twigs, wood flecks and occasional larger fragments of wood (up to 70cm long in sample <608> 0.15-0.3m) as well as a small amount of wood charcoal (Appendix 1: table 10). Plant macrofossils were recorded in two of the samples. These include a single possible sloe/blackthorn (*Prunus* cf. *spinosa*) stone in <608> 0.15-0.3m and sedge (*Carex* sp.), gypsywort (*Lycopus europaeus*), holly (*Ilex aquifolium*), and pinks (Caryophylaceae) in sample <608> 0.4-0.5.

5.3.10 Taxa noted in <608> provide evidence for trees or shrubs (holly and sloe) that are found in woodland, woodland margin or hedge habitats in addition to herbaceous plants (gypsywort and sedge) typical of wetter ground such as wet fields or near rivers.

Insects

5.3.11 A list of insect and other invertebrate taxa noted in the samples is shown in Appendix 9; table 1 and results from individual samples in Appendix 9; table 2. The lists are provisional and many identifications have not been pressed to species level.

5.3.12 The samples from Units 1, 3, and 4 (<608> 0.15 – 0.70mbgl) all contained substantially-sized insect assemblages. The best-preserved remains are from Unit 3 where fragmentation is relatively low, although varying degrees of erosion are apparent in many sclerites. Preservation in the samples from Units 1 and 4 is moderate to poor, the material generally being highly fragmented and moderately to seriously eroded. However, despite their condition, the majority of remains should be identifiable to a useful taxonomic level.

5.3.13 All three assemblages consist of both aquatic and terrestrial taxa that are together suggestive of well-vegetated marshland with shallow standing water, a few taxa associated with dead wood habitats indicating the presence of trees or shrubs. Ground beetles (Carabidae) are common and closer identification will provide details of local ground conditions. Various plant-feeding taxa, particularly weevils (Erirhinidae, Curculionidae) should also provide information on local vegetation to augment information from plant macrofossils. Scarabaeoid dung beetles, which are primarily associated with herbivore dung, were recorded from all three samples and their abundance relative to other terrestrial insects may have a bearing on local land use (Smith *et al*. 2010; 2014).

5.3.14 The lowermost sample from Unit 6 (0.80 – 0.90m bgl) produced very small numbers of insect sclerites with negligible interpretive value.

Summary

5.3.15 The deposits recorded within the low lying area in Field 86 are indicative of a marshland environment where the water table is likely to have fluctuated seasonally. The sediment within this low-lying area was accumulating from at least the Late Neolithic through to the Late Bronze Age. The plant remains were poorly preserved but demonstrate that the sample site was proximal to the woodland edge. The insects provided more information relating to the plant remains that have not survived as macrofossils and further analysis may reveal a more nuanced picture of the vegetation. The presence of dung beetles may suggest the presence of grazing herbivores, although whether wild or domesticated is unclear.

5.3.16 The pollen assemblages were well preserved, except at the base of the sequence, below 1.61m bgl. The two sequences represent the same sequence of infilling of this low-lying area and demonstrate the site was characterised by swamp-woodland with alder and sedges growing at the sample site. The decline of woodland and expansion of the range and quantity of herbaceous taxa is indicative of human activity in the vicinity in the form of clearance for agriculture. Cereal-type pollen was identified which also supports this theory and this activity is dated to the Mid-Late Bronze Age.

5.3.17 The water levels within the marsh are likely to have fluctuated seasonally which will have had an effect on the preservation of some of the proxy data presented here. The ostracod and foram absence in the majority of the samples may be due to these fluctuations. The water quality of this area is likely to have been quite stagnant with low-energy flow when in flood. The surrounding environment transitions in the Late Neolithic to Middle Bronze Age from one of deciduous woodland to a more open landscape with species characteristic of more acidic soils, i.e heather, yew.

5.3.18 The presence of a background scatter of flintwork dating to the Neolithic-Bronze Age along the edge of this wetland demonstrates human activity contemporary with the accumulation of these deposits. It is likely that the area was a useful resource and that the palaeoenvironmental data suggests agricultural activity was occurring in the vicinity of the sample site.

5.3.19 Palaeoenvironmental sequences of this date from the Greensand/Weald margin are relativly rare and this sequence represents a good opportunity to address questions relating to the composition of the landscape and human activity within it during the later prehistoric period.

Waterlogged Archaeological Features (Fields 85-86)

5.3.20 In addition to this natural deposit, two ditches in Fields 85 and 86 contained waterlogged deposits which may be linked to the presence of naturally occurring springs. The largest east west orientated ditch [6101] (G35), c.6.5m wide and 1.3m deep, was infilled by a well humified organic sandy silt from which a monolith was recovered <610> (Figure 27). In Field 85 bulk samples <601> were recovered from an east west orientated ditch [6004] which was infilled by an organic silt clay deposit.

Radiocarbon dating [6101]

5.3.21 A waterlogged wood sample, taken from <610> the infill of a large ditch [6101] G35 (Figure 9), returned an age estimate of SUERC 75854, 1201±26 BP, 722-740 and 767-892 cal AD. A bulk sediment sample taken below this returned an age determination of SUERC 75855, 1829±29 BP, 121-252 and 306-311 Cal AD. The pottery recovered from this feature dated to the early-late Roman period so it is likely that the wood sample is intrusive and that the late Roman date is the correct age for the infilling of this feature.

Pollen <610>

5.3.22 The results of the assessment indicate a very high concentration and preservation of pollen throughout the ditch fill [6101] (G35; Appendix 1: table 13) which dates from approximately 120 to 890 Cal AD. During its infill, the surrounding environment was almost entirely dominated by herbaceous taxa: grasses with sedges, daisies (Asteraceae), mugwort, ribwort plantain, cinquefoil, buttercup / water crowsfoot, cereals, dock / sorrel and thistle. Trees and shrubs were limited and heather, oak, alder and hazel were most commonly recorded. Aquatic and spore taxa were also limited. Microcharcoal values were minimal throughout the sequence, but were abundant at 0.68m.

Plant macrofossils <601>

5.3.23 A total of two bulk samples <601a> [6018] and <601b> fill [6017] were recovered from ditch [6004] (G30) which contained wood flecks, grass culms, roots and rootlets with occasional possible fruit skins, seeds and egg cases (Appendix 1: tables 16 and 17). Identifiable plant macrofossils were recorded in both samples, although they were not commonly present in either. Taxa include sedge, knotgrasses, buttercups in sample <601a> and bramble in sample <601b>. These remains provide evidence for grassland taxa (buttercups, knotgrasses and sedge - which might also occur on wetter ground) as well as brambles an indicator of disturbed ground.

Summary of Waterlogged Features in Site F

5.3.24 The large east west ditch [6101] (G35) was located on the side of the slope in Field 84 (Site F) and demonstrated waterlogged deposits accumulating within the feature. This may be due to the presence of naturally-occurring springs in the area. The radiocarbon dating recorded an intrusive piece of waterlogged wood which may be due to vegetation growing through the deposits. The bulk sediment date, SUERC 75855, 1829±29 BP, 121-252 and 306-311 Cal AD, is supported by the pot assemblage recovered from the feature. The pollen assemblage therefore represents the environment during the later Roman period, which was characterised by open grassland with arable cultivation suggested at some distance from the site. The plant macrofossils suggest the types of vegetation growing around and within the ditch including brambles, sedges and knotgrasses.

5.3.25 The smaller ditch lower down the slope, [6004] (G30), also contained waterlogged deposits which preserved a small amount of plant macrofossils. The remains indicate a grassland environment with disturbed ground in the vicinity. The single find of an abraded fragment of CBM indicates a possible medieval date for this feature.

5.3.26 These two waterlogged deposits carry forward in time the sequences examined in the marshy area to the north. The open environment that characterised the Late Bronze Age is replicated in the later Roman period. A stronger signal for arable cultivation is recorded as well as a continuation of open grassland. The lack of a stronger anthropogenic signal within the plant macrofossil assemblage may suggest that human activity was limited within the vicinity of the sample site. A medieval date is postulated for the waterlogged ditch further down the slope which also indicated an open grassland environment.

5.4 Dry Valleys and Colluvium

5.4.1 In addition to waterlogged deposits, several dry valleys were also recorded across the scheme. These are detailed below.

5.5 Edburton (Fields 62 - 63)

5.5.1 A large valley was present in Field 62 which recorded a section 1.40m in depth. The underlying geology at this location was the West Melbury Chalk overlain by a ‘fork’ of Head deposit. The geological mapping is not precise here but sample locations <900> and <901> are from either end of this fork (Figure 28).

5.5.2 At sample location <900> the lowest deposit encountered was a 0.20m thick deposit of grey brown sandy silt clay with frequent small rolled chalk fragments. This trended into a dark brown sandy silt clay with less frequent chalk fragments 0.30m thick. This in turn trended into a grey brown silty gravelly sandy clay which had visible mollusc fragments.

5.5.3 The sample location <901> was more homogenous in composition, comprising a grey brown sandy clay with only very occasional fragments of chalk 1.50m thick. The valley was not bottomed and was substantially larger than the <900> location.

Molluscs

5.5.4 There was a large number of molluscs in set of samples <901> – around 750 – increasing in number with depth from about 50 at the surface (subsample 0.0-0.1m) to about 150 at the base (subsample 1.4-1.5m). The catholic species *Trochulus* was most abundant in nearly all levels, with the open county species *Vallonia excentrica* the next most abundant, and the most abundant species in the lowest two levels (1.2-1.3m and 1.4-1.5m). Overall, catholic species represent about two-thirds of the assemblage, with open country species just under one third (Appendix 1: table 15). There are very few species which require shade. Of relevance is the presence of *Pomatias elegans* in most levels below 0.3m – this is a species only found on highly calcareous soils, often in scrub or open woods, but also in rock rubble and arable land. There is little difference in the species habitat requirement throughout the sequence; although the few shade-requiring species are only found below 0.3m. The burrowing snail *Cecilioides acicula* is found in all sub-samples. A marine mussel fragment is present in the 1.0-1.1m subsample.

5.5.5 The overall impression is that these samples come from calcareous downland that has been largely open country throughout the time of deposition of the sediments; the high proportion of *Vallonia excentrica* in the lowest levels suggests that the habitat was short grazed grassland at the time of deposition. There is scant evidence of significant shade at any time.

5.5.6 About 500 shells were present in the <900> set of samples, but here they are more numerous in upper levels, with few shells (<15) in the 1.1-1.2m subsample (Appendix 1: table 15). Catholic (especially T*rochulus* sp.) and open country species each account for about 40% of the total assemblage, but, unlike sample <901>, 20% of the shells were of species that require some shade. *Pomatias elegans* was present in moderate numbers throughout; other shade species (*Aegopinella nitidula and Clausilia bidentata*) are able to live in the base of tall vegetation and do not necessarily require wood or scrub. Over one third of shells are *Vallonia excentrica*; this species is especially abundant in the 0.50-0.60m subsample, but there are very few at 1.1-1.2m and none in the lowest subsample. When this species is so strongly dominant it implies short grazed grassland (Cameron and Morgan-Huws 1975; Evans and Evans 1995), and this is likely to have been the main habitat at least in the upper levels.

5.5.7 Although similar to the assemblage of the adjacent sample <901>, this column contains more shade-requiring shells in every level, suggesting that there has been more abundant vegetation throughout the period of sediment accumulation. Though still with a predominantly open country environment, there is sufficient evidence that there may have been open or closed woodland in the near vicinity. Marine mussel fragments are present in two subsamples.

Ostracods and forams

5.5.8 The sample site of <900> was located 200m south of Tottington Manor Farm. The results of the microfaunal survey are shown in Appendix 1: table 6. The four sub-samples were grabs taken within the interval 0.10m and 1.40mbgl (36.01-35.01m OD) in depth. All four samples contain chalk debris (and microfossils compatible with the Cenomanian). Earthworm granules were extremely plentiful, with slug plates and many molluscs (often fragmentary). Charcoal was found in three samples (natural fire?) and fragments of small mammal teeth in one (though probably unidentifiable). There were no ostracods and as the molluscs all seemed to be terrestrial, this would indicate the lack of standing water or pools.

Pollen

5.5.9 The samples from <900> contained an almost complete absence of pollen (Appendix 1: Table 14). This is perhaps unsurprising given the likely calcareous nature of the sediment; pollen preserves best in acidic and anaerobic conditions.

5.5.10 The samples from <901> contained high numbers of pollen, but in a poor state of preservation (Appendix 1: table 14). Furthermore, the taxa recorded were dominated by dandelion (Lactuceae) and mustard family (Sinapis type) pollen. Since both grains are more resistant to decay and are easily recognisable, the assemblage is considered biased and unreliable for palaeoenvironmental reconstruction. As above, this is unsurprising given the likely calcareous nature of the sediment; pollen preserves best in acidic and anaerobic conditions.

Plant macrofossils and other remains

5.5.11 The majority of plant macrofossils were unidentifiable cereal caryopses, although a charred hazelnut shell fragment (1-1.10mbgl) and a grass (Poaceae) culm node and internode fragment were recorded in sample <900> (1.1-1.20m bgl); and possible barley (cf. *Hordeum* sp.) and grass (Poaceae) were identified from samples <901> 1.0-1.1 and <901> 1.2-1.3, respectively (Appendix 1: tables 16 and 17).

5.5.12 In addition to these remains, small amounts of fire cracked flint, flint chips and charcoal were recorded throughout both profiles. The single flake recorded from <901> is tentatively ascribed a Mid-Late Bronze Age date.

Summary

5.5.13 The deposits infilling this dry valley are likely to represent fairly late colluvial deposition. The samples demonstrated an abundance of terrestrial molluscs as well as small fragments of material suggestive of human activity further upslope. The two sample sites demonstrate differences within the mollusc assemblages with <901> demonstrating an open short-grazed grassland environment with <900> presenting some evidence for a more closed woodland landscape. This demonstrates the upslope landscape may have been grazed with small woodland copses or hedgerow vegetation.

5.5.14 The plant macrofossils suggest human activity with a small amount of charred cereal and charred hazelnut which may be suitable for radiocarbon dating. The small amount of this type of material suggests that the exploitation of the area was confined to grazing rather than arable cultivation. The lack of waterlogging within the dry valleys has meant that only the most robust pollen grains have survived and are therefore unsuitable for palaeoenvironmental reconstruction.

5.5.15 The lack of diagnostic cultural material means that the age of these sequences may only be determined by radiocarbon dating the charred macrofossils. The sample sites are located at the base of Tottington Mount, where a cross dyke was excavated and determining the age of these sequences may provide further information relating to this feature.

5.6.1 Site I (Field 70)

5.6.1 A colluvial sequence 0.80m thick (22.81m-22.80m OD) was recorded overlying the archaeological features in this area and a sequence of bulk samples were recovered <906>. The colluvium comprised a soft dark orange brown clay sand with an increasing clay content with depth. The underlying geology is mapped as the Lower Greensand Group and the sample site lies along the valley side of a tributary stream of the River Adur.

Summary

5.6.2 This sequence was devoid of molluscan remains, <906>, which may represent a true absence of material or that the sediment was not conducive to the preservation of such remains. The residues also recorded very little in terms of other remains, i.e charcoal, flint etc. This is surprising given the presence of archaeological features in the vicinity and may be again due to preservation conditions.

Steyning Road (Field 50)

5.6.3 A colluvial sequence was recovered from a small dry valley at Steyning Road, the base of the deposits was not reached and a 1.40m deep section was recorded and sampled <1206>. The underlying geology was the Seaford Chalk formation which was overlain by Head deposits infilling a narrow dry valley. The valley was infilled with a mid brown sandy clay with frequent chalk (0.70-1.40mbgl) which trended into a darker brown soft silt sand with occasional flint.

Molluscs

5.6.4 Around 2000 individual shells were found in this set of samples, with numbers fairly evenly spread though all subsamples, apart the lowest level (1.3-1.4m) which contained about 100 specimens (Appendix 1: table 15). Catholic (*Trochulus* sp. around 50% of the sample) and open country species are in approximately equal proportions overall, and with very few shade species at any level. As in the Edburton sample <901>*, Vallonia excentrica* is abundant, accounting for about a third of all molluscs, again supporting a short grazed grassland. This assemblage is very similar to that of Sample <901>.

Pollen

5.6.5 The sample from <1206> contained an almost complete absence of pollen (Appendix 1: table 14). This is again unsurprising given the likely calcareous nature of the sediment; pollen preserves best in acidic and anaerobic conditions.

Other remains

5.6.6 The heavy residues from the samples recovered small amounts of cultural material (Appendix 1: table 17). A small fragment of medieval pottery was recovered from the top of the sequence (0.10-0.20mbgl) In addition fire-cracked and worked flint was recovered, comprising a blade and two flakes (0.30-140mbgl), which have been assigned to the later prehistoric period. A single indeterminate cereal grain was also identified.

Summary

5.6.7 This demonstrates another sequence of colluvium infilling a small dry valley along the side of the River Adur. It is likely the deposits date to the later prehistoric through to the historic period. The molluscan assemblage demonstrates an open short-grazed grassland dominating throughout the time period represented. The small finds assemblage provides a tentative chronology for the sequence and suggests low-level human activity further upslope.

5.7 Coombes Road (Field 42) and Cow Valley Bottom (Field 40)

5.7.1 The underlying geology of the sample site was Seaford Chalk which is overlain by a fork of Head deposit (Figure 30). Again the geological mapping is not very precise here but the sample site <1502> is likely to relate to the southern fork of Head deposit. The deposit recorded here was an orange brown sandy silt clay with occasional large flint fragments and occasional small rolled chalk fragments. These fragments of chalk and flint decreased with depth. The base of this dry valley feature undulated and was not investigated to its full depth.

5.7.2 A second dry valley was recorded at Cow Valley Bottom and a sequence of samples was recovered <1501>. The deposit was recorded to a depth of 1.50mbgl and comprised a homogenous orange brown sandy clay with occasional gravel and large sub-angular flint. The base of the valley was not reached and the deposit infilling this feature was fairly coarse-grained compared to other valley sequences described above.

Molluscs

5.7.3 <1502> This set of samples contained about 500 shells, which are predominantly open country species, although catholic shells are strongly represented (Appendix 1: table 15). There are virtually no shade-requiring species at any level. *Vallonia excentrica* again dominates, indicating grazed grassland. There are again large numbers of the catholic species *Trochulus.*

5.7.4 The presence of good numbers of molluscs at higher levels indicates that these sediments are not decalcified, although the lack of shells at the base may be due to decalcification. The environment at this location has been open country throughout, with little in the way of woodland/scrub at any time.

5.7.5 <1501> This sequence represents another shell-rich set of samples with over 1000 shells, although much more abundant in the higher levels, with virtually no shells below 1m depth (Appendix 1: table 15). Open country species are more dominant, accounting for over 75% of shells in each subsample. Shade species are again very infrequent, although there are slightly more than in sample <1502>. As in most other samples, the strong dominance of *Vallonia excentrica* (over 50% of specimens in all subsamples) points to grazed grassland. Single shells of freshwater species (*Galba truncatula* at 0.0-0.1m and *Peringia ulvae* at 0.8-0.9m) are unlikely to represent any freshwater at the sample site, and are more likely to have been deposited by animal or wind action. Marine mussel fragments are present in the upper three subsamples.

Ostracods and Forams

5.7.6 The results of the microfaunal survey for sample <1502> is shown in Appendix 1: table 7. The two sub-samples were grabs from a column between 1.20 and 1.50m deep. Both samples contain iron mineral and rhizoliths. According to Candy (in Ashton *et al*. 2005) rhizoliths may indicate the drying out of the environment and the formation of fully terrestrial conditions as a result of the initiation of a drier climate…. Rhizoliths, along with other calcrete types, are typically used to indicate the existence of a dry climate, either a semi-arid climate or a humid climate with pronounced dry months". ….“As rhizoliths may form over relatively short periods of time, i.e. the lifetime of the root, these features may not represent a long-lived period of land surface stability and soil development but could reflect a relatively short-lived land surface". The iron mineral seems also to relate to this process. Earthworms and molluscs (they are terrestrial) also occur in the lower of the two samples, as does charcoal.

Pollen

5.7.7 The samples from <1501> contained high numbers of pollen, but in a poor state of preservation (Appendix 1: table 14). Furthermore, the taxa recorded were dominated by dandelion (Lactuceae) pollen, which as above is resistant to decay. As such, the assemblage is considered biased and unreliable for palaeoenvironmental reconstruction. As above, this is unsurprising given the likely calcareous nature of the sediment; pollen preserves best in acidic and anaerobic conditions.

Other remains

5.7.8 As well as molluscan remains the residues from <1502> also demonstrated fire-cracked flint, pot crumbs and a flint flake (1-1.10mgbl) which is tentatively dated to the later prehistoric period, possibly Late Bronze Age (Appendix 1: table 17).

5.7.9 A single worked flint flake was recovered from <1501> as well as a small amount of late prehistoric pottery. This sequence also recorded several charred cereal grains.

Summary

5.7.10 The small fragments of cultural material recovered from these deposits indicates that where recorded they are colluvially derived infills of dry valleys. The finds recovered from the bulk samples from both valley sequences demonstrate deposition during the late prehistoric period, Late Bronze to Middle Iron Age.

5.7.11 The molluscan assemblage demonstrates that an open grassland environment persisted throughout the period of deposition. There may have been small copses or hedgerows although these were not a pronounced feature of the landscape. Human activity further uplsope is represented by flint, pot crumbs and charred cereal grains. Again these cereal grains may provide an opportunity to scientifically date the sequences. Further proxy evidence of human activity is the presence of the short grazed grassland environment suggesting management of livestock across the landscape.

5.8 Steep Down Hill (Field 36)

5.7.12 A sequence of colluvium was recorded in the in the north facing section of the easement strip, on the northern side of Steep Down Hill. The underlying geology was Seaford Chalk with a spread of Head deposit at the base of the slope. There is known prehistoric activity at the top of Steep Down Hill and this section was sampled in order to better understand the affect this activity had on the landscape.

5.7.13 The base of the sequence (1.0mbgl, 89m OD) was a light grey brown compact rolled chalk in a silt clay matrix <1803>. This was overlain by a paler brown silt clay with smaller rolled chalk fragments which trended into a loose sandy silt clay with very small rolled chalk fragments (Figure 31).

5.7.14 Further to the south a dry valley sequence was recorded and sampled at two locations, <1800> and <1802> (Figure 32). The deposits infilling the valley were fairly homogenous and coarse grained comprising an orange brown silt clay with frequent flint and chalk fragments.

Molluscs

5.7.15 <1803> Only the upper two of the three sub-samples contained molluscs, and these very few in number, around 25 shells in each. These are mostly open country species, but numbers are too small to draw any firm conclusions about the nature of the environment, although the slight increase in proportion of shade species from 0.1-0.2m does perhaps suggest slightly more rank vegetation or scrub than elsewhere. There were no shells at 0.5-0.6m.

5.7.16 <1802> Only a single shell, *Helicella itala*, was present in the upper of the two samples, and no comments can be made about the habitat. The lack of shells suggests that these sediments are decalcified.

5.7.17 <1800> Only three shells were recorded in the two subsamples, and no comments can be made about the habitat. As above, the lack of shells implies decalcification.

Ostracods and forams

5.7.18 <1803> The results of the microfaunal assessment are shown in Appendix 1: table 8. The three sub-samples were grabs from a column between 0.30 and 1.00m deep. They are all rubbly Chalk with microfossils compatible with the Campanian. Only one sample, the uppermost, seems to have been “colonised” in that it contains many earthworm granules, some slug plates and terrestrial molluscs (including *Pupilla*). The rest of the column, of course, could have been decalcified.

Pollen

5.7.19 The sample from <1802> contained an almost complete absence of pollen (Appendix 1: table 14). This is again unsurprising given the likely calcareous nature of the sediment; pollen preserves best in acidic and anaerobic conditions.

5.7.20 The samples from <1803> contained an absence of pollen in one sample and were dominated by Lactuceae in another (Appendix 1: table 14). As above this is unsurprising given the likely calcareous nature of the sediment; pollen preserves best in acidic and anaerobic conditions.

Other remains

5.7.21 The heavy residues from <1800> and <1802> only contained a small amount of fire-cracked flint and charcoal flecks.

Summary

5.7.22 The sediments recorded in the Steep Down Hill section <1803> demonstrate a colluvial sequence deposited at the base of a very steep hill. The sediment was chalk dominated suggesting that the upper parts of the slope were only periodically vegetated. The low numbers of molluscs is perhaps surprising given the calcareous nature of the sediment but this may be due to the coarse-grained nature of the deposit. The species that were identified were again suggestive of open grassland with hints of more rank vegetation nearby.

5.7.23 The dry valley deposits recorded at sample locations <1800> and <1802> were mostly devoid of indicators of human activity, unlike other dry valley deposits recorded here. The infill of these features was more coarse-grained and the overlying topsoil in the area was extremely thin. The low numbers of molluscan remains may suggest the deposits recorded here represent decalcified Head rather than Holocene colluvium.

5.8 Site S (Field 22)

5.8.1 The sample site <1906> was located on a slope with several pit features which contained pottery dating from the Late Bronze Age. These features were sealed by colluvium 0.35m thick (15.06m OD) which was a mid-brown sandy clay with occasional charcoal flecks and fire-cracked flint. The underlying geology was Tarrant Chalk overlain by Head deposit, which was a coarse flint gravel at the base of the sample section (14.00m OD).

Molluscs

5.8.2 A single shell only in the sample, so no comment can be made concerning the environment.

Summary

5.8.3 The sample site was located at the base of a slope and demonstrated a thin layer of colluvium which was derived from reworked Head deposits further upslope. The colluvium contained fire-cracked flint and flecks of charcoal which again are likely to be reworked from the nearby archaeological deposits which date to the Late Bronze Age into the Iron Age. This activity is likely to have removed vegetation from the landsurface of the slope and destabilised the underlying soils leading to colluvial deposition downslope.

5.8.4 The molluscan assemblage was negligible and does not contribute to the understanding of the site.

5.9 Site T (Fields 16-17)

5.9.1 This is the most southerly part of the site and the underlying geology was the Tarrant Chalk overlain by Alluvium (Figure 33). The fieldwork demonstrated that the area was not alluviated but instead a thin covering of Head deposit. At the sample site this was overlain by a thin organic silt clay which was interpreted as the remains of a shallow pond. The deposits underlying this pond were characterised by a light grey sandy silt with frequent subangular flint gravel.

Ostracods and forams

5.9.2 The results of the microfaunal survey of sample <2102> are shown in Appendix 1: table 9. The two sub-samples were grabs from a column between 0.80 and 1.05m deep. Both samples contained chalk debris (with planktonic foraminifera compatible with the Campanian) and flint shards. They also contain small rhizoliths - - tubes (externally with sand/silt grains, internally with impressions of stems and rootlets). As indicated above (under <1502>; see section 5.7.6) they indicate the drying out of the environment and the formation of fully terrestrial conditions either as a result of the initiation of a drier climate or because of sediment infilling/lateral migrations of the channel system. Rhizoliths, along with other calcrete types, are typically used to indicate the existence of a dry climate, either a semi-arid climate or a humid climate with pronounced dry months. In the lower samples, there is a small mammal tooth which may be identifiable.

Pollen

5.9.3 The results of the assessment indicate a very high concentration and preservation of pollen throughout the infill of the late stream feature (Appendix 1: table 14). During its infill, the surrounding environment was almost dominated by herbaceous taxa: grasses and dandelions dominated with sedges, daisies (Asteraceae), mugwort, ribwort plantain, cinquefoil, buttercup/water crowsfoot, cereals, dock / sorrel and thistle. Trees and shrubs were limited together with aquatic and spore taxa.

Summary

5.9.4 The sequences recorded here demonstrate the differences between the geological mapping and the results of the fieldwork. This area is not deeply alluviated and only a thin deposit of organic material was recorded in the area mapped as a stream. This is more likely to be a shallow pond feature. The pollen assemblage characterised the surrounding area as grassland with sedges and water crowsfoot growing within the pond.

5.9.5 This pond overlies a Head deposit which was devoid of microfossil remains and is therefore of limited palaeoenvironmental potential. The Head deposit varied between coarse gravels and fine grained silt clay. The post-depositional weathering demonstrated by the presence of rhizoliths (mineralised root channels) is likely to have had a detrimental effect on the preservation of environmental proxies.

5.10 Wessex Archaeology Borehole and Test Pit Survey

5.10.1 In total six test pits, between Sites I and J (Truleigh sands and Tottington Mount) and 8 boreholes across the Adur floodplain were undertaken in 2016 by Wessex Archaeology. The test pits revealed a lack of thick colluvial deposits and all test pits recorded a thin layer of topsoil overlying solid chalk.

5.10.2 The boreholes undertaken on the floodplain had mixed success and only one reached the underlying sands and gravels (BH05). The boreholes demonstrated up to 3m of tidal/estuarine alluvium overlying impenetrable running sands. There was an absence of *in situ* peat deposits and the underlying, possibly Pleistocene, sands and gravels were encountered at 8.70mbgl (-7.12m OD). It was not possible to recover samples and no further work was carried out on the material recorded.

6.0 FINDS AND ENVIRONMENTAL ASSESSMENTS

6.1 Summary

6.1.1 A moderately large assemblage of finds was recovered during the mitigation and monitoring work for the Rampion Offshore Wind Farm, onshore cable route. All finds were washed and dried or air dried as appropriate. They were subsequently quantified by count and weight and were bagged by material and context. Hand collected bulk finds are quantified in Appendix 3. Material recovered from the residues of environmental samples is separately quantified in Appendices 4 and 5. All finds have been packed and stored following CIfA guidelines (CIfA 2014b).

6.2 **The Flintwork** by Karine Le Hégarat

Introduction

6.2.1 A total of 424 pieces of struck flint weighing 5019g were recovered from 12 areas along the Rampion onshore cable route. A small assemblage of burnt unworked flint weighing 7361g was also found. The flintwork was hand collected during several excavations, and it was subsequently retrieved from bulk soil samples and from geoarchaeological samples. The evaluation produced only one piece of struck flint (Wessex Archaeology 2014, 17); a flake broadly dated to the Neolithic/Bronze Age period. This piece wasn't re-examined for the assessment. No diagnostic pieces were recovered. In fact, retouched forms and large well-stratified groups were uncommon. The morphological and technological traits of the worked flint suggest that the pieces represent a multi-period assemblage, although the late prehistoric period (Middle Neolithic to Late Bronze Age/Early Iron Age) is best represented. This report characterises the nature of the flint assemblage and assesses its potential for further detailed analysis.

Methodology

6.2.2 The pieces of struck flint were individually examined and classified using standard set of codes and morphological descriptions (Butler 2005; Ford 1987; Inizan *et al.* 1999). Basic technological details as well as further information regarding the condition of the artefacts (evidence of burning or breakage, degree of cortication and degree of edge damage) were recorded. Dating was attempted when possible. The assemblage was catalogued directly onto a Microsoft Excel spreadsheet. The burnt unworked flint was quantified but not examined in detail.

Provenance

6.2.3 The pieces of struck flint came from 11 of the 23 areas present along the scheme. Seven of these areas produced small numbers of flints (12 or less pieces), but Sites F, I, J and S produced 38, 44, 141 and 167 pieces each respectively (Table 3). While very few worked flints came from Late Neolithic/Early Bronze Age (Phase 1.1) features and deposits (17 pieces), Late Bronze Age (Phase 1.2) features and deposits produced 125 pieces (Table 4). The remaining pieces came from Middle/Late Iron Age and later contexts (33 pieces), topsoil / subsoil deposits (81pieces), unstratified deposits

(5 pieces), undated colluvium (62 pieces) and further undated features and deposits (101 pieces).

Areas	Flakes*	Blades, Blade-like flakes, Bladelets	Chips	Irregular waste	Cores, Core fragments	Retouched forms	Total	%	Unworked burnt flint (weight in g.)
Site A	2	1	-	-	-	-	3	0.7%	-
Site D	-	-	-	-	-	-	0	0.0%	72
Site E	5	-	-	-	-	-	5	1.2%	44
Site F	24	9	-	-	3	2	38	9.0%	39
Site H	2	1	-	-	-	-	3	0.7%	-
Site I	22	2	15	3	-	2	44	10.4%	310
Site J	120	8	-	3	7	3	141	33.3%	93
Site L	5	1	6	-	-	-	12	2.8%	80
Site O	2	-	4	-	-	-	6	1.4%	89
Site R	2	1	-	-	-	1	4	0.9%	127
Site S	151	9	1	3	-	3	167	39.4%	6245
Site U	-	1	-	-	-	-	1	0.2%	262
Total	335	33	26	9	10	11	424	100.0%	7361
%	79.0%	7.8%	6.1%	2.1%	2.4%	2.6%	100.0%		

Table 3: Summary of the struck flint and burnt unworked flint by area (*: includes rejuvenation tablet and thinning flakes)

6.2.4 The flints from phases 1.1 (Late Neolithic/Early Bronze Age) and 1.2 (Late Bronze Age) features and deposits were thinly distributed. The exception is possible trackway G102 (context [19135]) that produced 77 pieces of flint. This assemblage is fairly coherent (and in a relatively good condition for a trackway). Amongst the 101 pieces from undated features/deposits, 81 came from the Site J cross dyke (G59, 65 pieces; G60, 13 pieces; G61, 1 piece; G62, 1 piece and G63 1 piece). The flintwork from the cross dyke is inconsistent, mostly in a poor condition and representing different periods.

6.2.5 The burnt unworked flint fragments came from 10 of the 23 areas. The sites produced small quantities of burnt flint with no more than 310g recovered from any individual area. The exception is Site S that produced 6245g of burnt flint fragments (Table 3). Site S is also the area that produced the largest quantity of worked flint.

Category type	**Phase 1.1 Late Neolithic – Early Bronze Age**	**Phase 1.2 Late Bronze Age**	**Phase 2.1 Middle / Late Iron Age or later**	**Remaining assemblage (Topsoil / Subsoil, Colluvium, unstratified, and undated**	**Total**	**%**
Flake*	13	113	24	185	335	79.0%
Blades, Bladelets, Blade-like flakes	2	6	5	20	33	7.8%
Chips	1	-	-	25	26	6.1%
Irregular waste	-	3	2	4	9	2.1%
Cores, Core fragments	-	-	1	9	10	2.4%
Retouched forms	1	3	1	6	11	2.6%
Total	17	125	33	249	424	100.0 %
%	4.0 %	29.5 %	7.8 %	58.7%	100.0 %	
Unworked burnt flint (weight in g.)	369	5370	573	1049	7361	

Table 4: Summary of the struck flint and burnt unworked flint by provisional phase (*: includes rejuvenation tablet and thinning flakes)

Raw material and condition

6.2.6 The raw material selected to produce the lithics is characterised by a light to dark grey or light to mid brown flint. Where present, the cortex is stained and mostly thin (<2mm) but up to 6mm thick. For the most part, the material represents chalk-derived flint, and it would have been available from surface deposits along most of the scheme. Pieces with a greyish, either smooth-worn or slightly pitted cortex were also present (for instance in the assemblage from colluvium [19021], Site S). This raw material could have been acquired from local gravel sources.

6.2.7 The condition of the flints was variable. Unsurprisingly the pieces retrieved from the topsoil/subsoil and from colluvial deposits displayed evidence of moderate to severe edge abrasion from surface rolling and successive re-depositions. Saying that the material from subsoil context [6000] (Site F) displayed minimal signs of weathering. Overall the flints from phases 1.1 and 1.2 exhibited slight edge damage suggesting that the material from these features/deposits has undergone minimum post depositional disturbance. Most of the material from Middle/Late Iron Age and later contexts exhibited slight to moderate edge damage, indicating that it may not have been exposed for long periods prior to burial. In total, 48.5% of the total assemblage (n=206) was re-corticated to varying degrees. While some pieces display incipient traces of light blue surface discoloration, a large proportion were entirely recorticated to a heavy light grey / white colour. Pieces with high level of cortication came principally from Site J (more especially from the cross dyke and from the topsoil/subsoil). This may be due to the chalky nature of this area. Three pieces were burnt, and 205 pieces were recorded as broken.

Neolithic – Early Bronze Age (Phase 1.1)

6.2.8 A total of 17 pieces of struck flint were recovered from a pit (context [19133]) and a layer (context [18012]) dated to phase 1.1. The lower fill [19132] of refuse pit [19133] in Site S produced 12 flakes (one of which was burnt), a blade-like flake and a chip. Colluvium [18012] in Site R produced a flake, a blade-like flake and a retouched flake. The flintwork from the colluvial deposit was in a poor condition suggesting successive re-depositions. The retouched flake, although broken, displays partial but relatively fine retouch. It is likely to pre-date the Middle Bronze Age. The other two pieces aren't particularly diagnostic. Based on technological traits most of the débitage from pit [19133] could be contemporary with the feature and the Beaker/Grooved Ware pottery. But the blade-like flake exhibits parallel ridges and narrow blade scars on the dorsal face suggesting that it may be earlier, and therefore redeposited.

Late Bronze Age (Phase 1.2)

6.2.9 In total, 125 pieces were recovered from features and deposits currently dated to the Late Bronze Age, in Sites I (1 piece), E (5 pieces) and S (119 pieces). In Site S, the worked flints were recovered from a treehole G100 (1 piece), the surface G99 (5 pieces), a series of postholes and pits G101 (36 pieces) and a possible trackway G102 (77pieces). Overall these features and the deposit produced low numbers of flints each, the exception being possible trackway G102. Apart from three retouched pieces, the flintwork is made up entirely of unmodified pieces of débitage. Overall, irregular crude hard hammer struck flakes dominate. They are likely to be contemporary with the features/deposits. However, the material from possible trackway G102 stands apart. The feature produced 57 flakes, 13 thinning flakes, four blade-like flakes, one piece of irregular waste, an end scraper and a retouched flake. Again, flakes dominate, but they are carefully worked; mostly thin, with evidence of platform preparation. No core was found, but it seems that flakes from the same nodule were present. Based on morphological and technological traits, the flintwork from G102 is likely to be Middle Neolithic to Early Bronze Age in date. The flints are in a relatively good condition, suggesting knapping activity and tool manufacture. They are likely to represent residual material – just present on the route of the trackway/ditch, or inadvertently caught up in the feature.

The remaining assemblage (Phase 2.1, Topsoil/Subsoil, Colluvium, unstratified, and other undated features and deposits)

6.2.10 Mesolithic or Early Neolithic lithics were uncommon. Topsoil context [10000] in Site J produced a bipolar blade core (RF <1001>). The core (62g) is entirely recorticated white, and it displays some signs of weathering. Subsoil context [6000], in Site F, produced a small group of flints (16 pieces) that display characteristic of blade-orientated industry. The small assemblage comprises seven flakes, four blades, three blade-like flakes, a bipolar core (121g) and a fragmentary core (37g). The cores have been used to remove narrow blades. Evidence of carefully prepared striking platforms and evidence of thin blade/flake scars were noted. Most of the pieces were made from a very dark grey (to almost black) fine-grained flint. The pieces display slight to moderate post depositional edge damage, indicating that they have been subject to minimum post depositional disturbance. The small group may comprise a few pieces that are slightly later, but overall it provides limited evidence for Mesolithic or Early Neolithic activity around Site F. Otherwise early material such as true blades or diagnostic pieces (microliths, micro-burins, tranchet axes…) were absent from the scheme.

6.2.11 The bulk of the “remaining assemblage” consists of unretouched removals. This group comprises a large quantity of flakes. They represent 87.08% of the débitage (excluding chips), and this proportion indicates a late prehistoric (Middle Neolithic to Late Bronze Age/Early Iron Age) date. Some of the flakes are crudely worked, irregular and relatively thick. They often display traits indicative of an expedient flake orientated industry of the Middle/Late Bronze – Early Iron Age. But other flakes appear to be the product of a more systematic careful reduction strategy. These flakes are likely to be earlier (Middle Neolithic to Middle Bronze Age).

6.2.12 The problem faced with the assemblage overall, is that the material appears to be chronologically mixed. A good example are the flints (81 pieces) recovered from the interventions through the cross dyke (G59, 65 pieces; G60, 13 pieces; G61, 1 piece; G62, 1 piece and G63 1 piece). The assemblage comprises 67 flakes, four blades, two blade-like flakes, a rejuvenation flake, six cores (one multi-platform flake core, two single platform flake cores and three fragmentary cores), and a retouched flake. All the pieces are entirely recorticated milky blue or white. None are fresh, but instead display moderate to heavy edge damage, that suggests some post depositional movements. Again, this assemblage lacks in diagnostic pieces, and is largely made up of flake based waste. While some flakes display wide unprepared striking platform likely to represent later prehistoric (Middle Bronze Age to Early Iron Age) other display thin platform with some preparation and thin flake scars on the dorsal surface likely to be earlier (Middle Neolithic to Early Bronze Age). The thick rejuvenation flake tablet from [10013], <1026> certainly provides evidence for systematic reduction strategy. The morphology, technology and condition of the flints, the assemblage from the ditches appear to be chronologically mixed (with a broad Middle Neolithic to Late Bronze Age / Early Iron Age).

6.2.13 The flintwork from the currently undated colluvial deposits [12023] (Site L), [15006] and [15007] (Site O), [19021] (Site S) and [9001] (Site I) is also dominated by unretouched flake based removals. Unfortunately, the geological samples extracted from contexts [12023], [15006], [15007], and [9001] (<1206>, <1501>, <102> and <901> respectively) produced only chips and very small flakes (most of which are simply undiagnostic). Colluvial deposit [19021] produced a larger assemblage (29 pieces) including 26 flakes, a blade, a blade-like flake and a thinning flake. It represents a mixed assemblage dating from the Middle Neolithic to the Late Bronze Age/Early Iron Age. Gravel-derived flint were noted amongst the assemblage from [19021].

6.3 **The Prehistoric and Roman Pottery** by Anna Doherty

Introduction

6.3.1 Overall, a moderate-sized assemblage of prehistoric and Roman pottery was recovered from the Rampion mitigation work, amounting to 908 sherds, weighing 5.74kg, from an estimated 386 vessels. As shown in Table 5, however, this material comes from a range of different periods and from nine separate site areas, meaning that no individual site or period produced more than a few hundred sherds. The more notable aspects of the assemblage include: a small assemblage of Grooved Ware/Beaker from Site S; later Bronze Age assemblages of a few hundred sherds Sites E and S (including at least one truncated vessel which appeared to have been placed intact); small groups of Late Iron Age/earlier Roman pottery from Sites A and F; and a late Roman group from Site I.

Site Area	**A**	**D**	**E**	**F**	**I**	**J**	**O**	**S**	**U**	**Total**
Period										
1.1 Late Neolithic/Early Bronze Age								13		13
1.2 Late Bronze Age			107		15			145		267
2.1 Middle/Late Iron Age					45					45
2.2 Late Iron Age/early Roman	296			9	35					340
3.1 Early/Mid Roman				109	2				2	113
3.2 Late Roman				2	77					79
Unstratified, unphased or residual in later deposits		5	15	1	5	1	4	20		51
Total	296	5	122	130	179	1	4	178	2	908

Table 5: Quantification of prehistoric and Roman pottery by sherd count, broken down by period and site

Methodology

6.3.2 The pottery was examined using a x20 binocular microscope. Prehistoric fabrics were recorded according to site-specific fabric codes, formulated in accordance with the guidelines of the Prehistoric Ceramics Research Group (PCRG 2010). In the absence of a regional pottery types-series for Sussex, Roman fabrics were recorded using an adapted version of the Southwark/London typology (Marsh and Tyers 1978) with some additional codes for local types which will be published in a forthcoming summary of Roman pottery from the West Sussex coastal plain (Doherty in prep a). The pottery was recorded by sherd count, weight, estimated vessel number (ENV) and, for the Late Iron Age/Roman pottery, by estimated vessel equivalent (EVE), on pro-forma sheets and an Excel spreadsheet.

Fabric descriptions

ARG1 Moderate, moderately sorted inclusions of soft yellowish orange argillaceous rock (c.0.5-3mm) which is often leached, especially on surfaces

ARG2 Moderate, moderately/well-sorted inclusions of soft yellowish orange argillaceous rock (c.0.5-2mm) which is often leached, especially on surfaces

GLAU1 Moderate to common glauconite of 0.2-0.3mm

GLFL1 Moderate glauconite of 0.2-0.3mm and rare/sparse flint of 1-2mm

GLQF1 Moderate glauconite of 0.2-0.3mm; sparse/moderate quartz of 0.3-0.6mm; rare calcined flint of <1mm

GLQF2 Moderate glauconite of 0.2-0.3mm; sparse/moderate quartz of 0.3-0.6mm; sparse calcined flint of up to 3mm

GRFL1 Moderate grog of 1-2mm and rare/sparse flint of 1mm in a silty matrix

FLGR1 Moderate ill-sorted flint of 0.5-4mm and sparse rounded grog of 1-2mm which is often quite difficult to distinguish from the surrounding clay matrix

FLGR2 Sparse ill-sorted flint mostly between 2-4mm (with examples ranging from 0.5-5mm) and sparse rounded grog of 1-3mm which is often quite difficult to distinguish from the surrounding clay matrix

FLIN1 Moderate to common moderately sorted flint of 0.5-3mm in a silty matrix

FLIN2 Sparse/moderate flint of 0.5-2mm in a silty matrix

FLIN3 Moderate, fine well-sorted flint of 0.5-1mm in a silty matrix

FLIN4 Sparse ill-sorted flint mostly between 2-4mm (with examples ranging from 0.5-5mm) in a dense fairly quartz-free matrix

FLIN5 Common flint mostly between 3-5mm (with examples ranging from 0.5-8mm) in a dense fairly quartz-free matrix

FLIN6 Common /abundant well-sorted flint of 1-3mm in a silty matrix

FLIN7 Common/abundant well-sorted flint of 1-2mm in a silty matrix

FLIN8 Moderate/common ill-sorted flint of 3-8mm with more examples at the coarser end of this range than fabric FLIN5

QUAR1 Moderate quartz mostly of 0.1-0.8mm with rare examples up to 2mm

Period 1.1

6.3.3 Site S produced a total of 17 sherds, weighing 119g, from an estimated nine vessels of Beaker/Grooved Ware. Of these, 13 sherds, from five estimated vessels were recovered from pit [19133] (G77). A further four large, unabraded sherds were collected as unstratified material from this area of the site.

6.3.4 All of the sherds are in a similar fabric (GRFL1) containing grog and rare/sparse flint. This small assemblage appears to contain elements of both Late Neolithic Grooved Ware (*c.*2900-2100 BC) and Late Neolithic/Early Bronze Age Beaker (*c.*2500-1700BC), likely indicating a later 3rd millennium date overall. The most diagnostic Grooved Ware elements are both unstratified sherds from tub-shaped or neutral vessels. One of the vessels is decorated with grooved horizontal lines and lattices and the other with repeated coarse finger impressions blow the rim. Amongst the stratified material, in primary fill [19132], of pit [19133], some other fragmentary undecorated rim sherds appear to be from a plain profile vessel; more typical of Grooved Ware than Beaker.

6.3.5 Horizontal comb-stabbed decoration, a diagnostic Beaker trait, was noted on one sherd from fill [19132] and on two of the unstratified sherds. All of the other material was undiagnostic, comprising undecorated sherds and a single bodysherd with fingernail impressions, which could occur on Grooved Ware or Beaker.

6.3.6 In addition to this material, a possible residual Beaker sherd was recovered in an evaluation trench (Trench 1410) in the area of Site A (Wessex Archaeology 2014). This has not been re-examined as part of the current assessment.

Period 1.2

Distribution

6.3.7 Small assemblages of later Bronze Age pottery were noted on three sites: E, I and S (quantified by fabric in Table 6). On Site E all of the pottery derived from two linear features [5005] (G74) and [5007] (G75); on Site I, it was also confined to two features, pit [9022] (G95) and ditch [9188] (G96); on Site S, it was slightly more widely distributed in different features although these mostly fell into two groups of pits/postholes (G100 and G101).

Fabric	Sherds	Weight (g)	ENV
ARG1	1	32	1
FLGR1	8	130	2
FLGR2	9	61	2
FLIN1	131	895	23
FLIN2	40	86	18
FLIN3	7	17	5
FLIN4	30	199	13
FLIN5	19	253	10
FLIN6	10	18	1
FLIN7	2	41	2
FLIN8	10	303	1
Total	**267**	**2035**	**78**

Table 6: Quantification of Period 1.2 (later Bronze Age) pottery fabrics from Sites E, I and S

Fabrics

6.3.8 Almost all of this material appeared to belong to the plain ware phase of Late Bronze Age Post Deverel-Rimbury (PDR) tradition (c.1150-800BC); however, a few elements on all three Sites were possibly slightly earlier, belonging to the Middle Bronze Age Deverel-Rimbury (DR) tradition or representing or transitional DR/PDR vessels.

6.3.9 There are some slight variations between the assemblages, particularly in terms of fabrics, reflecting the different topographic/geological zones which the sites occupy. On Site E, for example, the small assemblage included a few examples of fabrics containing both flint and grog (FLGR1, FLGR2). Wares of this type are quite typical of the Late Bronze Age in Wealden assemblages though grog-tempering tends to be confined to the Early Bronze Age in other area of the South-East. Some fragmentary sherds from evaluation Trench

1011, in the area of Site I, were tentatively identified as Early Bronze Age Collared Urn on the basis of the grog-tempered fabric (Wessex Archaeology 2014); though it now seems possible that they are contemporary with the Late Bronze Age assemblage.

6.3.10 More generally, the assemblages from all three sites were characterised by flint-tempered wares. Very coarse flint-tempered fabrics (FLIN5 and FLIN8), predominantly associated with thicker walled vessels, which are quite characteristic of the DR tradition, were noted at all three sites and this may indicate some activity in the Middle Bronze Age though for the most part, these were individual bodysherds directly associated with probable Late Bronze Age PDR material. In one pit recorded on Site S, [19124] (G100), a large part of a probable DR urn was noted in fabric FLIN8 and it is more likely that vessel is *in situ.*

6.3.11 The most common fabrics in the Late Bronze Age assemblage are moderately coarse flint-tempered wares with inclusions generally ranging up to 2-4mm in size (FLIN1, FLIN2 and FLIN4) with a much smaller component of finer wares (FLIN3). This range of fabrics is very typical of PDR assemblages throughout the South-East. A few sherds are in fabrics which are less characteristic of this period and which may be intrusive Iron Age wares: abundantly and very well-sorted flint-tempered wares (FLIN6, FLIN7), found with surface material on Site S and in ditch [9188] (G96) on Site I and an argillaceous rock-tempered ware (ARG1) found in ditch [5007] (G75) on Site E.

Forms and depositional evidence

6.3.12 On Site S, partially-complete portions of two different vessels were found in two separate pits, located some distance apart: [19124] and [19128] (G100). The former contained part of an undecorated Middle Bronze Age (c.1500-1150 BC) Deverel-Rimbury urn of neutral profile and the latter a somewhat thinner-walled hook rim jar, typical of the undeveloped plain ware phase of the post-Deverel-Rimbury tradition (c.1150-950BC). The vessel from [19128] appeared to have been placed upright and intact, with most of the upper part truncated away whereas the potentially earlier vessel from [19124] mostly comprised sherds of the upper body and was more likely broken prior to deposition. Both vessels were found in contexts which lacked any other pottery, suggesting that they are likely to have been deposited individually rather than deriving from mixed midden material. By contrast, most of the other Late Bronze Age material deposited on Sites E, I and S comprised much smaller groups of fragmented mixed sherds.

6.3.13 Few other rimsherds were recovered and those that are present seem broadly in keeping with the PDR plain ware tradition. These include other examples of hook rim jars and jars with bipartite profiles and/or weakly defined necks from Sites E and S. The only diagnostic sherd from Site I was a partial rim; it was one of those associated with a possible intrusive Iron Age fabric (FLIN7). Its bead rim profile is not conclusively diagnostic of date but again, may be suggestive of a Middle/Late Iron Age vessel.

Period 2.1

6.3.14 The Middle/Late Iron Age pottery was entirely recovered from Site I. It was a small and heavily fragmented assemblage of just 45 sherds, recovered from sixteen different features or deposits.

6.3.15 A broad range of fabrics was recovered (Table 7). A small number of moderately coarse flint-tempered wares were noted (FLIN1 and FLIN4) and it possible that these may represent residual later Bronze Age wares. Flint-tempering does survive into the later Iron Age in this area although finer better sorted wares, such as FLIN6 and FLIN7, are more typical of this period. A large portion of the assemblage was made up by finer flint-tempered wares containing glauconite inclusions (GLFL1, GLQF1, GLQF2) and by non-flint-tempered glaucontic fabrics (GLAU1), reflecting the site's proximity to Gault/Greensand geology. Argillaceous rock-tempered wares (ARG2) of probable Wealden origin were also noted as were hand-made sandy wares, lacking coarse inclusions (QUAR1). Only two small rimsherds were associated with this material: a jar with a slightly beaded rim in ditch [9036] (G57) and another jar form with simple, necked profile in pit [9016] (G53).

6.3.16 In general, the material assigned to Period 2.1 was suggestive of Middle Iron Age dating; however, in three cases, pits [9028] and [9030] and deposit [9157], probable Middle Iron Age fabrics, of the types described above, were associated with individual grog-tempered sherds (GROG1). This perhaps indicates deposition in the transitional Middle/Late Iron Age period (c. earlier 1^{st} century BC).

Fabric	**Sherds**	**Weight (g)**	**ENV**
ARG2	10	19	7
FLIN1	1	4	1
FLIN4	1	16	1
FLIN6	2	37	1
FLIN7	1	14	1
GLAU1	5	20	4
GLFL1	12	40	9
GLQF1	5	24	4
GLQF2	1	14	1
GROG1	3	11	3
QUAR1	4	15	3
Total	45	214	35

Table 7: Quantification of Period 2.1 (Middle/Late Iron Age) pottery fabrics from Site I

Period 2.2

6.3.17 On Site I, a single feature, ditch G55, contained a small group of flint-tempered and glauconitic sherds, similar to the material from the preceding period (2.1), including a diagnostic hand-made, plain profile ovoid jar. These were stratified together with two sherds from a wheel-thrown base in a typical early Roman Arun Valley black-surfaced sandy fabric. It is unclear whether this material genuinely represents a contemporary very early Roman group or simply a

Roman feature containing a moderate quantity of residual material of substantially earlier date.

6.3.18 On Site F, later Iron Age/early Roman sherds, in fabrics FLIN2 and GLFL1, from deposits and pit fills [6009], [6012], [6083] and [6130], appear to be of earlier character than the predominantly Roman assemblage from the rest of the site.

6.3.19 The remainder of material assigned to this period came from Site A. The 296 sherds, weighing 903g, came from 133 estimated vessels. It was recovered from a number of different features though the majority of the assemblage came from ditch G1 and especially from its terminus, [1019]. All of the sherds are in similar grog-tempered fabrics, typical of the Wealden or "East Sussex ware" tradition. Although quite a number of different diagnostic rimsherds are present in the assemblage, they are all of very similar type, comprising simple necked jar forms. In total these amount to 19 ENV and 1.01 EVE. The jars varied in diameter and one small, thin-walled example might be described as a beaker/jar. Decoration was mostly absent though one example from ditch [1019] (G1) featured a burnished arc or "eyebrow": another typical feature the "East Sussex ware" tradition.

6.3.20 Assemblages from Mid Sussex dating to the earlier part of the Late Iron Age usually retain at least a few examples of earlier tempered fabrics and the associated forms also tend to be more highly decorated (e.g. Doherty in prep b). Conversely, although fully Roman sandy wheel-thrown fabrics took longer to appear in the Weald than in other regions, we would probably expect to see at least a small component of such fabrics, if the assemblage was of late 1st century AD date. Overall then, although the assemblage generally lacks elements that are individually closely datable, it can probably be assigned to the decades around the mid 1st century AD, when looked at as a whole.

Period 3.1

6.3.21 A few isolated sherds in typically 1st-2nd century Arun Valley wares were noted on Sites I and U but material from this period comes predominantly from a single feature, ditch G35, on Site F. This group is perhaps only a few decades later in date than the Period 2.2 assemblage from Site A, and probably belongs to the later 1st century AD. It still contains a fairly high proportion of grog-tempered wares alongside fine and coarse wares from the Arun Valley industry (Table 8). As on site A, the range of forms was narrow and mostly limited to simple undecorated necked jars. Two examples of lids were recorded amongst the Arun Valley black surfaced wares.

Fabric	Description	Sherds	Weight (g)	ENV	EVE
AVBF	Arun Valley black-surfaced fine ware	6	25	5	
AVBW	Arun Valley black-surfaced coarse ware	21	162	11	0.25
AVGF	Arun Valley fine grey ware	2	18	1	
AVGW	Arun Valley coarse grey ware	18	334	3	0.15
GROG	Grog-tempered ware	62	386	14	0.29
Total		109	925	34	0.69

Table 8: Quantification of Period 3.1 (earlier Roman) pottery fabrics from Site F

Period 3.2

6.3.22 One very highly-fired grey ware bodysherd from Site F was suspected to be of late Roman date; however, the rest of the Period 3.2 assemblage came from a single curvilinear gully (G58) on Site I. The assemblage is predominantly made up by Rowland's Castle ware, including some dark-surfaced variants imitating BB1 (Table 9). Most other sherds were unsourced grey or oxidised wares, some of which are not dissimilar to Arun Valley fabrics, though this industry is understood to have declined in the later Roman period. There are also some late Roman grog-tempered wares and individual sherds in New Forest colour-coated ware, Baetican amphora and BB2.

6.3.23 The forms represented are typical of the late 3rd to 4th century including a number of bead and flange bowls, a New Forest bag-shaped beaker (Fulford 1975, type 44.1), a black-burnished style everted rim jar and Rowland's Castle everted rim from (Dicks 2009, type D2). Overall, this material can be assigned to a date range of c. AD270-350.

Fabric	**Description**	**Sherds**	**Weight (g)**	**ENV**	**EVE**
BAET	Baetican amphora fabric	1	44	1	
BB2	Black-burnished ware 2	1	10	1	
GROG	Grog-tempered ware	10	94	7	0.08
NFCC	New Forest colour-coated ware	1	2	1	0
OXID	Unsourced coarse oxidised ware	3	3	2	
RWCBB	Rowlands Castel ware, black burnished style fabric	15	68	8	0
RWCG	Rowlands Castle grey ware	25	331	17	0.05
SAND	Unsourced coarse grey ware	21	135	11	0.05
Total		77	687	48	0.18

Table 9: Quantification of Period 3.2 (late Roman) pottery fabrics from Site I

Poorly stratified/unphased material

6.3.24 A small quantity of prehistoric and Roman pottery was considered to be residual, unstratified or has not presently been assigned to a phase (see Table 5). On Sites E, I and S these were all bodysherds in similar to fabrics to those recorded in better stratified deposits nearby.

6.3.25 Although the stratified features on Site D appeared to relate entirely to the medieval period, a few residual later Iron Age and Roman sherds were noted and two sherds of later Iron Age pottery (fabric GLFL1) were found in an isolated and currently unphased feature, post-hole [4066] (G118).

6.2.26 On Site J, currently unphased ditch [10009] (G59) contained a single sherd from a Late Iron Age/early Roman grog-tempered jar. On Site O, very fragmentary flint-tempered sherds of uncertain later prehistoric date were noted in currently unphased colluvium [15006] and fill of ditch [15004] (G163).

6.4 The Post-Roman Pottery by Luke Barber

Introduction

6.4.1 The archaeological work recovered 1395 sherds of post-Roman pottery, weighing 10,829g, from 63 individually numbered contexts. An estimated 272 different vessels are represented. These totals include 41 sherds, weighing 109g from one of five environmental residues. Quantities of post-Roman pottery along the easement route were generally quite low though Site D notably produced the majority (Table 10).

Site Area	No of sherds	Weight	Periods present
A	1	4g	HM
B	92	288g	SN
D	1250	8723g	AS, SN, HM
E	7	36g	HM
F	10	138g	SN, LPM
I	4	52g	AS, LPM
L	4	6g	SN
M	6	46g	SN
R	1	38g	LPM
S	18	74g	AS
U	1	2g	LPM
Unspecified	1	1422g	LPM

Table 10: Post-Roman pottery by area (AS – Anglo-Saxon, SN – Saxo-Norman, HM – High Medieval, LPM – Late Post-medieval – see Table 11 for allocated date ranges)

6.4.2 The assemblage shows a wide chronological spread but quantities by period vary considerably (Table 11). Saxo-Norman and High Medieval wares dominate overall with negligible quantities of other periods being present. There is a marked complete absence of Late Medieval and Early post-medieval pottery suggesting little/no activity within the vicinity of the easement at this time.

Period	No /weight	Average sherd size	No. of different fabric groups
Anglo-Saxon C5th – mid C11th	24/113g (ENV 5)	4.7g	3
Saxo-Norman C11th-early/mid C13th	354/1976g (ENV 147)	5.6g	12
High Medieval Early/mid C13th – mid C14th	1004/7112g (ENV 114)	7.1g	2
Late post-medieval Mid/late C18th – mid C20th	13/1626g (ENV 6)	125.1g	4

Table 11: Characterisation of Post-Roman pottery assemblage by period. NB. Totals include all residual/intrusive and unstratified material.

6.4.3 The overall assemblage is of variable condition with a great range of sherd sizes. However, the general trend is toward small sherds (ie up to 30mm across) and overall the average sherd size by period is not large (Table 11).

The large average sherd size of the late post-medieval period is due to the presence of a complete stoneware foot warmer that weighs 1422g. Although some of the pottery is in quite fresh condition, particularly that from the southern, less acidic, section of the easement, the majority shows both adverse affects of an acidic subsoil and some abrasion from reworking.

6.4.4 Following initial spot dating, the assemblage has been fully quantified (number of sherds/weight/estimated number of vessels) by fabric on pro forma for archive with notes on decoration and rim type being made. The fabric series established at the Bolnore site near Haywards Heath was used for the current assemblage (Barber 2013). This was due to the majority of sherds deriving from Site D - a similar area to Bolnore. Fabrics have been tied into the Sussex fabric series, but the current site produced three fabrics not noted at Bolnore and the correlation of these with the county series has yet to be undertaken. The results of this recording work have been input onto an excel database as part of the digital archive.

Anglo-Saxon: c. 5th – mid 11th centuries

6.4.5 Despite their low firing, the 24 sherds allocated to this period are all relatively fresh. This suggests they represent material that has not been subjected to any notable degree of reworking. The material is only present in small quantities and is spatially spread quite widely (Table 10). The earliest material appears to be that from Site S, where the large ditch/pit [19023] produced 18 sherds (74g) from at least two different vessels of probable C7th- to 8th-century date. Even though this is by far the best Saxon group from the scheme, it still lacks diagnostic feature sherds that make close dating with confidence problematic. The fabrics consist of a fine quartz ware with occasional flint and a flinty-sandy ware. The other Saxon sherds from the scheme are more coarsely tempered with alluvial flints and are more likely to be of Mid to Late Saxon date. There are no feature sherds among them.

Saxo-Norman: c. 11th – early/mid-13th century

6.4.6 This forms a much larger group, though on the whole the material is much more abraded and/or adversely affected by acidic subsoil (Table 11). Although recovered from a number of areas along the easement route the majority came from Sites B and D (92 and 251 sherds respectively). Overall the material appears to be of the 12th to early 13th centuries, though one or two sherds could be a little earlier. Alluvial flint-gritted wares dominate. These gain increasing quantities of quartz throughout the later 12th to early 13th so that by the 13th century they are essentially quartz tempered with low to moderate quantities of flint. These flinty wares are totally dominated by cooking pots, though at least one jug and one frying pan are present. Rim forms are quite developed, most unlikely to predate c. 1125/50. As well as the flinty wares there are lesser quantities of wares tempered with chalk, shell and coarse quartz. These are never common but show fabrics from the central Weald as well the Adur valley are present. Again, feature sherds are few and far between but there is a chalk-tempered bowl with pie-crust rim from ditch [4056] (G16), though it is probably residual in this context.

High medieval: early/mid c.13th – mid 14th century

6.4.7 This period accounts for the majority of the assemblage. Although small groups were recovered from Sites A and E, the vast majority of sherds (996/7072g) were recovered from Site D. The material here clearly represents an unbroken continuation of activity from the 12th century, with increasing quantities of domestic refuse being deposited in the ditches between c. 1250/75 and 1350. Although some of the quartz with rare/sparse flint fabrics undoubtedly persisted in the first half of the 13th century these have been included with the Saxo-Norman grouping. The virtual absence of these types in some quite large High Medieval assemblages strongly suggests they did not persist for long past c. 1250. The true High Medieval pottery is totally dominated by quartz tempered wares, of both fine, and more commonly, medium grade. The fine and medium sandy wares are not particularly distinctive of any particular production centre so they have been grouped together as general local wares. The finer tempered type is usually associated with jugs, but these are not common. Over the whole project assemblage an estimated 12 different jugs are present, all fairly muting decorated with thin patchy glaze. Only one has extensive incised line decoration in a West Sussex Ware style. Cooking pots dominate, with some 91 estimated vessels being present. These have a range of developed rims, including rectangular club, tapering club, concave topped and expanded types. Other vessels include a probable curfew (fire cover) and a few bowls and frying pans. Decoration is virtually absent and there are no non-local English or Continental types present. This is likely to be the result of the associated household being of the lower classes, however, the rather isolated position of Site D would not have facilitated easy access to more exotic goods.

Late post-medieval: mid 18th- to mid 20th centuries

6.4.8 Very few late post-medieval sherds were recovered and they are always present as isolated pieces. They span the later 18th to early 20th centuries and include local glazed red earthenwares, black-glazed red earthenware (Jackfield type), English stoneware and refined whiteware. An area of relatively modern landfill in Fields 2/3 (not discussed above due to its recent date) produced a complete knob ended foot warmer in Doulton's (Lambeth, London) Bristol glazed stoneware though to what extent this is an isolated find is uncertain (it is considered likely that it represents a vessel from an otherwise unsampled group).

Stratigraphic context

6.4.9 The majority of the ceramic assemblage was derived from cut features such as ditches and pits though layers and unstratified material accounts for the remainder. The assemblage is totally dominated by small context groups: of the excavated contexts, 35 contain only 1-5 sherds. Only eight contain 40 or more sherds and these are summarised in Table 12.

6.4.10 It is unfortunate that the Saxo-Norman groups are all small – the largest (Table 12) being of just 47 very small featureless sherds. However, there are a few feature sherds of the period scattered in small groups or residual in later ones. The bulk of the larger groups are of the High Medieval period; that from [4052] being of exceptional size, even if it is characterised by slightly small abraded pieces.

Context	No	Weight	Spot Date	Comment
2001	47	133g	1125-1225	Site B. Ditch [2000], G8

4022	48	264g	1225-1325	Site D. Ditch [4021], G13
4024	111	649g	1225-1325 (resid C12th)	Site D. Ditch [4023], G17
4026	52	452g	1200-1275 (resid C12th)	Site D. Ditch [4025], G72
4052	583	4796g	1250/75-1350	Site D. Ditch [4051], G17
4053	83	632g	1250/75-1350	Site D. Ditch [4051], G17
4068	48	232g	1250/75-1350	Site D. Ditch [4067], G17
4070	40	204g	1250/75-1350	Site D. Pit [4069], G93

Table 12: Summary of all context groups containing 40 or more sherds

6.4.11 The degree of residuality in the largest context groups is relatively low and usually easily isolated. The degree of mixing in the smaller groups, particularly when all consist of slightly abraded body sherds, is somewhat harder to predict.

6.5 The Ceramic Building Material by Isa Benedetti-Whitton

Introduction and methodology

6.5.1 A very small assemblage of ceramic building material (CBM) – given the scale of the work undertaken – comprising thirty-six pieces weighing 1367g were hand-collected from thirteen stratified contexts. Despite the small quantity of CBM, a variety of forms and fabrics were represented. Comparative quantities of forms are shown below in Table 13, and reveal material ranging in date from Roman to modern.

Period	Form	Quantity	% of total	Weight (g)	% of total
Roman	Brick	2	5.6	250	17.9
	Tegula	1	2.8	32	2.3
Medieval/post-medieval	Roof tile	15	41.7	827	59.2
Modern	Brick	9	25.0	231	16.5
	Drain	1	2.8	10	0.7
	?Brick	1	2.8	17	1.2
Undated	Unknown	7	19.4	30	2.1
Total		36	100	1397	100

Table 13: Comparative quantities and weights of ceramic building material

6.5.2 All the material was quantified by form, weight and fabric and recorded on standard recording forms. This information was then entered into a digital Excel spreadsheet. Fabric descriptions were developed with the aid of a x20 binocular microscope and use the following conventions: frequency of inclusions as sparse, moderate, common or abundant; the size of inclusions as fine (up to 0.25mm), medium (up to 0.25 and 0.5mm), coarse (0.5-1.0mm) and very coarse (larger than 1.0mm). Fabric descriptions are provided below in Table 14.

Post-Roman roof tile fabrics	
T1	Hard orange fabric with moderate quartz and iron rich deposits.
T2	Brown-orange fabric with finely gritty matrix and moderate coarse and very coarse quartz.

T3	Fine cream and pale orange/pink marbled fabric with few apparent inclusions.
T3A	Same marbled quality as T3 but finely sandy and slightly micaceous
T4	Slightly micaceous underfired fine red fabric; finely sandy with sparse paler marbling.
Post-Roman brick fabrics	
B1	Soft, pale orange fabric with sparse unsorted quartz.
B2	Underfired micaceous brown clay.
B3	Red brick fabric similar to MOLA 3033.
3038	Very hard and distinctive granular fabric with numerous small white inclusions.
Roman fabrics	
R1	Nearly sterile orange fabric with sparse paler marbling.
R2	Orange fabric with moderate coarse and very coarse quartz and burnt ferrous inclusions.
?R4	Medium orange fabric with moderate sub-rounded coarse and very coarse quartz and iron rich clay lumps.

Table 14: Fabric descriptions for ceramic building material

The assemblage

6.5.3 Roman CBM was limited to two contexts; pieces of tegula and Roman brick from ditch fill [4052] and a further fragment of Roman brick from ditch fill [21011]. All of the pieces were very broken, and the tegula from [4052] in particular was heavily abraded. In isolation these items are of no particular archaeological significance and although ditch [21010] may originally be Roman in date, the material from medieval ditch [4051] is definitely residual.

6.5.4 The post-Roman material included brick and flat tile and made up the bulk of the assemblage. With the exception of a fragment of unusually thin field drain from [8005], and a chip of modern looking machine formed ?brick from [19001] (topsoil), most of the assemblage is of possible medieval or post-medieval date.

6.5.5 Brick pieces were collected from the fills of ditches [4118], [6004], [6035], [21012] and subsoil [19002]; each fragment was a different fabric, except those shattered fragments from [6036] which were vitrified solid. The essentially spall-chip fragment of 3038 brick from medieval ditch fill [4119] is most likely intrusive as London fabric 3038 is a machine-compressed fabric dating later than 1900. Likewise, the vitrified fragments of post-medieval brick found in ditch [6035] are small enough to be intrusive in this feature, although this ditch is only tentatively dated based on some heavily abraded pot sherds.

6.5.6 Of the other brick pieces, only the piece of B3 brick from [19002] had an intact thickness of 60mm. This, combined with the type of red, slightly sandy fabric would suggest an earlier post-medieval date of perhaps the 16th century or 17th century. The B1 brick may well be even earlier than this, of medieval date, although no intact dimensions survived and therefore it cannot be specifically dated. B2 brick was only present in very small heavily abraded crumbs and therefore does not lend itself to any dating at all.

6.5.7 The roof tile was primarily recovered from unphased contexts [3001], topsoil and subsoil contexts [9007], [19001] and [19002]. The few pieces of stratified roof tile can only be dated based on the supplementary finds, and suggest that T2 is the earliest dating fabric, as fragments of T2 tile were found in medieval ditch [4051]. T3 and T3A fragments were found in later post-medieval features and so could be of any age although the level of firing would suggest mid-later post-medieval.

6.5.8 T1 is most definitely a later post-medieval fabric of probable 19th century date or later, but like T4 tile only appeared in un-phased features.

6.6 **The Fired Clay** by Isa Benedetti-Whitton

Introduction and methodology

6.6.1 A total of 531 pieces of fired clay weighing 4803g were examined, comprising 217 pieces, weighing 868g, extracted from environmental samples and 314 pieces, weighing 3935g, hand-collected from subsoil and forty stratified contexts. Nearly all of the fired clay was non-diagnostic although there were some contexts that produced fired clay displaying features typical of loom weights and hearth lining.

6.6.2 All of the fired clay has been recorded on standard recording forms and quantified by fabric, form, and weight. Examination of fabrics was primarily conducted macroscopically although a x20 binocular microscope was utilised when necessary. Fabric descriptions were defined using the following conventions: frequency of inclusions (sparse, moderate, common, abundant); the size of inclusions, fine (up to 0.25mm), medium (0.25-0.5mm), coarse (0.5-1.0mm) and very coarse (larger than 1.0mm). The information on the recording sheets has been entered into an Excel spreadsheet and all fired clay has been retained although with the exception of those fragments that can be associated with a possible function it is all recommended for discard.

Fabrics

6.6.3 Six fabric types were identified, some of which were similar enough to suggest a common source. Fabric descriptions are provided below in Table 15 and, of these, F1 was the most prevalent across the assemblage, followed by the fine, sandy variant of the same fabric F1A. There were a number of contexts producing fired clay in unusually hard and granular fabric F3, but the other fabric types were very uncommon, being represented by two items or less.

Fabric	**Description**
F1	Fine, medium orange-brown fabric with sparse pale cream marbling and ferrous inclusions. Often quite soapy in texture.
F1A	Finely sandy and micaceous version of F1.
F2	Micaceous red fabric with clusters of coarse quartz and cream marbling.
F3	Often fairly solid fine sandy brick-earth-type fabric.
F4	Soft yellow-beige clay; under-fired.
F5	Medium orange fabric with cream and dark red silty deposits and common coarse sugary quartz.

Table 15: Fired clay fabric descriptions

Briquetage

6.6.4 A quantity of fired clay displaying the distorted 'salt' colours of briquetage - although no diagnostic forms - was collected from subsoil and features [13012] G157, [13019] and [13020] G158 (Site M). The former two contexts were debris spreads associated with 12th century salterns. All fired clay associated with this activity is known as briquetage, and generally briquetage will have a number of characteristics that make it distinguishing. These include the discolouration to hues of lilac, pink and orange due to the chemical reactions caused by heat and salts, an often very hard, nearly vitrified fabric due to being exposed to heat for prolonged periods of time and, during prehistoric and Roman times, particular forms, e.g. pedestals and 'pinch-props' (Lane and Morris 2001, 41; Harding 2013, 81). Brine evaporation during the Middle Ages was more often carried out using lead pans over a hearth rather than with the briquetage vessels typical of earlier periods (Ridgeway 2000).

6.6.5 The greatest quantity of this briquetage-like clay was collected from [13016] G158 (Site M: 93 pieces weighing 768g); the other contexts produced <10g. Although this material clearly displayed discolouration commonly found on briquetage, there were no additional characteristics that would conclusively identify this material as briquetage; the form was amorphous and it was not particularly hard fired although some fragments exhibit smoothed, grey surfaces. It is probable that this was material either passively discoloured by the process of heating salt water in lead boiling pans, or that these fragments are remnants of hearth furniture or lining from hearths formed with esturine clays

Loom weights

6.6.6 Fragments of a triangular weight, commonly believed to function as loom weights although they may have also served other purposes, see e.g. Poole (1995) – were recovered from Mid-Late Iron Age pit [9018] G53. These weights range in size from being small enough to rest in the palm of ones hand to being very large and heavy, so much so that is has been speculated that such weights functioned to hold down thatch as they would have been too heavy for looms (Wardle 2003). The fragments of this triangular loom weight suggest it was one of these larger examples.

6.6.7 The weight from [9018], formed in F2 consists of the corner of a triangular weight with lateral perforation measuring 15mm in diameter and an associated but non conjoining fragment in the same fabric. The fill of Late Iron Age/Early Roman ditch [1021] G1 contained several fragments, which may be part of a large triangular weight. The fragments from [1021] were formed from F1 and completely shattered. There were a number of pieces with adjoining flat surfaces suggestive of the triangular form, however not enough diagnostic material is present to be certain of this identification.

6.6.8 A further fragment of burnt and reduced clay with a partial but clearly defined linear perforation was found in pit [4062] G25, which along with more ambiguous fragments collected from the fill of ditch [1028] G1 and Late Roman ring gully [9009] G58 are also believed to be weight fragments. However, these latter examples are too fragmentary for such an identification to be anything other than speculative.

Other

6.6.9 A possible oven brick, or other item of kiln/oven furniture was found in Late Iron Age/Early Roman ditch [9041] G55. It was extremely angular in shape, made from very hard fabric F3, and there were blacked areas (?burn marks) across the surviving surfaces.

6.6.10 Ring gully [9009] G58 also produced a number of broken but possibly at some stage co-joining fragments of F1 clay with an intentionally flattened surface. It is possible that these represent the lining of a hearth or other heatproof structure as they seemed more fired than one might expect if they were daub.

6.6.11 The rest of the fired clay assemblage was too fragmentary and abraded for any potential function to be proposed, and was not found in any significant quantity in any feature other than those already discussed above.

6.7 **The Glass** by Elke Raemen

6.7.1 Two wine bottle neck fragments (weight 61g) were recovered from post-medieval ditch [21004] (fill [21005]). They derive from the same bottle and date to the 19th to early 20th century.

6.7.2 In addition, four fragments of glass (total weight <2g) were extracted from environmental residues. Included are two colourless fragments from ring [9009] (fill [9011]; G58) and a blue/green chip, probably from a vessel. A tiny green fragment from a vessel or window pane was found in ditch [9040] (fill [9041]; G55). All four are too small to be diagnostic of form. Fragments may be of Roman date, but could alternatively represent intrusive 19th- or early 20th-century material, as they are too small to be conclusive of date.

6.8 **The Geological Material** by Luke Barber

Introduction

6.8.1 The excavations recovered 90 pieces of stone, weighing 3162g, from 28 individually numbered contexts. This total includes 16 pieces (8g) from one of eight environmental residues. The assemblage has been fully listed by context and type on geological material pro forma sheets, which are housed with the archive. The information from these has been used to create an Excel database for the digital archive. The current assessment represents an overview of the stone by period.

Late Bronze Age (Period 1.2)

6.8.2 This period accounted for 47 pieces of stone, weighing 1564g. The assemblage was, with the exception of a single 18g piece from Site I, all was recovered from Site S. Just two stone types are represented. By far the most common (33/1304g) is a medium-grained ferruginous purple sandstone (carstone), probably derived from the Lower Greensand Beds though the weathered nature of the pieces show the material to have been transported by water. None of these pieces show signs of modification at the hand of man. The only other stone type is a pale grey Upper Greensand (14/260g) recovered from pits [19100] (13/242g) and [19110], both in G101 (Site S). This quite friable material is not heavily weathered but again shows no sign of human modification. The upper Greensand outcrops a little to the north of Site S so the material has not travelled far.

Middle-Late Iron Age (Period 2.1)

6.8.3 Contexts of this date (all in Site I) produced just two pieces of stone: an intrusive granule of coal in pit [9030] (G56) and a 28g flint beach pebble from spread [9157] (G98). The latter could have been collected for use as a sling shot as the stone would have been of an ideal size, however, this cannot be proven.

Late Iron Age – early Roman (Period 2.2)

6.8.4 The nine pieces of stone from this period (252g) were all recovered from Site A. All are of the same type of carstone noted for the Late Bronze Age, again modified pieces being absent. The only other stone type consists of a poorly bonded piece of off-white quartzite from ditch terminal [1019] (G1). This could have been picked up from the beach or glacially-derived deposits in the Weald but has no definite use-wear on it.

Early-mid Roman (Period 3.1)

6.8.5 A single 22g fragment of a hard medium-grained carstone seam was recovered from ditch [9077] (G50) in Site I. This could either be from the Lower Greensand or eroded Tertiary beds that once lay above the chalk. The piece is unmodified.

Medieval 12th-14th centuries (Period 5.2)

6.8.6 Two pieces of stone were collected from this period: a 96g fragment from a fine buff Hastings Beds sandstone shaped hone (ditch [4051], G17). The stone originally measured more than 85mm long, with a typical section of 23 x 35mm, but extensive wear on all four sharpening faces has left them notably dished. The stone is a very common type in medieval assemblages in the south-east. The other medieval stone is also from a shaped object: a 700g fragment of Hythe Beds sandstone rotary quern was recovered from ditch [4108] (G13). Although the 42mm thick stone is not large enough to establish whether it is an upper or lower stone beyond doubt (upper stone is suspected) the remains of the grinding face are typically blacked from sooting.

Late post-medieval (Period 6.2)

6.8.7 This period produced just two six of the hard ferruginous sandstone carstone seam, all unmodified and all from Site I

Unphased

6.8.88 Unphased deposits produced 23 pieces of stone (323g). Ten of these (262g) were of ferruginous carstone from the colluvium in Site S (context [19021] G71). Most of the other pieces consist of tiny granules of intrusive coal from the residues (Sites D, F, I and L). The only other stone consists of a 1g abraded piece of medieval West Country slate from colluvium [9001] in Site I.

6.9 The Metallurgical Remains by Luke Barber

6.9.1 The excavations recovered a little under 72g of material initially classified as slag from 33 individually numbered contexts. This total consists of just 20g (two individual pieces) of hand-collected material with the remainder being derived from one of 31 environmental residues. The later were carefully searched under x10 magnification to establish the presence of micro slags. The assemblage has been fully listed by context and type on metallurgical pro forma sheets, which are housed with the archive. The information from these has been used to create an Excel database for the digital archive. The tiny size of the material in the environmental residues meant these were only weighed. Although many residues produced under 1g of material 1g was the minimum weight entered into the Excel spreadsheet. As such the recorded weight overall is slightly over the actual weight. Only the hand collected material was quantified by count of pieces. The current assessment represents an overview of the slag by type – so little material was present that consideration by individual phase was not worthwhile.

6.9.2 The vast majority of the material (48g) consists of magnetic fines. These are small rounded granules of ferruginous siltstone and fine sandstone that have had their magnetic properties enhanced through burning. They are not diagnostic of process and can be created by any high temperature event, including domestic hearths, bonfires and vegetations/stubble burning. They were present in all residues spanning the Late Bronze Age to medieval periods and show a wide chronological distribution along the easement.

6.9.3 Fuel ash slag was recovered from just two deposits. The residue from undated post-hole [6084] (G134) in Site F produced over c. 50 granules of a black slightly aerated material (4g), while late post-medieval ditch [21014] (G78) (Period 6.a, Site U) contained a vitrified piece (4g). Neither type of fuel ash slag is diagnostic of process – such material can be produced in domestic hearths. The only other waste consists of a 16g fragment of hearth lining from ditch [4054] (G24) (unphased, Site D). This consists of a hard-fired sandy clay with adhering fuel ash slag. Although the latter has some signs of iron staining it is not considered to be enough to suggest iron working.

6.10 The Bulk Metalwork by Elke Raemen

6.10.1 A small assemblage comprising 16 objects (weight 245g) was recovered from nine different contexts. Both iron and lead objects are included. The former are overall in fair condition and all ironwork is identifiable without X-radiography. Two registered finds, RF <400> and <401>, are incorporated with the bulk metalwork, as they are general purpose nail shanks.

Medieval

6.10.2 Three general purpose nail shanks were recovered from phase 5.2 (RF <400> [4026] G72, RF <401> [4024] G17 and [13023] G62). Feature [13009] G157 (fill [13023]; phase 5.1) contained three lead off-cuts.

Post-medieval

6.10.3 A total of five nail fragments were found in late post-medieval features (phase 6.2). All five consist of shank fragments from hand-wrought nails. Barbed and plain wire was found in ditch [21016] G104 (fill [21017]).

Miscellaneous

6.10.4 An amorphous iron concretion was recovered from undated context [10007] G59. Subsoil [10001] Site J contained a folded lead off-cut.

6.11 The Inhumation Burial by Dr Paola Ponce

Introduction

6.11.1 The remains of an articulated skeleton, [12003] G60, were found on Site L, located on Truleigh Hill, part of the downland to north of Shoreham-by-Sea. Buried in a shallow grave, [12004] G60, cut into chalky bedrock at approximately 22 cm deep and at about 165m above the sea level, this individual was the only inhumation recovered from the site. A sample of the human bone from the skeleton was submitted for radiocarbon dating, which indicated a Saxo-Norman date of burial (Beta-422509; 1010 BP ±30; 985-1115 cal AD). The calibration plot indicated a very strong probability that this individual died in the earlier 11th century AD (see section 6.15).

6.11.3 The skeleton was found extended in a supine position fully articulated with the arms placed at the sides of the body. The orientation of the body was east-west with the head placed at the west and without grave goods: all elements of Christian burial. The head turned to the left side as looking towards the left shoulder. No remains of coffin or grave furniture were found.

6.11.4 The degree of preservation was excellent, as was the degree of completeness (>75%): all the bones were present with the exception of a few missing phalanges from the hands and feet.

Method of analysis

6.11.5 The initial analysis consisted of preparing an inventory of all bones present, assessing the sex, age, calculating the stature, and diagnosing any evidence of pathological conditions present.

6.11.6 The methods used to estimate sex were based on the observation of dimorphic traits of the pelvis and skull following the standards proposed by Buikstra and Ubelaker (1994). Age-at-death was established using standard osteological techniques. These included the morphological changes observed in the pelvis such as the pubic symphysis (Brooks and Suchey 1990), and the auricular surface (Lovejoy *et al*. 1985). The teeth were observed for their degree of development and eruption (Ubelaker 1989) and for their dental wear (Brothwell 1981).

6.11.7 The stature was calculated using the maximum length of complete available long bones by using a standard osteometric board following the guidelines proposed by Buikstra and Ubelaker (1994).

6.11.8 The assessment and diagnosis of basic nature of gross pathology on the skeleton was carried out following the diagnostic criteria described in Aufderheide and Rodríguez-Martín (1998) and Ortner (2003) and with supplementary references as required.

Results

6.11.9 Assessment of biological sex, suggested that the remains of skeleton [12003] G60 were that of a male individual aged 25-35 years old at the time of death.

Stature estimation suggested that he was approximately 1.69m tall (66[4]) and, in terms of pathology, the conditions observed in the skeleton were: dental disease, metabolic conditions, congenital anomalies, trauma, and a miscellaneous condition.

6.11.10 Dental disease included calculus deposits - or tartar- on the lingual aspect of a number of maxillary and mandibular teeth. Dental attrition - or dental wear- was only mild and affected mostly the upper and lower jaw incisors. One mandibular tooth, the left third molar, was affected by a caries - or cavity - and all canines were affected by dental enamel hypoplasia. This metabolic condition represents the interruption or disruption of enamel formation due to nutritional deficiencies and other non-specific environmental factors including disturbances to normal physiological balance (Hillson 1996). Cribra orbitalia, another example of a non-specific stress indicator of poor diet that manifests in sieve-like lesions on the roofs of the orbits, was present in a small cluster of porous lesions affecting the left orbit of the skeleton.

6.11.11 Congenital anomalies included spinal disarrangements that produced an extra lumbar vertebra, a cleft atlas and variation on the sternum that lead to a segmented body with a foramen in the xiphoid process.

6.11.12 Trauma was represented by a well-healed oblique fracture on the distal end of the left ulna. There were no signs of infection surrounding the fracture and the callus formed appeared to have been remodelled into a new shape that duplicates the original distal ulna, thus suggesting that the trauma to the forearm took place a long time before death.

6.11.13 Other forms of trauma were represented by enthesophytes and Schmorl's nodes. The former were represented by bony projections at the attachment site of ligaments and tendons to bone, particularly the muscles on the linea aspera of both femora, which are responsible for extension of the knee and the adduction, extension and flexion of the hip. In the tibiae, the enthesophytes present were those of the soleus muscle responsible for the flexion of the ankles and feet.

6.11.14 Schmorl's nodes are depressions on the vertebral bodies that result from herniations of the intervertebral discs' material (Aufderheide and Rodríguez-Martín 1998; Ortner 2003). These may result from repeated trauma due to exerting compression forces in the spine while bending, lifting weight or twisting motions (Roberts and Cox 2003).

6.11.15 The most interesting example of trauma in skeleton [12003] was represented by two cut marks observed in the anterior aspect of the vertebral body of the sixth cervical vertebra. These cut marks were located at the mid length of the neck and were produced by a sharp blade or knife that in order to reach the bone had to cut through all soft tissues of the neck and throat. As no evidence of healing is present around the margins of the cut marks, the evidence indicates that this injury proved fatal and suggests that the individual was a victim of murder or execution.

6.11.16 Finally, it can be noted that the individual presented an elongated right styloid process of the temporal bone that measured 3.5cm. It is generally accepted that the normal length of the styloid process is between 2.5 and 3.0cm (Mann and Hunt 2005). Believed to result from its natural elongation (primary cause) or as a consequence of the ossification, calcification or mineralisation of the styloid ligament (secondary cause) this miscellaneous condition produces the so-called "Eagle syndrome". Head, neck and pharyngeal complications of this condition include pain on swallowing, partial atrophy of the tongue, dry mouth, loss of taste, altered speech, foreign body sensation in the throat, otalgia, tinnitus and ocular pain.

6.12 **The Burnt Bone** by Dr Paola Ponce

Introduction

6.12.1 A small amount of unidentified burnt bone was recovered from the fills of eight features. These included fill [9011] of ring gully [9009] (G58), fills [9041] and [19025] of ditches [9040] (G55) and [19023] (G76), fills [4063], [13013] and [19132] of pits [4062] (G25), [13012] (G157) and [19133] (G77), a charcoal-rich deposit [9157] (G98), and a colluvial layer, [15006]. These features ranged from the Late Neolithic/Early Bronze Age (Period 1.1) to the medieval period (Period 5.1). Of these deposits, only burnt pit [4062] (G25) contained more than a few grams of burnt bone.

Methods

6.12.2 The excavated fills of the deposits underwent flotation and were processed as environmental samples. Bone fragments were collected and subjected to careful recording and separated in sieve fractions of 2-4mm, 4-8mm and >8mm following the standards set out by CIfA (CIfA 2017).

6.12.3 The total weight of the burnt bone assemblage was established and the assemblage then examined to record the degree of fragmentation and fragment colour. The potential of the assemblage to yield further information was then considered.

Results

6.12.4 The total amount of burnt bone recovered from all deposits was 290.59 grams, almost all of which came from context [4063] (G25) (Table 16). All fragment sizes were represented although producing different amounts of burnt bone. However, none of the burnt bone recovered from these deposits was identifiable and therefore impossible to assign to either animal or human category.

Context	**Weight (grams)**			
	2-4mm	**4-8mm**	**>8mm**	**Total**
4063 <4002>	55.14	139.99	87.85	282.98
9011 <902>	0.01	1.30	-	1.31
9041 <903>	0.01	0.14	-	0.15
9157 <909>	0.59	1.52	-	2.11
13013 <1303>	0.01	-	-	0.01
15006 <1501>	0.01	-	-	0.01
19025 <1907>	0.55	0.96	1.77	3.28
19132 <1903>	0.38	0.36	-	0.74
Total	56.7	144.27	89.62	290.59

Table 16: Burnt bone results

Bone colour

6.12.5 With regards to the degree of oxidation of the organic component of bone, it was noted that 80% of the assemblage was fully oxidised white which suggests a highly efficient burning process at temperatures >c. 600˚ C (Holden *et al*. 1995a; 1995b). The remaining bone showed a combination of grey and blue hues, thus suggesting an incompletely oxidising process (at temperatures up to c. 600˚ C; ibid).

6.13 **The Animal Bone** by Hayley Forsyth-Magee

6.13.1 The Rampion excavations produced a small assemblage of faunal remains containing 364 fragments recovered from 15 contexts. Mammal bones dominate the majority of the assemblage, including domestic and wild fauna. A single specimen of fish and anuran bone was recovered; no bird remains are present within the assemblage. The assemblage was retrieved through hand-collection and whole earth samples with the majority of the assemblage in a moderate-poor state of preservation with some signs of surface erosion evident. Provisional dating indicates that the majority of the assemblage derives from the Late Roman, Anglo-Saxon, and Late Bronze Age periods predominantly from gully, ditch and pit fills. Small quantities of faunal remains were also recovered from Middle-Late Bronze Age, medieval (12th-13th centuries) and post-medieval to mid-19th century contexts.

6.13.2 The assemblage has been recorded onto an Excel spreadsheet in accordance with the zoning system outlined by Serjeantson (1996). Where possible bone fragments have been identified to species and the skeletal element, part and proportion, represented. Specimens that could not be confidently identified to taxa, such as long-bone and vertebrae fragments, have been recorded according to their size and categorised as large, medium or small mammal. In order to distinguish between the bones and teeth of sheep and goats a number of identification criteria were used including those outlined by Boessneck (1969), Boessneck *et al.* (1964), Halstead *et al*. (2002), Hillson (1995), Kratochvil (1969), Payne (1969; 1985), Prummel and Frisch (1986) and Schmid (1972). The identification criteria of rabbit and hare specimens has been undertaken with reference to Callou (1997). Age at death data has been collected for each specimen where observable. The state of epiphyseal bone fusion has been recorded as fused, unfused and fusing. Mammalian metrical data has been taken in accordance with Von den Driesch (1976). No age-able mandibles were recorded. Specimens have then been studied for signs of butchery, burning, gnawing, non-metric traits and pathology. The location and direction of butchery marks on the bones has been recorded. Burnt bone has been recorded as charred or calcified.

6.13.3 The faunal remains are in a moderate-poor state of preservation, with some signs of surface erosion (Table 17) and have been retrieved through hand-collection and whole earth samples.

Period	**No. Fragments**	**NISP**	**Preservation**		
			Good	**Moderate**	**Poor**
1.2 – Late Bronze Age	72	72	-	-	100%
3.2 – Late Roman 3rd-4th Century	117	92	3%	66%	31%
4.1 – Saxon AD600-750	100	39	10%	90%	-

5.1 – Medieval 12th Century	4	4	-	100%	-
5.2 – Medieval 12th-13th Century	12	12	42%	16%	42%
6.1 – Post-Medieval to Mid-19th Century	5	5	-	100%	-
Undated and Unphased	54	45	2%	96%	2%
Total	364	269			

Table 17: Animal Bone Quantification, NISP (Number of Identifiable Specimens) counts and percentage preservation based on the NISP.

6.13.4 The assemblage contains 364 fragments, of which 269 fragments have been identified to taxa (Table 18). A limited range of taxa have been identified, including domestic and wild fauna. The assemblage is dominated by cattle bones and teeth, with sheep/goat, sheep and pig present in much smaller quantities. Wild taxa are represented by a small collection of rabbit, rodent, anuran and fish bones. Large and medium mammals are present in moderate quantities due to the levels of preservation and fragmentation of bone.

Taxa	**Periods**						
	1.2	**3.2**	**4.1**	**5.1**	**5.2**	**6.1**	**UD**
Cattle	72	21			5		2
Sheep/goat		1	1				
Sheep							1
Pig			1				
Large Mammal		67				5	
Medium Mammal		3	34	4	1		40
Small Mammal					1		
Rabbit					5		
Rodent			2				1
Anuran			1				
Eel							1
Total	**72**	**92**	**39**	**4**	**12**	**5**	**45**

Table 18: Animal Bone NISP (Number of Identified Specimens) by Period

6.13.5 The Late Bronze Age assemblage (Period 1.2) contained a small quantity of highly fragmented adult cattle dentition, retrieved from pit fill [9023] (G95). Levels of bone preservation have likely been affected by soil acidity, with the dentition surviving due to the hard enamel surface. No butchery, burning, gnawing, non-metric traits or pathology was observed and no measurable bones or age-able mandibles were present.

6.13.6 The Late Roman assemblage (Period 3.2) contained a small quantity of 92 identifiable fragments of faunal bone recovered from gully fills [9010], [9011] and [9013] (G58) through hand-collection and whole earth sample <902>. Cattle dentition dominated the assemblage, followed by large and medium mammal bone fragments and dentition as well as a single sheep/goat tooth. A single large mammal long bone fragment from gully fill [9013] exhibited signs of burning; charring and calcination. No butchery, gnawing, non-metric traits or pathology was observed and no measurable bones or age-able mandibles were present.

6.13.7 The Anglo-Saxon assemblage (Period 4.1) contained a small quantity of 39 identifiable faunal remains recovered from ditch fill [19025] (G76) through hand-collection and whole earth sample <1907>. Medium mammal post-cranial elements dominate this assemblage, followed by a pig 2nd phalanx and a sheep/goat deciduous incisor. Anuran and rodent bones and dentition were also retrieved. No butchery, burning, gnawing, non-metric traits or pathology was observed and no measurable bones or age-able mandibles were present.

6.13.8 The medieval assemblage (Period 5.1) is negligible, containing just 4 fragments of medium mammal rib from ditch fill [13025] (G62). No butchery, burning, gnawing, non-metric traits or pathology was observed and no measurable bones or age-able mandibles were present.

6.13.9 The medieval assemblage (Period 5.2) contained a very small quantity of identifiable faunal remains containing 12 fragments recovered from ditch fill [4024] (G17) and recut fill [13023] (G62). Fragments of poorly preserved cattle dentition were recovered from ditch fill [4024] (G17), along with a medium mammal rib fragment retrieved from whole earth sample <4000>. Recut fill [13023] (G62) produced a collection of rabbit bones. No butchery, burning, gnawing, non-metric traits or pathology was observed and no measurable bones or age-able mandibles were present.

6.13.10 The post-medieval to mid 19th century assemblage (Period 6.1) is negligible, containing just 5 fragments of large mammal long bone from ditch fill [21015] (G78). No butchery, burning, gnawing, non-metric traits or pathology was observed and no measurable bones or age-able mandibles were present.

6.13.11 A small quantity of 45 identifiable faunal remains were retrieved from undated, unstratified topsoil/subsoil and colluvium deposits. The taxa identified includes medium mammal bone and dentition, cattle and sheep post-cranial elements, rodent long bone fragments and a fish vertebrae. Undated contexts included ditch fill [15003] (G163) which included a proximal cattle metacarpal fragment and pit fill [4063] (G25) sample <4002>, the latter of which contained calcined fragments of medium mammal bone and dentition. Topsoil [9007] contained a distal juvenile cattle tibia with evidence of butchery in the form of saw marks and a medium mammal femur shaft with evidence of butchery in the form of chop marks. Both butchery methods indicate carcass portioning. An adult sheep complete metatarsal was also recovered. Subsoil [21002] sample <1201> produced a medium mammal long bone fragment. Colluvium spread [18010] (G67) sample <1803> produced a rodent long bone fragment and colluvium spread [12023] sample <1206> contained a single fish vertebra, identified as eel, with evidence of crushing which suggests the bone may have been digested. No non-metric traits or pathology was observed and no measurable bones or age-able mandibles were present.

6.14 **The Shell** by Elke Raemen

6.14.1 A very small assemblage comprising just two shells (61g) was recovered from two different contexts. Included is the left valve of an oyster (*Ostrea edulis*), which displays minor parasitic activity (*Polydora ciliata*) as well distortion, the latter perhaps a sign of overcrowding. The valve was recovered from ditch [15004] (fill [15003]; G163). A common slipper shell filled with mortar was recovered from [21017] (G104; phase 6.2).

6.15 Radiocarbon Dating on Archaeological Material

6.15.1 A sample of human bone from articulated skeleton [12003] (G60), found in an east-west aligned grave cut [12004] on Site L, was submitted for AMS radiocarbon dating at Beta Analytic Inc. The purpose of submitting the sample was to determine the date of the burial in the absence of grave goods or other dating evidence.

6.15.2 In addition a further eight samples of waterlogged wood and charcoal were submitted for AMS radiocarbon dating at SUERC laboritories The purpose of submitting these samples was to determine the date of the palaeoenvironmental sequences recorded across the site.

6.15.3 Details of the radiocarbon date are given in Table 19 quoted in accordance with the international standard, Trondheim convention (Stuiver and Kra 1986), and are given as conventional radiocarbon ages (Stuiver and Polach 1977). 2 Sigma calibrated dates, obtained using IntCal13 (Reimer *et al.* 2013), are also given at the 95% confidence level.

Lab Code	Context	Material	Conventional Radiocarbon age (BP)	Delta C13	2 Sigma calibrated date (95% confidence)
Beta-422509	12004	Human bone	1010 ± 30	-18.6 ‰	985-1115 Cal AD
SUERC-75845	Sample <201>	waterlogged wood, roundwood	2456 ± 29	-27.3 ‰	756-414 Cal BC
SUERC-75846	Sample <201>	waterlogged wood, roundwood	2466 ± 29	-27.0 ‰	765-430 Cal BC
SUERC-75847	Sample <603>	bulk sediment : humic acid dated	2822 ± 27	-29.4 ‰	1048-909 Cal BC
SUERC-75848	Sample <603>	bulk sediment : humic acid dated	3907 ± 25	-28.8 ‰	2471-2301 Cal BC
SUERC-75849	Sample <609>	waterlogged wood, roundwood	3017 ± 29	-29.9 ‰	1389-1131 Cal BC
SUERC-75850	Sample <609>	charcoal : hazel	3494 ± 29	-26.1 ‰	1896-1701 Cal BC
SUERC-75854	Sample <610>	waterlogged wood, roundwood	1201 ± 26	-27.1 ‰	722-892 Cal AD
SUERC-75855	Sample <610>	bulk sediment : humic acid dated	1829 ± 29	-29.6 ‰	87-311 Cal AD

Table 19: AMS radiocarbon dates

6.15.3 The results indicate a Saxo-Norman date, in keeping with the apparent Christian style of burial. It should be noted that, although the calibrated results show a fairly wide date range when cited at 95% confidence (985-1115 cal AD), almost all of this probability falls before AD1040. There is a negligible likelihood of a date between 1041-1109 cal AD and only a very small probability of a date range from 1110-1115. At 68% confidence, the date falls within a very narrow range of just ten years (1015-1025 cal AD). Overall then, it appears likely that this individual died in the earlier 11th century AD.

6.15.4 For discussion of the dates retrieved from the geoarchaeological samples see section 7.2.

6.16 Assessment of archaeological environmental samples for charred plant macrofossils and wood charcoal by Lucy Allott

Introduction

6.16.1 A total of 55 bulk environmental samples were taken during archaeological work along the Rampion onshore cable route to aid retrieval of remains such as charcoal, plant macrofossils, fauna and mollusca and to assist small finds retrieval. Samples were taken from a variety of feature types including pits, postholes, ditches, gullies, a grave and other possible funerary related deposits. These bulk samples sit alongside a series of columns and small samples taken for detailed geoarchaeological investigation. Any environmental remains arising from these are considered within the geoarchaeological report. The following report focusses on samples extracted from the archaeological features, assessing their contents and the significance and potential of the environmental remains to provide information regarding the local vegetation environment, fuel use and selection and the agricultural economy or other plant use.

Methodology

6.16.2 The samples were processed in a flotation tank and the residues and flots were retained on 500µm and 250µm meshes respectively. The residues were air dried and passed through graded sieves of 8, 4 and 2mm and each fraction sorted (Appendix 4: table 1). Artefacts other than charcoal and plant macrofossils were distributed to specialists, and are incorporated in the relevant sections of this volume where they add further information to the existing finds assemblage. The flots (or 100 ml subsample for the largest ones) were scanned under a stereozoom microscope at 7-45x magnifications and their contents recorded (Appendix 4: table 2). Preliminary identifications of macrobotanical remains were made with reference to modern comparative material and published reference atlases (Cappers *et al*. 2006; NIAB 2004; Zohary and Hopf 2000). Nomenclature used follows Stace (1997).

6.16.3 Charcoal fragments recovered from the heavy residues and the flots were fractured along three planes (transverse, radial and tangential) according to standardised procedures (Gale and Cutler 2000; Leney and Casteel 1975). Specimens were viewed under a stereozoom microscope for initial grouping, and an incident light microscope at magnifications up to 400x to facilitate identification of the woody taxa present. Taxonomic identifications were assigned by comparing suites of anatomical characteristics visible with those documented in reference atlases (Hather 2000; Schoch *et al.* 2004; Schweingruber 1990). Genera, family or group names have been given where anatomical differences between taxa are not significant enough to permit more detailed identification. Nomenclature used follows Stace (1997), and taxonomic identifications of charcoal are recorded in Appendix 4: table 2.

Results

Period 1.1 Late Neolithic/Early Bronze Age

6.16.4 A single sample, <1903> [19132], from pit [19133] (G77) produced a small assemblage of charred plant macrofossils including hazel (*Corylus avellana*) nut shell fragments, barley (*Hordeum* sp.) and indeterminate cereal caryopses. Wood charcoal fragments were fairly numerous displaying moderate to good preservation. Taxa identified include oak (*Quercus* sp.), ash (*Fraxinus excelsior*) and hazel/alder (*Corylus/Alnus* sp.) and a fragment consistent with the Maloideae sub family which includes taxa such as apple, rowan, hawthorn among others.

Period 1.2 Middle - Late Bronze Age

6.16.5 Five samples were extracted from pits relating to pit groups G100 and G101, of which two samples (<1900> and <1901>) remain unprocessed at present. The remaining three samples all relate to pit group G100. Sample <1902> [19125] from pit [19124] contained small and infrequent charcoal fragments and a single poorly preserved cereal grain. Sample <1904> [19134] and <1905> (spits 1, 2 and 3) [19134] were extracted from pit [19128]. Infrequent charcoal fragments and plant macrofossils were recorded in sample <1904>. Charred plant remains include a poorly preserved cereal grain, an oat (*Avena* sp.) grain and a goosefoot (*Chenopodium* sp.) seed. The contents of a vessel located within pit [19128] were excavated during post excavation work to establish evidence for funerary activities. Charcoal fragments were infrequent and small in each of the three spits excavated and no burnt bone was in evidence.

Period 1.2/2.1 (loosely dated between the MBA and Late Iron Age)

6.16.6 Two samples, <1500> and <911>, from ditch features [15004] (G163) and [9079] (G49) respectively produced small amounts of charred botanical remains. Wood charcoal fragments were present in both deposits while only occasional cereal caryopses were evident in sample <911>. A further sample <600> from spread deposit [6012] (G80) which is dated to the MIA to early Roman period contained a moderate amount of wood charcoal in which oak, hazel/alder willow/poplar and the maloideae sub-family have been recorded. The remaining assemblage is small and poorly preserved with a high degree of sediment encrusting and percolation.

Period 2.1 Middle Iron Age-Late Iron Age

6.16.7 All of the samples dated to this period of land use are from Site I. Samples <907> and <912> from ditches [9141] (G44) and [9175] (G47) respectively produced small amounts of wood charcoal measuring <2mm only. The fill of ditch [9175] was considered waterlogged and this sample was therefore wet sieved to aid the recovery of waterlogged organics. While scanning the wet sieved fractions, however, no waterlogged plant remains or other organics were noted. Charred cereal caryopses were evident in sample <908> [9031] from pit [9030] (G56) only. Oak and hazel wood charcoal were also noted in this sample although the assemblage was too small for full assessment or to provide further potential for analysis. A large well-preserved charcoal assemblage, containing oak and field maple, was recovered from the sample residue from spread [9157] (G98), <909>. Although some of the fragments are distorted and difficult to identify the assemblage contains sufficient well preserved charcoal for analysis. This deposit also contained a small amount of unidentifiable burnt bone (see Table 16).

Period 2.2 Late Iron Age/Early Roman

6.16.8 Nine samples date to the late Iron Age to Early Roman period. Samples <100, 101, 102 and 103> are from pit and ditch features at Site A; <903> is from a ditch at Site I and <604>, <605>, <606>, <607> are from posthole features at Site F. Charcoal was moderately abundant in sample <100> [1006] pit [1005] (G87) and although oak was the only taxon currently identified, further taxa may be present. Oak was also the only taxon identified in sample <101> [1021] from ditch terminus [1019] (G1), although this assemblage included some roundwood. In sample <102> [1030] ditch [1028] (which is also from G1) oak, willow/poplar, elm (*Ulmus* sp.), hazel/alder (including roundwood) and blackthorn/cherry (*Prunus* sp.) were evident. Charcoal fragments were infrequent in sample <103> [1018] from ditch [1017] (G2). Charred plant macrofossils were infrequent in each of these deposits with a single tuber and a spelt/emmer wheat glume base noted in samples <100> and <102>, respectively.

6.16.9 Wood charcoal fragments were infrequent in sample <903> [9041] from ditch [9040] (G55) and no identification work was undertaken. The small assemblage of charred plant macrofossils comprises caryopses of wheat (*Triticum* sp.), poorly preserved cereal and oat/brome (*Avena/Bromus* sp.) grass.

6.16.10 Three of the samples taken at Site F are from G134 which comprises an arc of postholes. Samples <606> and <607> produced moderate quantities of wood charcoal while <605> remains unprocessed at present. Hazel/alder, possible willow/poplar and unidentified bark fragments were identified in <606> [6084] and <607> [6087] contained hazel/alder. Sample <604> [1047] was taken from posthole [1046] located in a cluster of postholes [G135] at site F. This feature was recorded as waterlogged and was therefore wet sieved although the contents provide no indication of waterlogged remains. The remaining sediment from this sample could be processed to obtain sufficient charcoal for identification and possible analysis.

Period 3.1 Early to Middle Roman

6.16.11 Small flecks of wood charcoal were the only environmental remains recorded in the single sample <2100> [21011] from ditch [21010] (G117) at Site U dating to the Early to Middle Roman period.

Period 3.2 Late Roman

6.16.12 Sample <902> [9011] from ring gully [9009] (G58; Site I) contained a small assemblage of charcoal from which oak, blackthorn/cherry, Maloideae taxa and a bark fragment were recorded. On the whole this assemblage was poorly preserved with extensive sediment encrusting and percolation. This deposit also contained peas (*Pisum sativum*), wheat caryopses, including spelt/emmer wheat and poorly preserved cereal caryopses.

Period 4.1 Early – Middle Saxon

6.16.13 A small to moderate assemblage of well-preserved wood charcoal comprising hazel/alder, ash, field maple and maloideae group taxa was recovered from sample <1907> [19025] in a large early to mid Saxon ditch (G76) at Site S. Charred plant macrofossils were less abundant but include barley, wheat and indeterminate cereal caryopses. Assemblages of bone, burnt bone, marine and land mollusca were also present in this deposit.

Period 4.2 Saxo-Norman

6.16.14 At Site L five samples were taken from different areas of grave [12004] (G60) and have assisted recovery of some of the smaller bones and teeth, not apparent during excavation. Wood charcoal fragments were scarce in each of the grave samples, while wheat and indeterminate cereal caryopses were present in sample <1200> only. Charred botanical remains were also sparse in sample <1205> [12011] from pit [12010] (G61) at the same site and no other environmental remains were evident in this sample.

Period 5.1 Medieval 12th Century

6.16.15 At Site M a series of hearths or burnt pit features (G157) that may be associated with salterns were sampled. Two samples (<1301> and <1302>) remain unprocessed at present while samples <1303> and <1305> produced small amounts of wood charcoal. Oak, ash and bark fragments were identified in the largest assemblage from <1303> and this deposit also contained small quantities of charred plant macrofossils including possible bread wheat (*Triticum* cf. *aestivum* sl.) and oat caryopses.

Period 5.2 Medieval 12th to 13th Century

6.16.16 A further four samples dating to the 12th to 13th century were also taken. Of these, ditch [13026] (G62) is a possible recut associated with potential salterns at Site M (see above). Although this sample <1304> [13023] contained a few charcoal flecks the flot consisted almost entirely of uncharred seeds, roots and rootlets. During excavation it was postulated that this deposit may be of relatively modern origin. The presence of these organics in an otherwise dry deposit certainly suggests a high degree disturbance and potential for mixing or modern contamination.

6.16.17 Samples <4000> and <4001> were taken at Site D. Sample <4000> [4024] from ditch [4023] (G17) produced a moderate assemblage of wood charcoal in which beech (*Fagus sylvatica*) and oak were recorded. This deposit also contained one of the largest assemblages of charred cereals comprising barley, wheat (including possible bread type wheat) and other indeterminate cereal caryopses as well as a fragment of bean/pea (*Vicia/Pisum/Lathyrus* sp.) that may be of wild or cultivated origin. Although this is one of the largest assemblages, the remains only amount to 16 identifiable elements in total. Sample <4001> [4026] gully [4025] (G72) remains unprocessed at present.

6.16.18 The final sample, <200> [2001], dating to this period was taken from ditch [2000] (G8) at Site B. It contained a moderate to well-preserved assemblage of charcoal from which oak and willow/poplar have been identified. Possible bread type wheat and an indeterminate cereal caryopsis were the only charred plant macrofossils noted.

Undated

6.16.19 There are 12 further bulk samples from undated features at Sites F, I, J and D (see Appendix 4: tables 1 and 2). Five of these remain unprocessed at present while the remaining seven are considered below. Wood charcoal fragments were present in each of the samples, however sufficient charcoal for identification was only evident in <904> at Site I, <4002> from Site D and <611> Site F. Charcoal fragments were very infrequent in all of the samples from Site J. Charred plant macrofossils were also uncommon in samples from undated features and were recorded in samples <910> (Site I) and <4002> only.

6.16.20 Sample <904> [8003] from pit [8004] (G40) contained oak and hazel. A small assemblage of wheat and barley caryopses was recorded in gully terminus [9100] (G51; sample <910> [9101]). Sample <611> [6121] (G137) contained a large amount of very well preserved charcoal from which oak and unidentified bark fragments have been recorded.

6.16.21 The largest and best preserved charcoal assemblage derives from sample <4002> [4063], pit [4062] (G25) from which a large amount of unidentifiable burnt bone was also recovered (see section 6.12). The charcoal assemblage is very well preserved with several larger fragments noted. From the initial assessment it appears that much of the assemblage consists of fragments of oak, probably from large branches, however it is possible that further analysis would identify additional taxa. This deposit also produced a small assemblage of charred plant macrofossils comprising indeterminate cereal and wheat caryopses as well as some unidentifiable charred plant remains. Although the majority of charred plant macrofossils are poorly preserved further identifiable items may be present among the abundant charcoal flecks in the flot from this charcoal rich deposit.

6.17 Assessment of geoarchaeological samples for plant macrofossils and wood charcoal by Lucy Allott

Introduction

6.17.1 Samples were taken from a series of columns and bulk samples as part of a detailed geoarchaeological investigation. Six geoarchaeological sub-samples (two from bulk samples and four from spits within column <608>) were wet sieved specifically to aid assessment of plant remains and invertebrates as well as other environmental indicators such as charcoal and bone. These have been recorded in Appendix 5: table 1. A further 58 sub-samples were processed for mollusca and any other remains arising from these have been recorded in Appendix 5: table 2. The following report focusses on plant macrofossils and other botanical remains but where relevant the presence/absence of invertebrates, bone and other environmental indicators is noted. It aims to assess the significance of these remains and establish their potential to provide information regarding the local vegetation environment, conditions of deposition, the agricultural economy or other plant use. The potential for further work on invertebrate remains is also considered.

Methodology

6.17.2 Wet sieved fractions from samples documented in Appendix 5: table 1 and charred plant macrofossils from samples in Appendix 5: table 2 were scanned under a stereozoom microscope at 7-45x magnifications and their contents recorded. Preliminary identifications were made with reference to modern comparative material and published reference atlases (Cappers *et al*. 2006; Jacomet 2006; NIAB 2004; Zohary and Hopf 2000). Nomenclature used follows Stace (1997).

Results

6.17.3 Four samples extracted from column <608> at depths 0.15-0.3, 0.4-0.5, 0.6-0.7 and 0.8-0.9 produced small quantities of uncharred organics including grass culms, twigs, wood flecks and occasional larger fragments of wood (up to 70cm long in sample <608> 0.15-0.3) as well as a small amount of wood charcoal. Plant macrofossils were recorded in two of the samples. These include a single possible sloe/blackthorn (*Prunus* cf. *spinosa*) stone in <608> 0.15-0.3 and sedge (*Carex* sp.), gypsywort (*Lycopus europaeus*), holly (*Ilex aquifolium*), and pinks (Caryophylaceae) in sample <608> 0.4-0.5.

6.17.4 Bulk geoarchaeological samples <601a> [6018] and <601b> [6017] (G30) contained wood flecks, grass culms, roots and rootlets with occasional possible fruit skins, seeds and egg cases. Identifiable plant macrofossils were recorded in both samples although they were not commonly present in either. Taxa include sedge, knotgrasses, buttercups in sample <601a> and bramble in sample <601b>

6.17.5 Wood charcoal and charred plant macrofossils were uncommon in sub-samples from columns <900>, <901>, <906>, <1206>, 1501>, <1502>, <1800>, <1802>, <1803> and bulk geoarchaeological sample <1906>. The majority of plant macrofossils were unidentifiable cereal caryopses although a charred hazel nut shell fragment and a grass (Poaceae) culm node and internode fragment were recorded in sample <900> 1.1-1.2; and possible barley (cf. *Hordeum* sp.) and grass (Poaceae) were identified from samples <901> 1.0-1.1 and <901> 1.2-1.3, respectively.

7.0 OVERVIEW and SIGNIFICANCE OF RESULTS

7.1 Realisation of the original research aims

7.1.1 The main aim of the project as defined in the WSI (RSK 2015) was to:

- *Define the extent of the known, and identify previously unknown, archaeological remains that could be impacted during the course of the construction works.*

7.1.2 The extent of all known surviving archaeological deposits within the areas of construction impact were defined and investigated and a number of previously unknown areas of archaeological remains were identified and recorded.

7.1.3 In addition the fieldwork clarified the results of the geophysical investigations (Wessex Archaeology 2014);

The footprint of the new substation at Bolney, encompassing the Late Iron Age/Early Roman features recorded in Site A, was not included in the geophysical survey.

Fields 124-125: The geophysical anomalies recorded in the vicinity of Twineham Grange were not identified as archaeological features during the fieldwork.

Sites B and D: with the exception of the still extant field boundary represented by ditches G21 and G83, none of the medieval features in this area were identified by the geophysical survey, however the area encompassing the features immediately south of Great Wapses Farm could not be accessed at the time of the survey. Conversely, a number of anomalies recorded by the survey further to the west, in Field 114, were not identified as archaeological features during the fieldwork.

Fields 109 – 110: A number of anomalies were identified by the geophysical survey on either side of the B2116, however no archaeological deposits were recorded in this area during fieldwork.

Sites E and F: None of the multi-period features recorded during fieldwork in these areas were identified by the geophysical survey.

Site G: A number of subtle features of possible archaeological interest were identified by the geophysical survey in this area; fieldwork confirmed the presence here of two shallow linear features, G141 and G36, and a sub-rectangular pit G140

Site H: The largely undated ditches G39 – 42 correspond to linear anomalies identified by the geophysical survey in this area.

Site I: Linear anomalies corresponding to the undated G43 and Iron Age G47 and G48 ditches were recorded by the geophysical survey in this area; however, the area to the south of these ditches, encompassing the G53- 57 Iron Age features, could not be accessed during the survey.

The Late Roman gully G58, recorded in Field 65, was not identified by the geophysical survey

Site J: The linear anomlaies recorded in this area (aside from the Cross Dyke SM31217/G59) were not identified as archaeological features during the fieldwork.

Site K: The remains of the post-war farm building G63, recorded during fieldwork, corresponded to a relatively large area of disturbed magnetic signal, identified by the geophysical survey.

Site L: A relatively large anomaly surrounded by a series of small dipolar anomalies of archaeological potential was recorded in this area by thye geophysical survey; however, no archaeological features were identified at the location of these anomalies during fieldwork. Conversely, the Late Saxon burial G60 must have been amongst the anomalies interpreted as modern geological recorded on the north side of the South Downs Way.

Fields 50 to 56: The scattered anomalies recorded in these fields, south of Beeding Hill, were not identified as archaeological features during the fieldwork.

Site M: The probable archaeological anomlaies recorded in Field 45 correspond to the location of the cluster of medieval cut features and deposits (G62, G63, and G157-G162) identified during fieldwork.

Fields 40 – 41: The anomalies recorded in these fields, north of Valley Barn, were not identified as archaeological features during the fieldwork.

Site O: The linear anomalies recorded in Field 35 were not identified during the fieldwork and the linear feature G163, recorded during the fieldwork, was not identified by the geophysical survey as the area could not be accessed.

Field 29: The linear anomalies recorded east of Coombe Barn were not identified during the fieldwork.

Site Q: The post-medieval ditches G164, appear to correspond with the linear anomalies recorded in this area, although their orientation differs somewhat from that posited by the geophysical results.

Site R: The post-medieval ditch G64 was visible as a linear anomaly, corresponding with an extant field boundary, by the geophysical survey; however, a number of anomalies of archaeological potential, recorded to the south in Fields 24 – 25, were not identified during the fieldwork.

Site S: The linear anomaly interpreted as marking the position of the posited Chichester to Brighton Roman Road (RR 153) was not identified during fieldwork, however the geophysical suvey did not appear to identify the probable Saxon boundary ditch (G76) situated a short distance to the south. The anomlies interpreted as intersecting ditches, located north of Sompting Bypass, appear to correspond to the location of the Middle- Late Bronze Age ditches and posthole clusters G100 - G102.

The southernmost part of the cable –route, encompassing Sites T – U, was not included in the geophysical survey.

7.1.4 The results of the archaeological investigations also have some significance in relation to extensive cropmarks known on the South Downs through the completion of Historic England's National Mapping Programme (NMP) held by the West Sussex HER. In particular, this significance relates to the profusion of lynchetted boundaries known from aerial photographs on the downland. These are generally accepted to be part of late prehistoric – Romano-British field systems. It is a noticeable trend within the archaeological results that the profusion of lynchetted boundaries was not reflected in below ground features that have impacted the natural horizon. The most likely explanation for this dearth of archaeological features in relation to the aerial photographic evidence is the extensive ploughing that has taken place on the downland. This may have removed shallow negative lynchets without completely removing the upstanding positive parts of the 'boundaries'.

7.1.5 The objectives were as follows:

- *Prepare an assessment of findings and project design for post-excavation assessments.*
- *Carry out specialist analysis of environmental samples.*
- *Prepare and publish an integrated report of the results of the mitigation phase.*

7.1.6 This document represents a Post-Excavation Assessment of the significance and potential of the results of the mitigation phase and an Updated Project Design outling recommendations for further analysis and revised research agendas

7.2 Significance and potential of the individual datasets

The Stratigraphic Sequence by Garrett Sheehan

7.2.1 The results are described and discussed within the following provisional period structure:

Period 1: Mesolithic – Late Bronze Age (10,000-600 BC)
Period 2: Iron Age – Early Roman (600 – AD100)
Period 3: Early – Late Roman (AD100 - 410)
Period 4: Saxon – Saxo Norman (AD410 - 1066)
Period 5: Medieval (1066 – 1540)
Period 6: Post-medieval – Modern (1540 – present)
Undated

7.2.2 The archaeological remains are discussed under these date-phased headings determined primarily through assessment of the dateable artefacts, predominantly the pottery, and secondarily through the creation of relative chronologies where stratigraphic relationships exist.

Period 1

Early Holocene 'residual activity':

7.2.3 The earliest evidence for human activity identified on site comprised a small assemblage of residual lithic material, of Mesolithic to Early Neolithic date, recovered from subsoil deposits and the backfills of later prehistoric and historic features. Material of this date was uncommon, with the largest concentration of this material comprising 16 flints recovered from Site F. The location of this small flint group, in a marshy, riverine environment, does, however, reflect common distribution patterns of earlier Holocene material in the region (see Farr 2010; Margetts forthcoming b). The scarcity of evidence for Mesolithic and earlier Neolithic activity along the scheme probably indicates that what evidence there is relates to transitory activity for much of this period; this is reflected in the palaeoenvironmental data from Site F, which indicates an initially wet woodland environment, with a transition to a more open environment occurring between the Late Neolithic to Late Bronze Age (see 7.2.4 below).

Phase 1:1: Late Neolithic – Early Bronze Age

7.2.4 As stated above (section 7.2.3), the palaeoenvironmental record from across the scheme reveals a transition from woodland to a more open environment beginning in the Late Neolithic/Early Bronze Age, and it is to this period that the earliest cut feature is dated. This evidence comprised the single, apparently isolated, pit G77**,** recorded at Site S at Lambley's Lane, which contained sherds of Grooved Ware or Beaker Ware, along with lithic material of contemporary date. In addition, a number of unstratified surface finds of contemporary pottery and flint were recorded across this area.

7.2.5 While a number of known barrows, of presumed earlier Bronze Age date, are located within the immediate vicinity of the proposed onshore cable route, e.g.'Mill Hill barrow group' (RSK ID 69/ 93/ 96/ 111/ 112/ 113/ 118/ 119/ 149 and RSK ID 85); on the summit of Steep Down (RSK ID 11); and Truleigh Hill (RSK ID 97 & 114), no Bronze Age burial evidence was encountered during the fieldwork.

Phase 1.2: Middle – Late Bronze Age

7.2.6 Evidence for later Bronze Age activity across the scheme is more abundant than earlier periods. Evidence from the palaeoenvironmental samples includes the cereal pollens at Site F and later Bronze Age lithic material recovered from the dry-valley colluvial deposits, both signifiers of land clearance and arable cultivation (see 7.2.53 below). The bulk of the lithic assemblage recovered from ploughsoil deposits and cut features across the scheme comprised broadly dated late prehistoric flints. Cut features, dated to this period on the basis of finds of securely stratified pottery, are distributed widely across the scheme; at Site S, Lambley's Lane, on the chalk downlands, Site I, Truleigh Sands on the Greensand, and Site E, at Woodhouse on the Low Weald.

7.2.7 It is difficult, given the physical constraints of the cable route strip, to determine the precise nature of the features encountered, however it is reasonable to assume that the ditches recorded at Sites E and I represent the remains of boundary or drainage features, likely related to field systems, while the pit/posthole clusters recorded at Site S were suggestive of structural features related to settlement (although no clear form could be determined from their arrangement).

7.2.8 While the bulk of the Bronze Age pottery from the above sites was dominated by Late Bronze Age Post Deverel-Rimbury (PDR) ware (c.1150-800BC), a number of sherds of Middle Bronze Age Deverel-Rimbury (DR) ware or transitional DR/PDR vessels were also recovered from all three sites. This pottery assemblage appears to reflect the palaeoenvironmental evidence, adding to the evidence for an intensification of land clearance and cereal cultivation during the Middle to Late Bronze Age.

7.2.9 The Scheduled Monument at Site J, ditch G59, was defined as a Cross Dyke of probable Middle to Late Bronze Age date (Scheduled Monument no. SM31217), however, the lack of finds or dateable palaeoenvironmental material from the dyke's primary fill, and the mixed date range of the artefactual material from the secondary fill, make dating this feature difficult. While the presence of the pottery and the ferrous object would indicate a Late Iron Age date, at the earliest, it must be noted that these finds are from a secondary deposit, likely hill wash, which sealed what was probably eroded bank material, and it is possible that this secondary fill significantly post-dates the cutting of the dyke. No deposits suitable for radiocarbon dating were encountered.

7.2.10 The ditch, G163, recorded at Site O, Valley Barn, which contained pottery of likely Middle Bronze Age to earlier Middle Iron Age date, has been previously mapped from aerial photographs as part of the National Mapping Programme (NMP; Historic England; West Sussex HER).

7.2.11 The ditch G163 is part of a wider pattern of recoded cropmarks, and its location, in seeming isolation from any areas of contemporary settlement, suggests that it may have been a boundary marker. The chalk-rich upper fill may well have been deposited as a result of intentional levelling of a bank in antiquity. The feature likely relates to wider field systems upon the South Downs of probable late prehistoric – Romano-British date.

Period 2

Phase 2.1: Middle – Late Iron Age

7.2.12 While much of the flint recovered from across the scheme could potentially belong to either the Late Bronze Age or Early Iron Age, the pottery assemblage suggests that this material should be assigned to the former, and evidence for human activity in the area from the earlier part of the Iron Age is lacking. The palaeoenvironmental evidence does not elucidate the matter; samples of waterlogged wood from sediment deposits within an in-filled former tributary of the Adur in the Herrings Stream field, between Sites A and B, demonstrates that sediment was accumulating within the channel from at least the Early Iron Age, but whether this was related to anthropogenic factors, such as agriculturally-derived soil erosion, is unknown.

7.2.13 Evidence for Middle Iron Age activity is represented at one site, Site I, located on the Greensand. This evidence comprised the G54 and G57 ditches and the G56 and G53 pits; the ditches possibly formed the southeast corner of a rectangular enclosure, with the terminus of the north-south ditch possibly marking the southern side of an entrance. The G56 pits appeared to form a linear alignment, internal to, and following the orientation of, the enclosing ditches, while the four pits in G53 were located in a tight cluster to the northeast of this possible enclosure.

7.2.14 These features were dated on the basis of a small, but varied, group of pottery sherds of Middle Iron Age date; however transitional Middle – Late Iron Age sherds were also recovered from the pit alignment and from a buried soil horizon G97 and charcoal-enriched deposit G98 overlying the fill of the G54 ditch. This pottery evidence indicates that the final in-filling of these associated features likely occurred in the transitional Middle – Late Iron Age, however, C14 dating of the charcoal-rich G98 deposit may confirm this (see section 7.2.93).

7.2.15 Located to the north of, and contemporary with, this probable enclosure was what appeared to have been a northwest – southeast aligned drove way, encompassing a *c.*12m wide track defined by flanking ditches G47 and G44, both of which were recut at least once (G48 and G45). That this drove way went out of use by the end of the period is indicated by later Iron Age pottery recovered from the two G146 pits and the two postholes G147, which were located within the area defined by the earlier flanking ditches.

7.2.16 Land division in the Late Iron Age was also represented by the rectangular field system and associated features identified in Area A at Bolney, where the presence of a hearth G86 and a loom weight in the terminus of ditch G1 indicated settlement nearby.

7.2.17 Further possible evidence of Iron Age or early Roman settlement on the Low Weald zone of the scheme was identified at Site D, Morley Farm, where a possible hearth G25 was excavated containing pieces of a possible ceramic loom weight, along with unidentified burnt bone fragments. The undated features which were located in relative close proximity to this burnt pit may have been contemporary, but at present this must remain supposition.

7.2.18 Evidence for later Iron Age and/or earliest Roman settlement was also recorded at Site F, where clusters of pits and postholes suggestive of structural features (G132, G133, G134 and G135) and possible field system ditches (G127/G129, G130 and G131) containing tiny Iron Age or earliest Roman pottery sherds, fire-cracked flint fragments and fuel ash slag were recorded in close proximity to each other. As noted above (see section 7.2.4), the palaeoenvironmental data suggests that this area transitioned from wet woodland to a more open landscape from the Late Neolithic onwards, and it is probable that this settlement evidence relates to agricultural activity occurring in the vicinity of the site during this period.

Period 3

Phase 3.1: Early – Middle Roman

7.2.19 Occupation of the initially later prehistoric site at Site I continued up to, and beyond, the end of the Iron Age, as indicated by a small pottery group of early Roman type recovered from ditch G55, alongside material of clearly Iron Age date. This broadly north-south aligned ditch was situated to the immediate west of, and parallel to, ditch G54, but appeared to turn, slightly, to the northwest before extending beyond the limit of excavation. The presence of Middle-Late Iron Age and early Roman fabrics within the same contexts is difficult to explain; it is unclear whether the later material genuinely represents a contemporary very early Roman group or whether the ditch is simply a Roman feature containing a moderate quantity of residual material of substantially earlier date. It is possible that this feature was of Iron Age construction and subsequently recut in the early Roman period, but if so, no such evidence for a recut was apparent in the sections excavated on site. Whatever the circumstances of the construction of the G55 ditch, it does appear to represent a later remodelling of the Middle Iron Age enclosure represented by G54 and G57.

7.2.20 The bulk of the Early - Middle Roman pottery recovered on the scheme was retrieved from a single feature; the large ditch G35 on Site F. The primary fills of this ditch were composed of waterlogged deposits, the earliest of which contained a pottery group of 1^{st}-2^{nd} century Arun Valley wares, with a sherd of possibly Late Roman grey ware recovered from the latest. This pottery evidence is supported by the palaeoenvironmental data; a bulk sediment sample taken from the later waterlogged deposits returned dates of 121-252 and 306-311 Cal AD (see section 5.3.21 above). The earlier group of sherds from the primary waterlogged deposits indicate that the initial cutting of this ditch probably only post-dated the latest Iron Age activity in the same area by a number of decades.

7.2.21 The location of this ditch is of interest; it is situated *c*.900m north of, and broadly parallel with, the projected line of the Barcombe Mills to Hardham Roman road (RR 140), which was supposed to cross the scheme at Oreham Common, although no trace of it was identified in either the evaluation or SMS investigations. The series of shallow interweaving linear depressions G33 and the gully-like feature G34 situated parallel to the ditch's north side are difficult to interpret either as agricultural furrows or drains, due to their shallow depth and somewhat meandering form, and an interpretation as wheel-ruts or erosion channels within a routeway seems plausible.

Phase 3.2: Late Roman

7.2.22 As noted above, pottery and environmental evidence from the latest of the water lain deposits in ditch G35 on Site F indicated that this feature was still open in the later Roman period, with settlement activity and farming continuing in its vicinity.

7.2.23 The only other area which produced evidence of late Roman activity was Site I, Field 66, where a single, very shallow, curvilinear gully G58 produced 687g of pottery in various fabrics of likely C.3^{rd} – C.4^{th} date, along with a small quantity of animal bone and three tiny glass fragments, which were too small to be diagnostic of form, but which could have been Roman. While this may not initially appear to represent a large group, it should be noted that the full extent of this feature was not exposed as it extended beyond the cable route strip, and that it measured only 0.20m in maximum surviving depth. While this gully was not located in close proximity to any other features within the cable route strip, it is highly unlikely, given the volume and range of finds recovered from its fill, that it was an isolated feature, and it seems probable that it existed within an area of settlement, the bulk of evidence for which extends beyond the limits of excavation.

7.2.24 Evidence for later Roman settlement in the vicinity of these sites outside the scheme is lacking, however this likely reflects the lack of development in this part of the South Downs rather than a hiatus in settlement. The presumed C3^{rd} – C4^{th} settlement in Field 66 Site I is located midway between the Greensand

Way Roman road and a probable C2nd burial recorded at Beeding Hill *c.*2km to the south (NMR no. 398707) and continued settlement into the same period has been demonstrated at the Late Iron Age/early Roman site at Site F.

Period 4

7.2.25 All of the evidence for Anglo-Saxon activity from along the cable route was recovered from the Downs, the scheme produced no evidence of settlement during this period on the Weald. While this may reflect decline in population in the centuries following Roman withdrawal, and an accompanying shift in settlement away from upland locations in favour of valleys, as suggested elsewhere (e.g. Gardiner 2003) this may not, in fact, be the case; it is has also been suggested that, during the Mid-Late Anglo-Saxon period at least, the Low Weald was utilised for seasonal pastoral usage, under the administration of estates centred on the Downs. These detached seasonal pastures would have been linked to their parent settlements through a network of droveways and a system of transhumance (Margetts forthcoming b).

Phase 4.1: Early – Middle Saxon

7.2.26 The primary fill of the large ditch G76 recorded at Site S, Lambley's Lane produced sherds of C7th – C8th date, which were all relatively fresh and unabraded, suggesting that they had not been subject to any significant reworking prior to deposition in the ditch. This ditch is of potentially great significance; its scale and the probable evidence for a slighted bank suggest it may represent the remains of a substantial, and previously unrecorded, boundary marker. While there is no previous record of a Saxon boundary in this area, the location of the ditch appears to be broadly contiguous with the postulated line of the Chichester to Brighton Roman Road (RR 153), of which no trace was identified during the investigations. It may be that an Anglo-Saxon boundary ran parallel to the Roman Road and that the road itself was truncated through agricultural activity or otherwise removed in this area. It should be noted that the Roman road is yet to be convincingly proven between Chichester and Brighton, however, and a ditch feature does not appear on aerial photographs or the geophysical survey at this location (John Mills pers comm).

7.2.27 Early Saxon activity in the surrounding area is represented by C5th - C6th settlement evidence at Botolphs, *c.*5km to the northeast (Holden 1980), and a cremation (MWS5616), *c.*1.7km to the east. Somewhat later evidence includes possible coin finds at the Romano-British temple at Lancing Down (within ANA DWS8174).

Phase 4.2: Saxo-Norman

7.2.28 The most significant feature from this phase is the early C11th inhumation G60, recorded at Site L. The location of the grave and the evidence of a violent death are highly significant. The burial was seemingly isolated, and not located within a formal Christian graveyard, as would normally be expected for this period. The grave was recorded along the ancient route along the South Downs Way, in close proximity to at least two burial mounds thought to be Bronze Age in date (no longer extant but depicted on OS mapping up to the 1980s), a monument type which often attracts early Saxon burials. However, it is uncommon for this practice to continue into the later Saxon period after to conversion to Christianity in the late 7th century. The burial was positioned in an east west alignment and without grave goods, both elements of Christian burial. However, the possible association with the Mill Hill barrow group and the lone burial outside of a known area of consecrated ground could indicate either a continuation of older burial practises or, perhaps more likely, a sanction carried out on the individual due to a crime or misdemeanour.

7.2.29 Evidence for the reuse of places of pre-Christian burial, both from the early Saxon and earlier periods, for execution burials has been recorded elsewhere; at the Goblin Works cemetery in Leatherhead, Surrey, a small 6th-7th century burial ground was reused from the C7th to C12th cemetery as an execution cemetery and at Banstead Common, Surrey, the primary Anglo Saxon barrow was later re-used as a gallows site, and the burials of five hanging victims had disturbed the primary grave (Lucy 2000, 152). In addition, this burial meets several of the criteria used for defining Later Anglo-Saxon execution cemeteries; the evidence of decapitation or other trauma, shallow and undersized grave, adult male, proximity to pre-existing earthworks, especially prehistoric barrows and proximity to route ways (Buckberry 2008, 150).

7.2.30 This practice of burying criminals in peripheral locations, away from centres of settlement, ceases soon after the Norman Conquest; in the later 11th century criminal burials at such locations become increasingly rare in the archaeological record, only to reappear in later centuries at a range of locations (Daniell 2002, 243).

7.2.31 A word of caution should be sounded in assuming that this burial was as peripheral to settlement areas as it first appears; a single sherd of, possibly somewhat later C11th, pottery was recovered from the pit G61, situated *c.*700m to the south, suggesting that evidence for later Anglo-Saxon settlement may exist nearby, just beyond the cable route.

7.2.32 Evidence for agricultural exploitation of the wider Downland landscape during this phase is represented by pottery sherds recovered from colluvium at the foot of Tottington Mount. These were in a relatively fresh and unabraded condition suggesting, alongside the absence of any later material from this colluvium, that farming activity was carried out upslope during this period. Outside the scheme there is the initially early Saxon settlement at Botolphs which was reoccupied in the late C10th – early C11th (Gardiner 1990). The nearby St. Botolphs Church and St Mary's Church at Sompting Abbots are believed to be pre-Conquest in origin. In addition, the remains of a chapel within a circular enclosure have been excavated at Old Erringham Farm, together with a find of Saxon pennies (Holden 1980).

7.2.33 Documentary and place-name evidence also indicates a number of settlements in the vicinity of the scheme dating from at least the later C8th, including Henfield (recorded as *Hanefeld* in 770), Steyning (*Staeningum c.*880), (Upper) Beeding (*Beadingum c.*880), Bramber (*Bremre* 956), Sompting (*Sultinga* 956) as well as several other pre--Conquest villages and the possible presence of a mint at Cissbury Ring in the C11th.

Period 5

Phase 5.1: Twelfth Century:

7.2.34 The clearest evidence from the scheme for post - Roman 'reclamation' of the Low Weald was that recorded at Site D, where a series of enclosures and posthole arrangements indicated the presence of a nearby medieval settlement, which pottery evidence, from ditch G11, indicates had begun by the C12th. Site D is located within the northern part of Woodmancote parish, the antiquity of which is indicated by the place name Eaton Thorne, formerly Heathen Thorn, on the northern boundary at Wheatsheaf Road, which may allude to an Anglo-Saxon boundary marker. The artefactual evidence also reinforces the domestic nature of this site, as the recovered pottery assemblage is almost totally dominated by cooking pots (see section 6.4) and also includes finds of a hone stone, a rotary quern fragment and nail shanks. The site was likely part of the manor of Morley which in Domesday was described as ½ hide, held of William de Braose by William son of Rannulf (Hudson *et al*. 1987, 161).

7.2.35 Perhaps surprisingly, evidence for early medieval settlement and agricultural activity on the Downland section of the scheme is not especially plentiful, and what was recorded was widely dispersed. This relative lack of activity is likely more apparent than real, however, and it is likely that many of the field systems recorded from later periods had their origins in the early Middle Ages. Examples of such features included the ditches G46 and G41 in Sites I and H, respectively.

7.2.36 Perhaps the most significant evidence from this period was from Site M, on the west side of the Adur Floodplain. The form and location of these features on the Adur flood plain, and the presence of a quantity of fired clay displaying the distorted 'salt' colours of briquetage may indicate that this site was a medieval saltern. This method of salt-extraction involved obtaining concentrated brine by filtering water through alluvial deposits collected from the margins of estuaries and creeks. This brine was then 'grained' in leaden or ceramic trays or cooking pots, and evaporated by heating in hearths or kilns. During the graining process any scum was slaked off and stirring and topping-up with liquor was often practised. The extracted salt was then drained and left to dry through exposure to the wind or sun or suspended in baskets within the boiling house (see Holden and Hudson 1981, 117-148).

7.2.37 This activity took place back from the water edge, above the tidal level, however, additional shelter was often required, as evidenced in Licolnshire and elsewhere by the records of cottages or 'cotes' on salt mounds (Rudkin and Owen 1959, 82). At Bicker Haven, Lincolnshire rectangular boiling hearths or kilns, each with a stakehole at one end, were found within a medieval mound, together with traces of a turf-built shelter and a pit (Healey 1975). This description of hearths with a stakehole at one end is of course paralleled at Site M. Similarities with the features from Site M can also be seen in the excavated evidence of the nearby medieval saltern mound at Millfields Caravan Park, Bramber (Ridgeway 2000). The mound was used intermittently from the 13th – 16th centuries with cut features comprising wells, brine collection ditches, hearths, tanks, pits and structural remains.

7.2.38 The washed alluvial silt or sand was discarded as a by-product, leading to the formation of 'salt' mounds. Over 120 salt mounds were recorded in a gazeteer of such sites in E.W. Holden's comprehensive 1981 paper on the medieval salt-working industry of the Adur Valley (Holden and Hudson 1981, 122-141). This survey recorded ten mounds at Applesham Farm, which were positioned on the landward side of a meandering protective bank, which ran from north to south. The mounds and bank were removed at some unspecified time before the publication of Holden's survey; however, the ploughed-out bases of these features are clearly visible in recent aerial photographs (Google 2017), where the flattened bank can be traced as a meandering linear cropmark across ploughed fields for a distance of *c*.760m and approximately ten irregular 'blobs', clearly the remains of the mounds, can be seen on the banks west side.

7.2.39 The spreads of silt containing fired clay, G158, are obviously the basal remnants of one of these salt mounds. Although the recovered fired clay clearly displayed discolouration commonly found on briquetage, it was noted that there were no additional characteristics that would immediately identify this material as briquetage; the form was amorphous and it was not particularly hard fired. It is possible that this was material passively discoloured by the process of heating salt water in adjacent salterns rather than pieces of briquetage that were intentionally shaped for use (see section 6.5).

7.2.40 The recut linear feature, G62/63, follows the line of the ploughed-out bank described by Holden, and visible on aerial photos, and its water-lain silt fills confirm its function as a drainage channel, which would have worked in conjunction with the adjacent bank to prevent inundation of the land to the immediate west. However; Holden surmised that the bank represented a later medieval or post-medieval inning (Holden and Hudson 1981, 130) but the medieval nail shank recovered from the associated drainage ditch during excavation suggests that it may be near contemporary with the salterns. It is possible that the nail shank and lead-cut offs recovered from the ditch may have been associated with shelters utilised by the salt workers themselves. It seems highly likely that the bank and associated ditch were constructed with the express purpose of protecting the salt working areas from inundation. In addition, Holden stated that the mounds at Applesham Farm were unlikely, based on then current knowledge, to have been earlier then the 13th century, despite the fact that sherds of Saxo-Norman/early medieval pottery had been collected from the vicinity of the bulldozed mounds (Holden and Hudson 1987); the excavation results indicate a 12th century date for the site, confirming that the date suggested by the previously recovered pottery was broadly correct. The salt-pans at Coombes, in which parish the site lies, were valued in Domesday at 50s 5d.

7.2.41 The available evidence suggests that the majority of salt production in the Adur Valley spans a period from the 10th to 14th centuries, after which the industry fell into decline as a result of a combination of economic and environmental factors. Evidence from the excavated saltern at Bramber suggests that at least some activity continued until the 16th century after which the site was abandoned (Ridgeway 2000).

Phase 5.2: early/mid c.13th – mid 14th century

7.2.42 Evidence for agricultural activity in the 13th – mid 14th centuries is again mostly represented on the Wealden part of the scheme, at Sites B and D. The features recorded at Site B appear to have informed the layout of the surrounding managed landscape for a considerable span of time; analysis of OS mapping indicates that the main curving, southeast to north aligned, ditch G7, may have been utilised as a drainage feature up to the 1970s, and it may be that this was the original function of these interconnecting ditches from the outset.

7.2.43 Although, as noted above, any settlement near to Site D was likely originally established in the earlier C12th, the majority of features excavated at Site D itself were dated to the later C13th/ C14th, reflecting an intensification of agricultural activity in this phase, with increasing quantities of domestic refuse being deposited in the ditches between c. 1250/75 and 1350 (see section 6.4). This is mirrored across the wider Wealden region; by the C13th larger manors were increasingly obliged to bring the heavy clays of the Low Weald under cultivation (Brandon 1971, 124). This late stage of Wealden colonisation has been highlighted by landscape historians as lordly instigation of settlement in order to turn a profit. It involved the exchange of land in return for rents and the conversion of manorial obligations into property rights (Witney 1976, 66, 117). Beyond the areas already occupied this resulted in clearance and cultivation but also enclosure of former areas of waste and land still utilised as manorial '*den*'. New peasant, freeholder and higher status holdings sprang up and the period also witnessed the creation of lordly deerparks and moated sites (Margetts, forthcoming b).

7.2.44 This expansion of settlement comes to a seemingly abrupt end following the Black Death in 1348, with a widespread fall in population resulting in severe dislocation of the regional economy (Brandon and Short 1990, 93). The only tentative evidence for late medieval activity on the scheme was a much abraded fragment of possible medieval brick recovered from the ditch recut G30, in Site F.

Period 6

7.2.45 The landscape through which the cable route passes has been characterised previously into three broad agricultural zones during the post-medieval period, each reflecting the influence of the underlying geology of the region (Brandon and Short 1990, 202 - 208). The Weald was dominated by cattle farming, with greater numbers of cattle in the High Weald during the period than anywhere else in the South-East. Oats appear to have been the dominant crop in the region, being the most tolerant of acidic soils. The Greensand was utilised for mixed farming, with greater diversity in crops and livestock than that found on the Weald. On the chalk downlands barley dominated and during this period farms were being consolidated to give a most prosperous infrastructure for mixed farming relying on good markets for cereal and sheep (ibid.).

7.2.46 The overwhelming majority of evidence for both the earlier and later parts of the post-medieval period is agricultural in nature, comprising field boundaries and drainage features, recorded at Sites F, H, Q, R and U. While these features may not appear to be particularly interesting in of themselves, what is remarkable is the continuity and incorporation of earlier agriculturally - related features into this post-medieval landscape; the positions of the C12th – 14th ditches G21, G83, G12 recorded at Site D correspond to still extant field boundaries and the contemporary ditch G7 a short distance to the north, at Site B, appears to have been retained as a drainage ditch up to the present.

7.2.47 No artefactual material was recovered from the G156 earthworks recorded at Site T, but historic mapping from the 1870s up until the 1930s indicates that the area to the immediate north of the site was utilised as watercress beds. The commercial cultivation of watercress in artificial beds began in Britain in the early years of the 19th century and by the late 1800s several distinct forms of bed were in use (Eve 1998). One such type of bed utilised a 'bypass' channel from a stream, where water flow was managed by weirs; a distinctive type of bypass channel was that dug into a serpentine twisting form, doubling back on itself around thin divisions to maximise the cultivable area in a limited space (ibid.). It seems highly probable that the earthworks at Site T represent the remains of this type of watercress bypass channel.

Undated

7.2.48 While a number of anthropogenic cut-features devoid of diagnostic artefactual material were identified across the scheme, the majority of these were small linear gullies and ditches, likely agricultural drainage features, and are therefore of limited archaeological significance. There were, however, a number of more substantial features for which reliable finds-based dating evidence was not achieved; these include several pits and linear features at Site I (G43, G49-51, G143-145 and G148-151) and the majority of features in the northern end of Site D (G23-27 and G118-120).

7.2.49 The undated features at Site I can, however be assumed to be of broadly late prehistoric or early Roman date, given their location in an area containing much settlement evidence from the Late Bronze Age and Middle Iron Age to Late Iron Age/early Roman periods, and at least one of these features the G94 pit [9139], was cut by ditch G44 and cannot, therefore, post date the Late Iron Age.

7.2.50 The features in the northern part of Site D cannot, on the other hand, be dated on the basis of their proximity to other areas of activity of known date. While these features are situated between two areas of medieval activity, the lack of pottery from their fills stands in contrast to the other medieval features recorded in the southern part of Site D or in Site B, to the north. In addition, the fired clay fragments recovered from the G25 burnt pit are believed to be weight fragments of later prehistoric or Roman date, although their fragmentary condition means that this identification is somewhat speculative. The charcoal enriched fill of the G25 pit was sampled, however, and it is hoped that C14 dates may date (see srction 7.2.93) the activity in this part of the site, and that further palaeobotanical analysis of the recovered taxa can elucidate the nature of this activity.

The Geoarchaeological Results by Kristina Krawiec

7.2.51 The samples recovered from the waterlogged deposits at the site have provided important palaeoenvironmental sequences spanning the Neolithic-Iron Ages. These types of deposit have rarely been investigated in the Low Weald or Greensand and it is recommended that several elements are progressed to full analysis and publication. The small tributaries that were investigated; Herring Stream and marshland deposits at Site F, present unique opportunities to understand the wider Adur valley fluvial system and the human impact on the landscape in the later prehistoric period.

Wetland deposits

7.2.52 The waterlogged deposits recorded across the scheme demonstrate the potential for the Weald and Greensand to provide well-dated palaeoenvironmental sequences, something which has been little recognised before. There are clearly a network of smaller tributary streams of the Adur

Valley that have received little attention. Examples of Wealden streams have, however, been examined at the Bolnore Village development, Haywards Heath (Margetts 2017) and the Wickhurst Green housing development (tributaries of the River Arun; Margetts forthcoming b). The wetland deposits recorded at Site F of the Rampion Scheme (Woodmancote) further demonstrate the value of these smaller fluvial systems. The palaeoenvironmental assessment has shown the transition from a wet woodland environment in the Late Neolithic to a more open, possibly acidic environment in the Mid-Late Bronze Age. Further to the north, at the Herring Stream, the pollen assemblage has the potential to provide information on later landscape change, dating to the Iron Age and into the Romano-British period.

7.2.53 In addition, waterlogged archaeological features have also been shown to survive within this supposedly free-draining landscape. The sequence recovered from the Roman ditch <610> also has the potential to continue landscape reconstruction into the late historic period.

7.2.54 The wet woodland represented in the earliest sequences gives way to a more open environment with evidence for cereal cultivation and clearance. There are subtle differences between the two Site F marshland assemblages which may be due to the position of the two sample sites within the wetland. The Herring Stream assemblage demonstrates a continuation of a more open environment into the Late Iron Age, with more evidence for cultivation/crop processing. Although these sample sites are fairly dispersed they demonstrate that a range of deposits are preserved within the Weald and Greensand that cover a wide span of time that have the potential to allow landscape reconstruction.

7.2.55 The marshland deposit and the later waterlogged ditch fill (Site F) represent rare opportunities to better understand the nature of landscape change in relation to human activity.

Dry valley sequences

7.2.56 The dry valley sequences, which were recorded across the scheme, were not investigated to their full depth and therefore it is unsurprising that the sequences recovered all date to the Holocene rather than Pleistocene. In addition, several other colluvial deposits not linked to dry valleys were recorded. These colluvial sequences provide important proxy data for changes in land-use patterns across the late prehistoric and historic periods. The chronological control on these sequences is variable and is reliant on associated archaeological material within the sequence, as is usual with such material (Wilkinson 2003, 729). These sequences can be integrated with the waterlogged proxy assemblages to create a more nuanced understanding of land-use change across the later prehistoric into the historic period.

7.2.57 The colluvial dry valley samples all recorded scatters of material derived from human activity and the molluscan assemblages suggest a mostly open grassland environment for the majority of the sites studied. This is suggestive of perhaps an intensively grazed landscape which is tentatively ascribed to the later prehistoric period, Late Bronze Age onwards. Although all the sequences examined demonstrated an open landscape there are hints at differences between neighbouring valleys with bare earth suggested at Edburton <901>

but tall vegetation suggested nearby at sample site <900>. This suggested that further work is required to extract a more nuanced picture of land-use.

7.2.58 The analysis of several dry valleys by Wilkinson (2003) demonstrated limited colluvial accumulation prior to the Bronze Age which may be the case with the new sites examined here. Wilkinson also recorded high energy erosional events preceding lower energy processes. The particle size assessment carried out on the dry valley samples demonstrated a definite split in the data between the northern and southern ends of the scheme (Appendix 8). The samples from Edburton and Steyning Road demonstrated silt dominated colluvium with occasional spikes in the percentages of sand at the base and top portions of the sequences. By contrast the Cow Bottom Valley and Steep Down Hill sequences demonstrated more consistent proportions of sand, silt and clay throughout the depth of the deposits. These differences may be due to several factors including slope gradient, sample site position within the valley, differences in the underlying geology and land use practices. Again this data needs to explored more fully to understand the significance of the results in relation to the molluscan assemblage.

7.2.59 After full analysis the new dataset can then be directly compared to the work of Keith Wilkinson (2003) and add to the corpus of information relating to the landscape change o the South Downs. It may also provide some insight into the nature of the human activity further upslope, such as Tottington Mount, and may help to identify potential new areas of activity.

Adur Valley

7.2.60 The borehole survey carried out by Wessex demonstrated the difficulties in recovering intact samples from the Adur floodplain due to the presence of thick deposits of fluvial sands. The prevalence of these deposits (in comparison to peat deposits or other layers suitable for palaeoenvironmental sequence work) meant that no samples suitable for palaeoenvironmental assessment and dating were recovered at the sampled locations. It does, however, provide a useful guide for future investigations in that it may be more appropriate to attempt to recover a single intact sequence rather than attempt transects across the floodplain. The possible medieval salterns recorded at Site M, along the western side of the Adur floodplain demonstrate the preservation potential of the deposits. Here the archaeological features both truncated and were sealed by alluvial deposits.

7.2.61 The lack of purposive geoarchaeological and palaeoenvironmental investigation into the Adur has been highlighted previously (ASE 2016b). This had led to a lack of an absolute chronology of the evolution of the fluvial system, and what is known is based on the preserved archaeological remains within the floodplain and river terraces. It is the smaller tributaries of the wider Adur fluvial system investigated during the mitigation work (rather than the preceding borehole survey) that have proven to be the most productive and have demonstrated that even the shallowest deposits have the potential to yield valuable palaeoenvironmental data.

Preservation and potential

7.2.62 A full range of environmental proxy data was assessed for both the waterlogged and colluvial dry valley sequences. These assessments have identified the deposits which would benefit from further study and scientific dating.

Plant macrofossils

7.2.63 The plant macrofossils from all deposits were poorly preserved and are not recommended for further work.

Pollen

7.2.64 The results of the assessment have demonstrated the potential wealth of further information the pollen could provide about the past landscape. Specifically, further investigation can identify the nature and timing of changes in the landscape, and the interaction of different processes (e.g. vegetation change, human activity, climate change, hydrological change) thereby increasing our knowledge and understanding of the site and nearby area. In the case of human activity, palynological evidence can include: (1) decreases in tree and shrub pollen suggestive of woodland clearance; (2) the presence of herbs indicative of disturbed ground, pastoral and/or arable agriculture; (3) charcoal/microcharcoal suggestive of anthropogenic or natural burning.

7.2.65 It is recommended that full analysis is carried out on the sequences from <603>, <609>, <610>, <201> and <2102>. No further work is recommended on samples from the remaining sequences due to an insufficient number of remains.

Molluscs

7.2.66 The importance of molluscs in the evaluation of the palaeoenvironment has been known for many years (e.g. Evans 1972), especially in areas such as the chalk downlands of southern England where other forms of analysis, such as pollen, are less well-preserved (e.g. Bell 1983; Allen and Gardiner 2009; Allen 2017). There is clearly scope for more detailed analyses of the five sequences from Edburton to Cow Bottom Valley (<901>, <900>, <1206>, <1502>, <1501>), which should include the intermediate subsamples not submitted for this assessment. Full analyses would help elucidate changes in the palaeoenvironment during the period of deposition and it is likely that the presence or absence of woodland would be established. The varying proportions of *Vallonia excentrica* throw light on one aspect of land usage at different times – that of grazing. There are good numbers of shells in nearly all samples, with the exception of the probable decalcified sediments at the base of the Coombes Road <1502> and Cow Valley Bottom <1501> samples.

7.2.67 The samples from the southern half of the cable route (<1803> to <1906>) contain very few molluscs, and further analysis of these samples would not be justified.

Insects

7.2.68 The lack of well-dated insect assemblages from the Weald and Greensand makes the samples recovered from the marsh deposits of Site F, which date to the Late Bronze Age, of particular significance. Three of the samples <608> (0.15-0.30m, 0.40-0.50m, 0.60-0.70m bgl) are recommended for full analysis (Appendix 9: table 2).

The Flintwork by Karine Le Hégarat

Significance

7.2.69 Interventions at several locations along the scheme have produced assemblages of prehistoric struck flint and burnt unworked flint fragments but assemblages from individual area are mostly small. Even looking at the two richest areas (Site J, 141 pieces and Site S, 167 pieces), assemblages from individual deposits/features are often small. Overall, a large amount of flint came from the topsoil/subsoil (81 pieces) and from colluvial deposits (62 pieces). Most of the remaining pieces appear to represent residual pieces.

7.2.70 Earlier flintwork (Mesolithic or Early Neolithic) was uncommon. A small group provides evidence for Mesolithic or Early Neolithic presence in Site F (context [6000]).

7.2.71 No chronologically diagnostic pieces were found, but based on morphological and technological grounds, the bulk of the material is likely to be of later prehistoric date (Middle Neolithic to Late Bronze Age/Early Iron Age). Without large groups and diagnostic tools, it is difficult to refine this dating. The larger group from possible Late Bronze Age trackway or ditch G102 (context [19135], Site S) remains slightly enigmatic. It is likely to be Middle Neolithic/Early Bronze Age in date. The pieces are in a relatively good condition, and they may be contemporary with the small assemblage of Beaker/Grooved Ware pottery found in this area. Flintwork associated with later prehistoric activity is already well represented from sites located on the Coastal Plain and South Downs.

7.2.72 The excavations produced relatively small quantities of burnt unworked flint. It is interesting to note that the largest amount came from Site S. Burnt unworked flint fragments are often found on sites situated on the Coastal Plain. They are frequently associated with Late Bronze Age burnt mounds, although recent excavations have also found them in association with Late Neolithic to Early/Middle Bronze Age deposits (Margetts forthcoming a; Stephenson in prep). Site S produced Late Neolithic/Early Bronze Age pottery as well as Late Bronze Age pottery.

Potential

7.2.73 The assemblage demonstrates early use of Site F during the Mesolithic or Early Neolithic period and use of several areas during subsequent prehistoric periods (Middle Neolithic to Late Bronze Age/Early Iron Age). However, the flint remains poorly dated and, given its overall mixed nature and small size (on a feature/deposit-based level), it provides little potential to establish more precisely the chronology of flint use along the cable route. No large groups were found from potentially contemporary depositional contexts. Given the low level of diagnostic tools, modified pieces and in-situ groups, the assemblage has no potential to provide further details regarding the different types of activities undertaken.

The Prehistoric and Roman Pottery by Anna Doherty

7.2.74 Late Neolithic pottery is very rare in Sussex. A gazetteer published in the late 1990s recorded just two finds spots of Grooved Ware from East or West

Sussex (Longworth and Cleal 1999). Although a few other examples have been found in the past two decades (e.g. Margetts forthcoming a; Taylor et al 2014), the small stratified group from Site S is of some significance. Similarly, Beaker from non-funerary contexts is rare and only a small number of sherds have been noted on the Coastal Plain. An association with Grooved ware is also potentially important because it hints at the early spread of Beaker culture, perhaps even prior to the horizon of c.2250-2150 BC proposed by Needham (2005) as a period of marked expansion beyond circumscribed groups. Beyond preparing a short publication text on this material there is limited scope for further analysis given the small size of the assemblage.

7.2.75 The possible evidence for structured deposition involving the placement of whole or partially-complete vessels in the later Bronze Age assemblage from Site S is of local significance and would warrant some limited further research. Even where whole placed vessels have been found without any evidence for cremated bone, they have often interpreted as funerary deposits, perhaps used as cenotaphs or token burials (e.g. McKinley 2006, 34-35). There appears to be a form of deposition quite specific to West Sussex and Hampshire, involving structured deposition of whole vessels containing quantities of burnt flint (Seager Thomas 2010); however, there is no evidence for any deliberately-interred contents in the vessel apparently placed intact on Site S. Structured deposition of later Bronze pottery vessels and other household items also often seems to be closely associated with the decommissioning of domestic structures. Clear examples of this practice can be seen on a number of Sussex sites including Mile Oak, Burgess Hill and Peacehaven (Hamilton 2002; Wallis 2012; Hart et al. 2015). Further consideration should be given to the context of the partially complete vessels and any associated finds in order to determine whether they could be interpreted in this way.

7.2.76 More generally, the prehistoric and Roman assemblage is of small size and spread very widely across different locations on the Rampion Scheme. The later Bronze Age assemblages from Sites E and S, the Late Iron Age/early Roman material from Site A, the earlier Roman group from Site F and the later Roman group from Site I are all of some local significance and probably large enough to warrant summary description in the publication.

The Post-Roman Pottery by Luke Barber

7.2.77 The ceramic assemblage from the current site is considered to hold mixed significance and potential for further analysis depending on the period involved.

7.2.78 The Anglo-Saxon pottery is of interest as this material is never common, though admittedly to date, the Adur Valley has had perhaps more than its fair share of Saxon pottery in comparison with other areas of the county. The current sherds are fresh but are isolated with virtually no feature sherds and little reliable associated dating. As such, additional analysis is unlikely to be warranted.

7.2.79 The Saxo-Norman and High Medieval assemblages form the bulk of the material. The fabrics involved are already known of from both works in the Adur Valley as well as the Haywards Heath area. However, there have been few groups published from the area of the Weald represented by Site D (that from Woodmancote was never published: Barber 1999). This area appears to be outside the distribution coverage of Surrey products that are so common in the Crawley and Horsham areas (e.g. Barber 2015). It appears to derive ceramics from it immediate hinterland and the Adur valley, with some marginal material coming from the central Weald and further west in West Sussex. Although the small groups of Saxo-Norman material are most useful for our understanding of the range of fabrics, the High Medieval groups are larger, with more feature sherds. That from context [4052] (G17), in particular, is both large, lacking in significant residuality and contains a number of feature sherds. As such, it is considered the Saxo-Norman and High Medieval assemblages from Site D do warrant some additional work and publication.

7.2.80 The late post-medieval pottery consists of isolated pieces that do not hold any potential for further analysis.

The Ceramic Building Material by Isa Benedetti-Whitton

7.2.81 The highly fragmentary and generally non-dateable or clearly residual nature of the ceramic building material renders it of no significance on a local, national or international level. This assemblage has no potential for future research.

The Fired Clay by Isa Benedetti-Whitton

7.2.82 Given the scale of excavation, the quantity of fired clay is not particularly large and the generally fragmentary and undiagnostic nature of the assemblage greatly reduce its archaeological significance. Where the identifiable fragments of loom weight were found, the approximate dating of these corresponds to the other dating evidence from those features. This assemblage has no potential for future research.

The Glass by Elke Raemen

7.2.83 The assemblage is not of significance beyond its contribution to the dating evidence. The assemblage is not considered to be of potential for further analysis.

The Geological Material by Luke Barber

7.2.84 The stone assemblage is small and essentially consists of unworked pieces that could be expected to occur naturally in the area. The only definite worked stones are both of medieval date but are of well known types and not unexpected. As such the stone assemblage is not considered to hold any potential for further research beyond that undertaken for this assessment. With the exception of the two worked medieval pieces, the stone assemblage has been discarded.

The Metallurgical Remains by Luke Barber

7.2.85 The slag assemblage is of negligible size and contains no definite material relating to metal working. In addition all the actual slag is essentially undated. It is clear that metal working was not being undertaken at the investigated sites. The slag has no potential for further analysis and no additional work is proposed. The assemblage has been discarded.

The Bulk Metalwork by Elke Raemen

7.2.86 The assemblage is too small, lacking inherently interesting and in situ material. It is not considered to be of significance. The assemblage is not considered to be of potential for further analysis.

The Inhumation Burial by Dr Paola Ponce

7.2.87 Skeleton [12003] (G60) is the only inhumation recorded on site and does not appear to have been deposited in a formal cemetery, as expected for an early 11th century burial. The exceptional lone burial outside a known consecrated ground, in addition to the evidence of fatal trauma could indicate a sanction carried out on the individual due to a crime or misdemeanour and could also be interpreted, as suggested by Sofield (2015), as hasty, careless, opportunistic, deviant or surreptitious burial.

7.2.88 Isolated Late Anglo-Saxon burials found buried in settlement areas, near territorial boundaries, routeways, droveways or crossroads have not been systematically studied. These types of burials are significant because they have been interpreted as representing a special relationship between living communities and their dead. Changes related to the need to exert control over settlement space and agricultural land, where an ancestral connection was present, would have reinforced claims on the land. Another possibility is that some social identities demanded exclusion from the usual burial places. Alternatively, individual [12003] could represent an execution victim whose internment could have signified the end result of local or even *ad hoc* justice.

7.2.89 This case study will contribute to the existing corpus of knowledge by providing a new example specific to the West Sussex area for which no previous cases have been reported.

7.2.90 In terms of disease and in line with the *Health and Disease in Britain from Prehistory to Present Day* published by Roberts and Cox (2003) the diseases and ailments that the individual suffered seem to be consistent with those seen in other contemporary populations and as expected by a Late Saxon individual.

The Burnt Bone by Dr Paola Ponce

7.2.91 The information obtained from the small and very fragmentary assemblage of burnt bone recovered from excavation was of little significance due to its size, degree of fragmentation and lack of demographic information derived from the material. As no human or animal fragments were positively identified in the sample, the results obtained hold no potential for further study.

The Animal Bone by Hayley Forsyth-Magee

7.2.92 Due to the limited size and preservation level of the animal bone assemblage no further work is required. Due to the limited size and preservation level of the animal bone assemblage no further work is required.

The Shell by Elke Raemen

7.2.93 The assemblage is too small to be of significance and is not considered to be of potential for further analysis

Radiocarbon Dating of Archaeological Deposits

7.2.94 It is proposed that charcoal/ charred plant remains from five archaeological deposits be submitted for C14 dating:

- Sample <909>; charcoal-rich spread G98 sealing possible Middle Iron Age ditch in Site I: Analysis of C14 from this deposit may confirm the date of the final in-filling of the Middle – Late Iron Age enclosure in Site I.

- Sample <1500>; primary fill of G163 ditch [4063]: This ditch has been identified as a probable field boundary- part of a wider field system known on the downs from aerial photography. Radiocarbon dating of charred material from the primary fill of this ditch may establish the date of construction for this feature.

- Sample <4002>; primary fill of G25 pit [4062]: The date and function of this pit, containing burnt bone and possible ceramic loom weight fragments, are unclear and the same is true of the adjacent features in this part of Site D; radiocarbon dating of associated charred material or bone from this pit may therefore aid in an understanding of the human activity recorded in this part of the scheme.

- Sample <1903>; primary fill (19132) of G77 pit [19133]: An association between Beaker and Grooved ware is potentially important because it hints at the early spread of Beaker culture, perhaps even prior to the horizon of c.2250-2150 BC proposed by Needham (2005) as a period of marked expansion beyond circumscribed groups. For this reason it may be worth considering the potential for radiocarbon dating of associated charred material or bone from pit [19133].

- Sample <1907>; lower fill of G76 large boundary ditch [19023]: this feature may have been a large, previously unknown, boundary marker and as such may be of regional significance; it is important therefore to extract as much data as possible from this feature, in order to aid in establishing its date and function.

Radiocarbon Dating of Geoarchaeological Deposits

7.2.95 A further round of radiocarbon dating is recommended, from the dry valley sequences in particular. In order to gain chronological control. 7 samples of charred grain/hazelnut are recommended from <900> (2 samples), <901> (1 sample), <1206> (2 samples), <1501> (2 samples). The processing of the further sub-samples from these sequences may also yield more material for dating should these selected samples fail to date.

7.2.96 In order to create a robust framework for the waterlogged sequences a further 6 dates are proposed: <603> humin fraction 1.42-1.44m and 0.75-0.79m (2 samples), <609> 0.53m wood (1 date), <610> 0.85-0.87m humin fraction (1 sample) <2102> 0.66m humic and humin fractions (2 samples). No further samples are recommended from <201> due to the wide time scales represented by the Iron Age dates, relating to the dating plateau of this period.

The Archaeological Environmental Samples: Significance and Potential
by Lucy Allott

Plant macrofossils

7.2.97 Bulk environmental samples taken from sites along the Rampion onshore cable route produced very small quantities of charred plant macrofossils and where present these tend to be poorly preserved. All of the remains noted have been identified where possible. They provide glimpses of evidence for cereal and non-cereal crops and weed taxa dating between the Late Neolithic/Early Bronze Age and the medieval period. They are however too few to suggest any trends in cultivation or to characterise the vegetation and on the whole the remains are not unusual or noteworthy. One possible exception to this is the small assemblage of barley grain and charred hazelnut shell fragments within the lower fill [19132] of the late Neolithic/Early Bronze Age pit [19133] (G77) excavated at Site S. Although the botanicals are not numerous this deposit is associated with an important ceramic assemblage and charcoal and may form part of a structured deposition perhaps associated with funerary activities. No further identification work is required for plant macrofossils, however, the contents of this deposit should be presented as part of any further publication work undertaken.

7.2.98 On the whole, plant remains from the Rampion mitigation are of low significance with limited potential as sites across the region, including those at Peacehaven (Le Hégarat 2015), Steyning (Hinton 1993; Le Hégarat and Allott 2010), Shoreham-by-sea (Allott 2011), and within the forthcoming Coastal Plain monograph (Allott in prep), have yielded significantly larger assemblages of charred and in some instances waterlogged plant remains from a range of periods.

Charcoal

7.2.99 Charcoal assemblages from sites along the Rampion onshore cable route are larger and in many cases, better preserved, than the plant macrofossils. Well dated assemblages of charcoal are slightly scarcer from the region than plant macrofossils and therefore several of the larger, better preserved assemblages are of significance. Of particular note are those from well dated or datable contexts and those associated with good assemblages of finds or other environmental remains or from features of intrinsic interest.

7.2.100 The lower fill [19132] of pit [19133] (G77) at site S provides some of the earliest evidence for fuel use. The charcoal assemblage appears to be directly associated with a cache of charred hazelnut shell fragments and barley grain as well as a near-complete vessel often associated with funerary activities and structured deposition (see section 7.2.74). Charred material from deposit [19132] also holds potential for C14 dating which may assist the interpretation of the ceramic assemblage (see section 6.3.4-6).

7.2.101 Spread [9157] (G98) from Site I is one of the only Middle/Late Iron Age deposits with significant quantities of fuel and it is associated with pottery and a small, unidentifiable assemblage of burnt bone. Features of this date are rare in the area. In both instances further consideration of the contexts and their significance is required to establish the relevance of further charcoal analysis. Several samples from Late Iron age/early Roman features at Site F are of interest. These include samples <606> and <607> from an arc of postholes and a single sample, <604>, taken from a cluster of pits in the south of this site. This area of the site shows a focal point of activity and wood charcoal from these features may relate to structures with which the postholes are associated. A further sample of possible interest is <611> although this is located in the far north of Site F. This feature was very rich in charcoal and may be associated with a feature to the west although the functions of these features is perhaps less clear.

7.2.102 Salt making was extensive in the lower reaches of the river Adur in the late Anglo-Saxon and medeival period (Holden and Hudson 1981; Ridgeway 2000) however, there is currently very limited information regarding the types of fuel used. Ridgeway (2000) refers to the use of 'whatever fuel was available' whether wood or peat while Holden and Hudson (1981) suggest fuel may have been sourced and floated to the site from woodland in the Weald. Identification work to reveal the range of fuel types used is, however, lacking. Goodburn (1998) recorded several pieces of plausible fuelwood within the timbers, including a partially charred oak log, however, no identifications were published for charcoal fragments arising from saltern deposits. Identifications may have been undertaken during assessment of the site and this should be investigated further as part of the Rampion analysis. Medieval hearths or pits at Site M on the Rampion onshore cable route were recorded on site as rich in charcoal and analysis of these assemblages may therefore provide the only identified wood charcoal associated with salterns in the Adur valley. Currently only one of the three processed assemblages (<1303> [13013] from pit/oven/saltern [13012] G157) has sufficient charcoal for analysis, however, two further samples (from [13012] and [13004]) could be processed and may contribute further charcoal. It may be possible to determine if brushwood or larger woods were used as well as providing a list of the taxa and in turn an indication of woodland types from which fuel was sought. Assessment of the assemblage from [13013] suggests a focus on larger 'fuel woods' ash and oak but further analysis may alter this view. Bark is also present and it may be possible to establish if bark was being used as a fuel in its own right or is present as a result of being attached to the main fuel resource, on roundwood perhaps. Processing these samples would also reveal whether other materials, such as herbaceous fuels were present, although the current assemblages provide no support for this. Gale (2001a) considers the use of different types of fuel, whether wood, charcoal, peat, bog oak or herbaceous fuel (such as reeds, sedges or bracken) and demonstrates the complexities of assuming certain wood types were favoured as 'good' fuels by discussing the importance of understanding burning properties of individual materials and the requirements and different stages of the salt making process when considering the selection of fuels. The example from Lincolnshire (Gale 2001b) suggests that an array of different fuel woods were procured with an emphasis on small diameter Ericaceous taxa such as heather. Although the current data is likely to be limited by the overall number of samples available it may be possible to combine the Rampion data with any obtained during the Bramber excavations to examine the types and sizes of fuel used and whether these resources could have been procured locally or whether they were floated downstream from the Weald, as postulated by Holden and Hudson (1981). Further comparative assemblages will be sought from the region.

7.2.103 The undated pit/possible pyre [4062] (G25) at Site D from which a large quantity of unidentifiable burnt bone and some possible loom weight fragments were recovered produced a noteworthy charcoal assemblage. It is possible that this feature represents a dump of fuel and other domestic waste although the association with a large quantity of charred bone is of interest and the interpretation of the context is yet to be finalised. In either instance it could provide information regarding the range of fuel types used and the local vegetation from which it was procured.

The Geoarchaeological Environmental Samples by Lucy Allott

Significance

7.2.104 Taxa noted in column sample <608> provide evidence for trees or shrubs (holly and sloe) that are found in woodland, woodland margin or hedge habitats in addition to herbaceous plants (gypsywort and sedge) typical of wetter ground such as wet fields or near rivers. By comparison, samples <601a> and <601b> which are also from Site F provide evidence for grassland taxa (buttercups, knotgrasses and sedge - which might also occur on wetter ground) as well as brambles an indicator of disturbed ground.

7.2.105 The charred grass culm and hazel nut shell fragment in column sample <900> could originate from grassland and open woodland/hedge habitats, respectively. The taphonomic processes by which they became charred and incorporated in the deposits is less clear. Grass culms could derive from fuel, domestic waste or crop processing waste while the hazel nut shell is likely to represent food waste or an incidentally charred natural inclusion. The presence of cereal and grass caryopses in some of the column samples suggests the presence of arable agriculture in close vicinity of Sites I, L, and O.

Potential

7.2.106 Plant macrofossils were infrequent in all of the samples and hold no potential for further analysis. With the exception of a few possible egg cases no invertebrate remains were recorded in samples <608> or <601a> and <601b>.

8.0 PUBLICATION PROJECT

8.1 Revised research agenda: Aims and Objectives

8.1.1 This section combines those original research aims that the site archive has the potential to address with any new research aims identified in the assessment process by stratigraphic, finds and environmental specialists to produce a set of revised research aims that will form the basis of any future research agenda. Original research aims (ORs) are referred to where there is any synthesis of subject matter to form a new set of revised research aims (RRAs) posed as questions below.

Geoarchaeological Research Aims

8.1.2 RRA 1: The geoarchaeological assessment of samples from the Herring Stream <201> represent a rare example of paleoenvironmental work associated with the tributaries of the River Adur from the Low Weald. The pollen has significant potential to elucidate the nature of the Wealden landscape during the Iron Age and Romano-British periods. The results should be compared with similar work from the tributaries of the River Arun (Margetts forthcoming b). What does comparison of the palaeoenvironmental evidence from these two projects tell us about Wealden landscape evoloution in later prehistory and the Roman period?

This revised research aim has significant potential to aid understanding in relation to the South-East Research Framework (SERF 2007). In particular questions related to the Weald's vegetation history. The pollen sequences we currently have tended to be positioned around and not within the Weald *(SERF Seminar Notes p. 2).* Can exploration of RRA 1 aid our understanding in this regard?

8.1.3 RRA 2: Geoarchaeological sampling in the vicinity of Site F has provided an important palaeoenvironmental assemblage from the Greensand/Weald margin. The results represent a good opportunity to address questions relating to the composition of the landscape and human activity during the later prehistoric, Romano-British and medieval periods. The results should be compared to other palaeoenvironmental work from areas located away from the South Downs and Coastal Plain (e.g. Margetts 2017; forthcoming b). What does comparison of the palaeoenvironmental evidence from these projects tell us about landscape evoloution in later prehistory, the Roman and medieval periods?

This revised research aim has significant potential to aid understanding in relation to the South-East Research Framework (SERF 2007). In particular questions related alluvial deposits beyond the better understood areas.

8.1.4 RRA3: The lack of well-dated insect assemblages from the Weald and Greensand makes the samples recovered from the marsh deposits of Site F, which date to the Late Bronze Age, of particular significance. What do these tell us about the nature of the landscape in this area during later prehistory? How do these results contribute to RRA's 1 and 2?

8.1.5 RRA 4: Following full analysis dry valley dataset can be directly compared to the work of Keith Wilkinson (2003) and add to the corpus of information relating to the landscape change o the South Downs. It may also provide some insight into the nature of the human activity further upslope, such as Tottington Mount, and may help to identify potential new areas of activity. What can the mulluscan and other paleoenvironmental evidence tell us about the human landuse and vegetative history of the downland from the prehistoric to post-medieval periods?

8.1.6 RRA 5: What is the natural vegetational succession of the chalk? Can the impact of grazing by wild and domesticated animals (Vera 2000) be identified? Can other human impacts through burning, forest clearance and soil erosion be linked to the settlement record of the landscape?

8.1.7 RRA 6: How far back in time do dry valley sequences extend? Can older (pre-Devensian) Head deposits be identified? What range of depositional environments and periglacial processes are represented?

8.1.8 RRA 7: What can be determined about late glacial vegetation history and landscape change? Can human impact be determined prior to the Holocene?

8.1.9 RRA 8: To what extent are important records of human settlement preserved beneath colluvial sequences? How can they be interpreted alongside the field monuments of the Chalk Downland valley sides and plateaus?

8.1.10 *For the Chalk downlands of Sussex, the research agenda for the South East Region (SERF 2007), the Solent Thames Corridor (Hey and Hind 2014), The South West Region Research Framework (Webster 2008), The Secrets of the High Woods (Thorne and Bennett 2015) and that produced for the Stonehenge and Avebury World Heritage Sites (Leivers and Powell 2016) can all be drawn upon to frame the following landscape-specific questions:*

8.1.11 RRA 9: Does the relative lack of Clay-with-Flints coverage of plateau areas across the South Downs, compared to that of the Hampshire, Surrey, Kent, Dorset and Berkshire Downlands relate to significant differences in landscape evolution and later landscape use by prehistoric communities?

8.1.12 RRA 10: What factors underpinned the evidence for more wooded, closed landscapes for the Sussex Chalk Downlands in the early Holocene compared to Chalk Downland landscapes of Wessex? (Allen and Gardiner 2009).

8.1.13 RRA 11: What was the wider impact of the earliest Neolithic communities responsible for the flint mines between the rivers Adur and Arun?

8.1.14 RRA 12: How prevalent are Late Neolithic/Early Bronze Age (Beaker) occupation areas within Sussex Chalk Downland dry valleys?

Archaeological Research Aims

Late Neolithic – Early Bronze Age

8.1.15 RRA 13: Site S- Does the presence of the Late Neolithic/Early Bronze Age pit and the surface finds of contemporary pottery and lithic material indicate the presence of a settlement in the close proximity to the route and if so can anything usefully be said regarding the relationship between this settlement and the barrows clustered to the north?

'Could the presence of paired or triple-pit groups containing Grooved Ware found in the South East mark the locations of truncated Late Neolithic houses?' (SERF Seminar Notes p. 5)

'Can we identify settlements directly associated with late Neolithic - Early Bronze Age burial monuments?' (SERF Seminar Notes p. 7)

Middle – Late Bronze Age

8.1.16 RRA 14: Site I- What can the evidence for Middle Bronze Age land-clearance and settlement on the scheme tell us about the period in the wider region?

'What evidence can be inferred for the local and seasonal production of ceramics during the Middle to Late Bronze Age transition?' (SERF Seminar Notes p. 3)

'Obtain radiocarbon date of potentially earlier Middle Bronze Age especially potentially early deposits for the introduction of spelt, better integrate archaeobotanical remains with other evidence pertaining to farming, improve sampling strategies and identify material and publish these identifications alongside radiocarbon dates' (SERF Seminar Notes p. 9)

'Funerary and settlement activity are often thematically tackled separately. How does the funerary evidence of the Middle Bronze Age relate to any settlement evidence?' dates' (SERF Seminar Notes p. 12)

8.1.17 RRA 15: Sites J and O- How does the location of the Cross Dykes at Site J and O in the wider landscape inform land-use, land division and communication?

'On the higher ground, systematic analysis of cross-ridge dykes in relation to the re-organisation of land boundaries might produce significant results.' (SERF Seminar Notes p. 13)

Iron Age:

8.1.18 RRA 16: Can the Late Bronze Age and later Iron Age evidence from the scheme aid in informing on the reasons for the apparent absence of evidence for Early Iron Age activity, and how does this evidence of settlement/ agricultural absence relate to the evidence for latest Bronze Age land-division, represented by the Cross-Dykes, and the development of Early Iron Age political/ economic centres, represented by the downland Hillforts?

'Is there a detectable shift in settlement and landscape organisation from the Late Bronze Age to the Early Iron Age? Why did this occur and what happened to the Late Bronze Age systems when out of use?' (SERF Seminar Notes p. 10)

'What function did hillforts perform, and what was their relationship with their hinterlands?' (SERF Seminar Notes p. 13)

8.1.19 RRA 17: Site I- Does the apparent evidence for continuous occupation from the Middle into the Late Iron Age at this site, taken in conjunction with other recent regional evidence, such as the discovery of an extensive Middle Iron

Age enclosure complex at Peacehaven, confirm that the previously observed apparent hiatus in this period in the region is more perceived than real?

'Is the apparent hiatus at the end of the Middle Iron Age real or an artefact of incomplete or biased archaeological record?' (SERF Seminar Notes p. 1)

8.1.20 RRA 18: Site A/Site D/Site F/Site I- How does the linear nature of the scheme allow us to understand the agriculture, economy and density of later Iron Age occupation across a substantial transect of land? How does topography influence settlement and economy?

'*In the late Iron Age there is a recurrence of evidence for settlement on the coastal plain, although the nature causes and extent of this settlement, as well as its origin, remain unanswered questions. The apparently centralised settlement at Chichester Dykes has been the main focus of archaeological attention in the past, with continuity into the Roman period being a key consideration. It would be better, however, to look at a much wider area, considering sites as a part of a broader managed landscape, rather than dealing with individual sites in isolation.' (SERF Seminar Notes p. 13)*

Roman:

8.1.21 RRA 19: Site A/Site F/Site I: What can these sites tell us about rural economy? Can we further our understanding of land division and spatial *organisation?*

'Moreover, we still don't know what all these people were doing. This again is a key area where we have far too little evidence. Leaving aside those Wealden settlements with a specialist involvement in iron production, the rest were presumably engaged in agriculture of one sort or another, yet we are very poorly informed about its nature, particularly in terms of adequate quantified studies.' (SERF Seminar Notes p. 15)

'The majority of the farming settlements in the Roman countryside …were the less wealthy and less sophisticated native 'peasant' settlements. Despite their vast numerical superiority, and the fact that many of these sites span the entire period of the Roman occupation (many sites originating in the late Iron Age and some perhaps continuing into the fifth century), they have received remarkably little attention.' (SERF Seminar Notes p. 17)

Communications: identify the entire main road network, and gather all vehicle evidence [SERF: page 7 notes]

8.1.22 RRA 20: Site F/Site I- What can the evidence for continued Late Roman occupation at Site F, as represented by the ceramic assemblage and environmental evidence, as well as the Late Roman gully at Site I, tell us about patterns of settlement in the region in this period, and how it compares to other parts of the South-East?

'Elsewhere there are well known variations in the chronology of some rural settlement in Sussex, for example, with some of the villas on the coastal plain abandoned by the 4th century and others further inland thriving at this time, a pattern sometimes suggested as being associated with the threat of pirate raids along the coast. Meanwhile some of the smaller settlements in the same general area survived right through the end of the Roman period and beyond…Overall then, there are contrasting patterns of settlement

development trajectory to be teased out across the region.' (SERF Seminar notes p.17)

Saxon:

8.1.23 RRA 21: Site S- Did the large probable 8th century ditch recorded at this Site delineate a territorial boundary and is its position, and does relate to the postulated Roman route way from Brighton to Chichester?

'How can the historic landscape inform an understanding of the Roman/Anglo-Saxon transition? Can understanding the long-term evolution of field systems and their environmental context establish definite cases of continuity in Roman estate boundaries and land -use?' [SERF: 26]

'Where possible, assumptions about the date of linear earthworks thought to represent early tribal boundaries need to be tested archaeologically.' [SERF: 27]

'Develop and test methodologies for locating Anglo-Saxon settlements, particularly targeting the Weald and other areas where land use patterns may mask potential sites. We need to know to what extent the current distribution of excavated settlements is a true reflection of the Anglo-Saxon situation. As part of this objective, the proposal that arc-shaped field boundaries may represent the imprint of early Wealden colonisation (English and Turner 2004; Chatwin and Gardiner 2006) should be tested.' [SERF: 27]

8.1.24 RRA 22: Can the recovered palaeoenvironmental data shed light on the nature of Saxon exploitation of the Low Weald and the transition between the Roman and Saxon periods? How does it compare to the results of other projects located away from the South Downs and Coastal Plain (e.g. Margetts forthcoming b)?

'The systematic retrieval of plant remains both charred and preserved anaerobically is vital for the understanding of this transition from the Roman to the Anglo-Saxon periods, when so much change occurs in the choice of crops.' [SERF: 26]

8.1.25 RRA 23: Site L- The Saxon burial at Mill Hill. What can we learn about identity and religious practices at the time? Is this lone burial evidence that there was a ritual dimension to the landscape? Can further research link the evidence for fatal trauma in skeleton [12003] to the individual's style of burial in an isolated area, outside a formal burial ground? Is there any relationship between the sex and age of skeleton [12003] with his death and place of burial?

'Execution cemeteries represent a key archaeological source for examining the judicial function of the Anglo-Saxon State. Recent work has shown that the origin of such sites may in some cases pre-date the institution of the Hundred indicating that judicial execution was an administrative role performed within the territorial framework of Middle Saxon estates. A recent synthesis of a notable cluster of execution cemeteries in Surrey (Hayman and Reynolds 2005) represents a good start at harnessing this resource, but a similar approach needs to be extended across the region; subjecting undated deviant burials to high precision radiocarbon dating would help to expand the corpus of confirmed execution cemeteries.' [SERF: 29]

'The ritual dimension to the landscape, and focus on earlier ritual sites is another related area of study, as is the apparent correlation between the road and track network with Anglo-Saxon cemeteries. Perhaps the sighting of cemeteries helped to create territories? There is no firm evidence for a tectonizing phase of pagan ritual sites, so we perhaps should think more about the ritual significance of natural places.' (SERF Conference Notes Summary p.8)

'Maximise the potential of existing cemetery data for deepening our understanding of the Anglo-Saxon period. The condition of cemetery archives across the region needs to be assessed in terms of their long-term conservation requirements and (in the case of skeletal assemblages) their suitability for stable isotope analysis and radiocarbon dating. Cemetery data recovered from developer-funded excavations needs to be brought to publication in a form suitable for integration and contextualisation.' [SERF: 28]

Medieval

8.1.26 RRA 24: Site B/Site D- What was the nature of rural medieval settlement/land-use in the area? Can we learn anything about land division and different types of exploitation? How does it compare to the results of other projects located away from the South Downs and Coastal Plain (e.g. Margetts 2017; forthcoming b)?

'This leads on to a consideration of the interaction between town and country. Towns should not be split off from their hinterlands. Rural settlements need the treatment afforded to towns by Extensive Urban Surveys.' (SERF Conference Topic Medieval p.1)

8.1.27 RRA 25: Site M- How does the evidence of 11th century salt production and associated land management at this site refine our knowledge of the medieval salt industry in the Adur Valley? And can it aid in reappraising previously held assumptions about the date and nature of many of the known saltern sites (see particularly Holden and Hudson 1981, 130)?

Methodological Research Aims

Geophysics

8.1.28 The implementation of a programme of geophysical survey in advance of excavation of the cable route allowed the testing of the effectiveness of the chosen technique (magnetometry; Caesium Ion Magnetometer) across the varied geologies of this part of West Sussex. By comparing, the results of the intrusive archaeological investigations to that of the geophysical survey (see section 7.1.3), it may be possible to draw conclusions as to the effectiveness of the technique across the various Character Areas of West Sussex (e.g. The Weald, South Downs and Coastal Plain).

RRA 26: Can analysis of the results of the geophysical survey and subsequent intrusive archaeological investigations allow conclusions to be drawn regarding the effectiveness of magnetometry as an archaeological prospection/mitigation technique across the differential geologies of West Sussex?

8.2 Preliminary Publication Synopsis

8.2.1 The archaeological and geoarchaeological results described above have the potential to provide new data regarding landscape change and human activity through the prehistoric and early historic periods of the Low Weald, Greensand, South Downs and downland edge.

8.2.2 It is suggested that the results of the investigations should be published as a large article (13-15,000 words) with a significant body of online supplementary material in *Sussex Archaeological Collections.* Significant effort will be made to integrate the results of the geoarchaeological/palaeoenvironmental work.

8.2.3 The full analysis and dating of the geoarchaeological sequences will be published either online in *Sussex Archaeolgical Collections* (and summarised in the narrative article in the hard copy journal) or, if the analysis results are exceptional, then as a standalone article in *Environmental Archaeology.*

8.2.4 The prepared publication text(s) will include supporting specialist information, figures, and photographs as necessary and will place the site in the wider context of the Wealden, Greensand and South Downs archaeological landscape. The text will also address the research questions identified in this post-excavation assessment.

8.2.5 The following significant results of the investigations will be presented:

- The evidence for Late Neolithic/ Early Bronze Age land clearance at the Weald margin and contemporary settlement evidence on the downland;
- The evidence for an intensification of agricultural activity and settlement in the Middle – Late Bronze Age;
- The evidence (or not) for the establishment of large socio-political territories at the end of the Bronze Age/Early Iron Age, as represented by the Cross Dykes and the nearby downland hill-forts, and how to reconcile this with the absence of evidence for Early Iron Age settlement from the scheme;
- The apparent re-establishment of field systems and settlement across the route in the later Iron Age, and the impact of the Roman Conquest;
- Agricultural exploitation across the scheme in the early Romano-British period and the evidence for continuity and change into the Late Roman era;
- The possible relationship between Saxon territorial boundaries and routeways from the Roman period;
- The ‘deviant burial ‘and its possible significance;

- The evidence for settlement and agricultural exploitation of the landscape in the medieval periods.

- The effectiveness of magnetometry across the different geologies of West Sussex.

8.3 Publication project: task sequence

Stratigraphic Method statement

8.3.1 As the current grouping structure for the post-excavation assessment stage is provisional, the groups and land use model will be checked and prepared.

8.3.2 After completion of the documentary research, an integrated period-driven narrative of the site sequence will be prepared. This will draw on the specialist information in order to address the revised research aims. The narrative will include relevant selection of period/phase plans, sections, photographs and finds illustrations.

Geoarchaeology

8.3.3 A full range of environmental proxy data was assessed for both the waterlogged and colluvial dry valley sequences. These assessments have identified the deposits which would benefit from further study and scientific dating.

Plant macrofossils

8.3.4 The plant macrofossils from all deposits were poorly preserved and are not recommended for further work.

Pollen

8.3.5 The results of the assessment have demonstrated the potential wealth of further information the pollen could provide about the past landscape. Specifically, further investigation can identify the nature and timing of changes in the landscape, and the interaction of different processes (e.g. vegetation change, human activity, climate change, hydrological change) thereby increasing our knowledge and understanding of the site and nearby area. In the case of human activity, palynological evidence can include: (1) decreases in tree and shrub pollen suggestive of woodland clearance; (2) the presence of herbs indicative of disturbed ground, pastoral and/or arable agriculture; (3) charcoal/microcharcoal suggestive of anthropogenic or natural burning.

8.3.6 It is recommended that full analysis is carried out on the sequences from <603>, <609>, <610>, <201> and <2102>. No further work is recommended on samples from the remaining sequences due to an insufficient number of remains.

Molluscs

8.3.7 The importance of molluscs in the evaluation of the palaeoenvironment has been known for many years (e.g. Evans 1972), especially in areas such as the chalk downlands of southern England where other forms of analysis, such as pollen, are of reduced value (e.g. Bell 1983; Allen and Gardiner 2009; Allen 2017). There is clearly scope for more detailed analyses of the five sequences from Edburton to Cow Bottom Valley (<901>, <900>, <1206>, <1502>, <1501>), and to include the intermediate subsamples not submitted for this assessment. Full analyses would help elucidate changes in the palaeoenvironment during the period of deposition and it is likely that the presence or absence of woodland would be established. The varying proportions of *Vallonia excentrica* throw light on one aspect of land usage at different times – that of grazing. There are good numbers of shells in nearly all samples, with the exception of the probable decalcified sediments at the base of the Coombes Road <1502> and Cow Bottom <1501> samples.

8.3.8 The samples from the western end of the cable route (<1803> to <1906>) contain very few molluscs, and further analysis of these samples would not be justified.

8.3.9 The lack of well-dated insect assemblages from the Weald and Greensand makes the samples recovered from Site F, which date to the Late Bronze Age, of particular significance. Three of the samples <608> (0.15-0.30m, 0.40-0.50m, 0.60-0.70m) are recommended for full analysis (Appendix 9: table 2).

Dating

8.3.10 A further round of radiocarbon dating is recommended, from the dry valley sequences in particular. In order to gain chronological control 7 samples of charred grain/hazelnut are recommended from <900> (2 samples), <901> (I sample), <1206> (2 samples), <1501> (2 samples). The processing of the further sub-samples from these sequences may also yield more material for dating should these selected samples fail to date.

8.3.11 In order to create a robust framework for the waterlogged sequences a further 6 dates are proposed: <603> humin fraction 1.42-1.44m and 0.75-0.79m (2 samples), <609> 0.53m wood (1 date), <610> 0.85-0.87m humin fraction (1 sample) <2102> 0.66m humic and humin fractions (2 samples). No further samples are recommended from <201> due to the wide time scales represented by the Iron Age dates, relating to the dating plateau of this period.

8.3.12 Pollen will require further interval samples and the molluscs will require the interval not processed during assessment to be processed. If C14 dates fail for dry valleys there may be more material in the extra samples processed.

Summary of geoarchaological further work:

8.3.13 <u>Processing</u>

Molluscs c. 32 m samples
Prep and lab- liaison time for pollen and radiocarbon samples

8.3.14 <u>Insects</u>

Full analysis and reporting of 3 samples
Incorporation of results from assessment as appropriate

8.3.15 <u>Pollen</u>

It is recommended that full analysis is carried out on the sequences from <603>, <609>, <610>, <201> and <2102>.

8.3.16 Molluscs

There is scope for more detailed analyses of the five sample sequences from Edburton to Cow Bottom Valley <901>, <900>, <1206>, <1502>, <1501>. The intermediary samples in these five good sequences require processing and examining as part of analysis.

8.3.17 Radiocarbon dating

Waterlogged sequences
<603>, humin fraction 1.42-1.44m and 0.75-0.79m? 2 more dates
<609>, 0.53m wood 1 date
<610>, 0.85-0.87mbgl humin fraction 1 date
<201> no more dating as iron age
<2102>. O.66m humic and humin fractions 2 dates

Sub-Total: six dates for waterlogged sequences

Dry valley sequences

<901>, charred *Hordeum and cpr indet* 2 dates

<900>, hazelnut shell 1 date
<1206>, *Cerealia* indet and cpr indet 2 dates
<1502>, none available
<1501> *cerealia* indet x 4 2 dates

Sub-Total: seven dates proposed for dry valley sequences

Total: 13 dates

8.3.18 *Text*
Geoarchaeolgical publication text preparation: 14 days

Flint

8.3.19 No further worked is proposed for this assemblage. However, elements of this report could be used if a final report is prepared.

Prehistoric and Roman Pottery

8.3.20 It has been suggested that the Grooved Ware/Beaker assemblage from Site S, the later Bronze Age assemblages from Sites E and S, the Late Iron Age/early Roman material from Site A, the earlier Roman group from Site F and the later Roman group from Site I should all be summarised in the publication. Given the very small size of the pottery assemblages it may be more appropriate to integrate a brief description of the pottery and a selection of illustrations into the site narratives rather than to include a standalone specialist report. This could be largely summarised from the above text, though some brief further research and reporting is recommended on the possible structured deposits of later Bronze Age pottery from Site S. It would also be useful to obtain and re-examine the five sherds of prehistoric pottery from the evaluation (Wessex Archaeology 2014).

Brief publication summary of six assemblages (c. 1 paragraph each):	1 day
Further research, Late Bronze Age structured deposition:	1 day
Extract material for illustration, prepare catalogue	1 day
Examine evaluation material	0.25 day
Total	**3.25 days**

The Post-Roman Pottery

8.3.21 It is proposed that the Saxo-Norman and High Medieval pottery assemblages from Area D be subjected to some limited further analysis and a summary report be produced for publication. A few of the fabrics still need correlation with the county series. Following this the largest context groups will be tabulated for easy comparison and parallels will be sought for contemporary groups from the area.

8.3.22 The final report will give a brief overview of the whole assemblage, outlining its size, periods represented and range of fabrics. Most detail will be reserved for an overview of the Area D assemblage.

Correlation with county fabric series	0.25 day
Analysis of key stratigraphic sequences/site background	0.25 day
Parallels	0.5 day
Report writing	1 day
Selection of material for illustration and catalogue	0.5 day
Total	**2.5 days**

The Ceramic Building Material

8.3.23 There are no recommendations for future work involving the ceramic building material. Relevant sections of the above report can be extracted by the publication author if considered necessary.

The Fired Clay

8.3.24 There are no recommendations for future work involving the fired clay. However, sections of the above report can be extracted by the publication author if considered necessary.

The Glass

8.3.25 The assemblage has been recorded in full on pro forma sheets for analysis. No further work is required.

The Geological Material

8.3.26 No further work is required.

The Metallurgical Remains

8.3.27 No further work is required.

The Bulk Metalwork

8.3.28 The assemblage has been recorded in full on pro forma sheets for archive. No further work is required.

The Inhumation Burial

8.3.29 Due to the significant and peculiar aspects of location of the burial and the circumstances of his death, a specialist osteological report should be prepared on skeleton [12003] (G60) for inclusion in the online supplementary material for the proposed publication. A summary of this work will be included in the main text of the article.

Analysis and report writing/comparison with other case studies 1.5 day

8.3.30 It would be useful to know the geographical origin of the individual buried at Site L, as this information may directly relate to the unusual circumstances of his burial; i.e. was he a member of a local community who had been executed due to a crime or misdemeanour, or was he an outsider, perhaps from a hostile community who had been killed in battle, or otherwise?

8.3.31 For this reason, it is recommended that Strontium Isotype Analysis be carried out on the human remains, in order, if possible, to identify the geographical point of origin of this individual.

The Burnt Bone

8.3.32 No further work is required

The Animal Bone

8.3.33 Due to the limited size and preservation level of the animal bone assemblage no further work is required.

The Shell

8.3.34 The assemblage has been recorded in full on pro forma sheets for archive. No further work is required.

Radiocarbon Dating of Archaeological Deposits

8.3.35

Sample No.	Context	Description	Reasons for dating
909	9157	Charcoal-rich spread **GP98** sealing possible Middle Iron Age ditch in Site	Analysis of c14 from this deposit may confirm the date of the final in-filling of the Middle – Late Iron Age enclosure in Site I.
1500	15003	Primary fill of **GP163** ditch [4063]	Confirm dating for Cross Dyke at Site O
4002	4063	Primary fill of **GP85** pit [4062] containing burnt bone and possible	Archaeological activity recorded in northern end of Site

		ceramic weight fragments	D not securely dated
1903	19132	Primary fill of **GP77** pit [19133] containing Beaker and Grooved Ware pottery	Beaker from non-funerary contexts is rare and only a small number of sherds have been noted on the coastal plain. An association with Grooved ware is also potentially important because it hints at the early spread of Beaker culture, perhaps even prior to the horizon of c.2250-2150 BC proposed by Needham (2005)
1907	19025	Lower fill of **GP76** large boundary ditch [19023]	Confirm dating for boundary ditch with Saxon material

Table 20: Proposed samples for C14 dating

Environmental Samples for Charred Plant Macrofossils and Wood Charcoal

8.3.36 *Plant macrofossils*

No further work is recommended for the charred plant remains although the existing data could be incorporated in any publication narrative.

8.3.37 *Charcoal*

It is recommended that charcoal is analysed from 10 samples, including 2 samples (underlined) that require processing. These derive from Site S <1903>, Site I <909>, Site F <606>, <607>, <604>, <611>, Site M <1301>, <1302>, <1303> and Site D <4002>. The final selection of these may change once the assessment data is drawn together and should take into account other aspects of analysis that are recommended. It is envisaged that several of the samples, especially those from more isolated features or without secure dating and relationships to other activities at the site, may be removed from the selection.

8.3.38 This work will be undertaken with the following research aims and questions in mind:

- Determine the woody taxa represented
- Characterise the vegetation environments from which fuel was sourced
- Is there evidence for fuel wood selection, whether of specific taxa or sizes/types of wood?
- Does selection appear associated with activities evident at the sites, whether for domestic, funerary, or salt production for example?

- How does the charcoal assemblage compare with others available in the region?
- How does fuel procurement associated with salt-making compare with other contemporaneous sites?

8.3.39 *Sample Processing:*

Float, sort and quantify samples <1301> and <1302> 1 day

Analysis of charred wood fragments from 10 samples:

Identifications and data entry 6.5 days
Literature review and report production 2 days

Total 9.5 days

Environmental Geoarchaeological Samples for Plant Macrofossils and Wood Charcoal

8.3.40 No further work is recommended

Illustration

8.3.41 Finds

- **1 flint core** (bipolar core from subsoil [6000])
- **13 prehistoric and Roman vessels** (6 Grooved Ware/Beaker sherds (Site S); 2 partially-complete later Bronze Age vessels (Site S); 5 Late Iron Age/early Roman vessels (Site A)
- **25 post-Roman vessels** (To be selected)

8.3.42 Stratigraphic

- There will be c. 18 stratigraphic figures and site photographs
- There will be two reconstruction drawings
- Geoarchaeological models and figures will be prepared
- The site plans will be prepared as shapefiles for deposition with the WSCC HER

Total ` 14 days

Stratigraphic Tasks	
Check the subgroup and group structure and alter if required	2
Define land uses and complete the land use register	5
Produce land use and period driven site narrative	5
Examine the sites in the regional context	10
Prepare and collate illustrations, and brief illustrators	2
Compile 1st draft of publication text with reference to the revised research aims and submit for review and editing	15
Subtotal	***34 days***
Specialist Analysis	
Sample processing for mollusca extraction	7
Geoarchaeology	14

Pollen and Mollusaca analysis	External lab fee
Insect analysis	External fee
Prehistoric and Roman pottery	3.25 days
The Post-Roman pottery	2.5 days
The human bone	1.5 days
Isotope analysis	External lab fee
C14 dating (sample extraction, lab admin and dating fees from external lab) *c.*10 samples standard archaeology 13 samples geoarchaeology	3 days and external lab fee for dating
Charcoal	9.5 days
Subtotal	***41 days + fees***
Illustration	
Publication figures	3 days
Artefact Ilustraions	4 days
Reconstruction drawings (x2)	4 days
Preperation of geoarchaeological models and figures	3 days
Preperation of shapefiles for WSCC HER	2 days
Subtotal	**14 days**
Production	
Review and editing of the period-driven narrative	3 day
Project Management	5 day
Addressing edit commnents	3
Addressing client / referee comments	3
Journal page fees	Fee
Subtotal	***14 days + fees***
TOTAL	**103 days + fees**

Table 21: Resource for completion of the period-driven narrative of the site sequence

8.4 Artefacts and Archive Deposition

8.4.1 The site archive is currently held at the offices of ASE. Following completion of all post-excavation work, including any publication work, the site archive, it is hoped that at a future date it can be deposited in one or more of the relevant regional museums; however, none are currently accepting archives.

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APPENDICES

Appendix 1: Geoarchaeological Tables

GSC Zone	Solid	Superficial	GSC Code	Notes
Figure 24.3, 1 of 9				
1	Chalk	Alluvium	ADH	Beneath Modern Beach
2	Chalk	Alluvium	ADH	Beneath Made Ground
3	Chalk	Raised Beach	RDB/ADP	
4	Chalk	Head	UHD -RBD	
Figure 24.3, 2 of 9				
5	Chalk	Alluvium	ADH	
6	Chalk	Head	UHD -RBD	
7	Chalk	Head	UHD -RBD	
8	Chalk	Chalk	SSF	
9	Chalk	Head	DVD	
10	Chalk	Chalk	SSF	
11	Chalk	Head	DVD	
Figure 24.3, 3 of 9				
12	Chalk	Chalk	SSF	
13	Chalk	Head	DVD	
14	Chalk	Chalk	SSF	
15	Chalk	Head	DVD	
16	Chalk	Chalk	SSF	
Figure 24.3, 4 of 9				
17	Chalk	Clay-with-Flints	CWF	
18	Chalk	Chalk	SSF	
19	Chalk	Head	DVD - ADH	Alluvium in lower reaches
20	Chalk	Alluvium	ADH-ADP	Pleistocene terrace deposit will underlay Holocene alluvium
21	Chalk	Head	DVD - ADH	Alluvium in lower reaches
22	Chalk	Chalk	SSF	
Figure 24.3, 5 of 9				
23	Chalk	Head	DVD	

GSC Zone	Solid	Superficial	GSC Code	Notes
24	Chalk	Chalk	SSF	
25	Chalk	Head	DVD	
26	Chalk- U. Greensand - Gault	Solid	UDH - SSF	
Figure 24.3, 6 of 9				
27	Gault	Head	UDH - SSF	
28	Folkestone Beds (L.Greensand)	Head	UDH - SSF	Artefact-rich zone
29	Gault	Head	UDH - SSF	
30	Weald Clay	Alluvium	ADH - ADP	
31	Weald Clay	Weald Clay	UDH - SSF	
32	Weald Clay	Alluvium	ADH - ADP	
33	Weald Clay	Weald Clay	UDH - SSF	
Figure 24.3, 7 of 9				
34	Weald Clay	Head	UDH - ADH	Alluvium in lower reaches
35	Weald Clay	Weald Clay	UDH - SSF	
36	Weald Clay	Head	UDH - ADH	Alluvium in lower reaches
37	Lower Greensand	Weald Clay	UDH - SSF	
38	Lower Greensand	Head	UDH	
39	Folkestone Beds	Folkestone Beds	UDH - SSF	Artefact-rich zone
40	Folkestone Beds	Head	UDH	Alluvium in lower reaches
41	Lower Greensand	Lower Greensand	UHD- SSF	
42	Lower Greensand	Head	UDH	
43	Lower Greensand	Lower Greensand	UHD- SSF	
44	Weald Clay	Terrace Deposits	ADP	
Figure 24.3, 8 of 9				
45	Weald Clay	Terrace Deposits	ADP	
46	Weald Clay	Alluvium	ADH	

GSC Zone	Solid	Superficial	GSC Code	Notes
47	Weald Clay	Weald Clay	UHD	
48	Weald Clay	Alluvium	ADH	
49	Weald Clay	Weald Clay	UHD	
50	Weald Clay	Terrace Deposits	ADP	
51	Weald Clay	Weald Clay	UHD	
52	Weald Clay	Alluvium	ADH	
Figure 24.3, 9 of 9				
53	Weald Clay	Weald Clay	UHD	
54	Weald Clay	Alluvium	ADH	
55	Weald Clay	Weald Clay	UHD	

ADH- Alluvial Deposits Holocene, ADP- Alluvial Deposits Pleistocene, RBD- Raised Beach Deposits, CWF- Clay with Flints, DVD- Dry Valley Deposits, UDH- Undifferentiated Head Deposits, SSF- Structural Surface Features

Table 1: Zoned Areas of geoarchaeological potential (Pope 2012)

Number	area	type	feature	sediment	Geology	C14
201	Herring stream, F118	Russian 2 x tubes	Channel	Peat, organic silts	Alluvium Solid- Weald Clay	1.27m 2456+29 414-756 cal BC Iron Age 1.49m 2466+29 430-756 cal BC Iron Age
601	Site F	4 buckets	Ditch [6004]	Waterlogged organics	Head Solid- Folkestone Beds, Gault Formation	
602	Site F, F86 damaged area	Russian 2 x tubes	Channel/wetland on site	Peat, organic silts	Head Solid-Gault formation	
603	Site F, F86 damaged area	Russian 2 x tubes	Channel/wetland off site	Peat, organic silts	Head Solid-Gault formation	0.75m 2833+27 1048-909 cal BC LBA 1.42m 3907+25 2471-2300 cal BC Late Neo
608	Site F, F86 damaged area	Waterlogged bulks x7	Channel/wetland	Peat, organic silts	Head Solid-Gault formation	
609	Site F, F86 damaged area	3 X 25cm sediment blocks	Channel,/wetland accompanies <608> column	Peat, organic silts	Head Solid-Gault formation	0.48m 2013+29 1131-1338 cal BC MBA 0.65m 3494+29 1896-1701 cal BC eba
610	Site F, F84	2 50cm tins	[6101] Ditch, Roman	Organic fill	Solid- Folkestone Beds	0.76m 1201+26 722-892 Cal AD Saxon 0.85m 1829+29 87-311 cal AD Late Roman
900	Edburton	Grab column x 14 bags	[9000] dry valley	Possibly calcareous, possibly base of a shallow dry valley	Head Solid-West Melbury Chalk Formation	
901	South Edburton Road	Grab column x16 bags	[9001] colluvium	Possibly calcareous, side of the coombe	Solid-West Melbury Chalk Formation	
905	Site I	Bulks x40l	[9089] Base of channel? [9090]	Clay?	Solid-Lower Greensand	
906	Site I	Grab column 10 x bags	[9113] colluvium over archaeology	Possibly calcareous	Solid-Lower Greensand	
913	Site I	1 x block	Stream [9190]	Alluvial clay	Head/Alluvium Solid-Weald clay	

Number	area	type	feature	sediment	Geology	C14
1206	Steyning Road	Grab column 15 x bags	[12023] colluvium	Possibly calcareous	Head/Diamicton in a coombe Solid- Seaford Chalk formation	
1501	Cow Bottom Valley	Grab column 16 x bags	[15006] colluvium/ dry valley decalcified head	Possibly calcareous	Head/Diamicton in a coombe Solid- Seaford Chalk formation	
1502	Coombes Road	Grab column 16 x bags	[15007] colluvium, more likely dry valley fill	Decalcified, gravelly at the top fine grained at the base	Head/Diamicton in a coombe Solid- Seaford Chalk formation	
1800	Lambleys Lane	2 50cm tins	[18008] colluvium	Possibly calcareous	Head/Diamicton in a coombe Solid- Newhaven Chalk formation	
1801	Titch Hill F32 Site Q	Bulks x40l	[18008] colluvium	Possibly calcareous	Head/Diamicton in a coombe Solid- Newhaven Chalk formation	
1802	South of Steep Down Hill	Grab column x8 bags	[18009] coll/all?	Possibly calcareous	Head/Diamicton in a coombe Solid- Seaford Chalk formation	
1803	Site R F37	Grab column 3l every 10cm x 10 bags	[18010] colluvium and decalcified Head	Possibly calcareous	Solid- Seaford Chalk formation	
1804	F38 N of Steep Hill Down Site O	Grab Column x 14 bags	[18012] colluvium, in a shallow dry valley	Possibly calcareous	Head/Diamicton in a coombe Solid- Seaford Chalk formation	
1906	Lambley's Lane SMS Site S	40l Bulk	[19021] colluvium		Head/Diamicton Solid- Tarrant chalk member	
2101	F15 Site U	Grab column 1l every 5cm	Gully in the chalk, decalcified head?	Silt clay, calcareous	Head/Diamicton Solid- Tarrant chalk member	

Number	**area**	**type**	**feature**	**sediment**	**Geology**	**C14**
2102	F15 Site U	Grab samples, particle size, pollen from stream	Late stream feature, gravel, decalcified head?		Head/Diamicton Solid- Tarrant chalk member	

Table 2: Sample sites; those in bold assessed for palaeoenvironmental remains

<201> DEPTH AND WEIGHT OF SAMPLE	**0.74-0.88m in core 2.44-2.58mbgl 175g**	**0.88-1.08m in core 2.58-2.78mbgl 175g**	**1.08-1.25m in core 2.78-2.95mbgl 175g**	**1.25-1.37m in core 2.95-3.07mbgl 150g**	**1.37-1.49m in core 3.07-3.19mbgl 175g**	**1.49-1.61m in core 3.19-3.31m bgl 175g**	**1.61-1.75m in core 3.31-3.45mbgl 175g**
plant remains + seeds	x	x	x	x	x	x	x
charcoal	x	x	x				
iron tubes, nodules, etc	x	x	x			x	x
insect remains	x	x	x	x	x	x	x
organic spheres		x	x	x	x	x	
cladocera (+ ephippia)			x	x	x	x	
caddis fly tubes				x	x		x
Bithyniaopercula					x	x	x
Sediment	*Fibrous peat with a variable silt component*						

Table 3: Ostracods and foram results <201>

<603> DEPTH AND WEIGHT OF SAMPLE	1.29-1.33m 60g	1.44-1.48m 55g	1.57-1.61m 100g	1.62-1.66m 85g	1.67-1.71m 70g 85g	1.77-1.81m	1.82-1.86m 70g
plant debris + seeds	x	x	x	x	x	x	x
Sediment	*Hard peat initially, becoming more silty and less peaty down hole*						

Table 4: Ostracod and foram results <603>

<609> DEPTH AND WEIGHT OF SAMPLE	0.24-0.28m 185g	0.32-0.36m 125g	0.69-0.73m 165g	0.74-0.78m 155g
plant debris + seeds	x	x	x	x
iron tubes	x	x		
insect remains	x	x	x	x
cladocera	x	x		
freshwater ostracods	x			
organic spheres (?eggs)	x			
charcoal			x	
Sediment	*Fibrous peat*		*Peaty sand*	

Table 5: Ostracod and foram results <609>

<900> DEPTH AND WEIGHT OF SAMPLE	0.10-0.20m 175g	0.50-0.60m 175g	0.90-1.00m 175g	1.30-1.40m 175g
Chalk debris +micro	x	x	x	x
earthworm granules	x	x	x	x
slug plates	x	x	x	x
terrestrial molluscs	x	x	x	x
charcoal	x	x		x
small mammal teeth		x		

Table 6: Ostracod and foram results <900>

<1502> DEPTH AND WEIGHT OF SAMPLE	1.20-1.30m 275g	1.40-1.50m 275g
iron mineral	**x**	**x**
rhizoliths	**x**	**x**
flint shards	**x**	**x**
earthworm granules		**x**
terrestrial molluscs		**x**
charcoal		**x**

Table 7: Ostracod and foram results <1502>

<1803> DEPTH AND WEIGHT OF SAMPLE	**0.30-0.40m 225g**	**0.70-0.80m 225g**	**0.90-1.00m 225g**
rubbly Chalk + micro	x	x	x
earthworm granules	x		
slug plates	x		
terrestrial molluscs	x		

Table 8: Ostracod and foram results <1803>

<2102> DEPTH AND WEIGHT OF SAMPLE	**0.80-0.85m 200g**	**1.00-1.05m 200g**
Chalk fragments + micro	x	x
rhizoliths	x	x
small mammal tooth		x

Table 9: Ostracod and foram results <2102>

Site name	**Sample number**	**Approximate age (cal BC)**	**Number of Particle Size samples**	**Number of Pollen samples**	**Number of Mollusca samples**
F118, Herring Stream	<201>	770-410 cal BC		1	
Site F F86	<603>	2470-990 cal BC		15	
Site F F86	<609>	1900-1100 cal BC		8	
Site F F84	<610>	120-890 cal AD		6	
Edburton Road	<900>		7	2	7
South Edburton Road	<901>		8	2	8
Site I	<906>		4		
Steyning Road	<1206>		7	1	7
Cow Bottom Valley	<1501>		8	2	8
Coombes Road	<1502>		8		8
Lambley's Lane	<1800>		3		2
South of Steep Down Road	<1802>		4	1	2
R F37	<1803>		5		3
F38? N of Steep Down Site	<1804>		7	2	
Lambley's Lane SMS Site S	<1906>		1		1
F15 Site U	<2102>		1	2	

Table 10: Particle size, mollusca and pollen sample details

					1048-909 cal BC				2471-2344 and 2325-2301 cal BC							
	Depth (m)	**0.50**	**0.56**	**0.64**	**0.70**	**1.11**	**1.21**	**1.27**	**1.37**	**1.49**	**1.61**	**1.66**	**1.71**	**1.76**	**1.81**	**1.86**
Latin name	**Common name**															
Trees																
Alnus	alder	70	62	39	57	71	76	56	38	28	43	1	2			
Quercus	oak	9	2	3	17	20	16	23	33	39	23		1			
Pinus	pine											3				1
Ulmus	elm				1			2	1	1	2			1		
Tilia	lime				1	5	7	9	10	14	15					
cf Taxus	yew									1						
Betula	birch	5	5	1	1				1	2	2		1			
cf Fagus	beech			1												
Shrubs																
Calluna vulgaris	heather		1													
Corylus type	e.g. hazel	11	17	13	6	14	9	11	14	18	20			1		
Hedera	ivy				1			1								
Salix	willow		1		1											
Lonicera periclymenum	Honeysuckle			1												
Herbs																
Cyperaceae	sedge family	2	4	3	4	2	2	3	6	6	7					
Poaceae	grass family	20	25	22	22	1	3	2	1		2		3			
Cereale type	e.g. barley	3		1												
Asteraceae	daisy family	1			3											
Artemisia	Mugwort		1	1												
Lactuceae	dandelion family	2														
Plantago lanceolata	ribwort plantain		2	2												
Caryophyllaceae	pink family		1													
Potentilla type	cinquefoil	2	1	2												
Rumex acetosa/acetosella	sorrel			1				1						1		
Ranunculus type	buttercup / water crowsfoot	5			1											
Galium type	bedstraw	1														
Cirsium type	thistle		1									1				

					1048-909 cal BC				2471-2344 and 2325-2301 cal BC							
	Depth (m)	**0.50**	**0.56**	**0.64**	**0.70**	**1.11**	**1.21**	**1.27**	**1.37**	**1.49**	**1.61**	**1.66**	**1.71**	**1.76**	**1.81**	**1.86**
Latin name	**Common name**															
Aquatics																
Sparganium type	bur-reed			1												
Spores																
Pteridium aquilinum	bracken				1											
Sphagnum	moss			1												
Filicales	ferns	16		4	1	2	2	1	1	2	6					
Polypodium vulgare	polypody		2	1	1	2		1	4	2	1					
Total Land Pollen (grains counted)		131	123	91	115	113	113	108	104	109	112	5	6	3	0	1
Concentration*		5	5	5	5	5	5	5	5	5	5	1	1	1	0	1
Preservation**		4	4-5	4	3-4	3	4	3	4	4-5	4	3	3	3	0	1
Microcharcoal Concentration***		2	2	0	0	1	0	1	1	2	1	2	1	1	2	1
Suitable for further analysis		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**	**NO**

*Key: *Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide; **Preservation: 0 = absent; 1 = very poor; 2 = poor; 3 = moderate; 4 = good; 5 = excellent; ***Microcharcoal Concentration: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant*

Table 11: Results of the pollen assessment from <603>

						1389-1338, 1318-1191, 1177-1163 and 1144-1131 cal BC		1896-1742 and 1710-1701 cal BC	
	Depth (m)	**0.15**	**0.23**	**0.31**	**0.39**	**0.47**	**0.56**	**0.68**	**0.78**
Latin name	**Common name**								
Trees									
Alnus	alder	79	77	53	77	58	86	2	86
Quercus	oak	10	9		9	6	6	3	3
Pinus	pine								
Ulmus	elm			1					
Tilia	lime	1	1	1	1	1	2		1
Taxus	yew			2					
Fraxinus	ash								1
Betula	birch		2	1	1			1	4
Fagus	beech			1				3	
Shrubs									
Calluna vulgaris	heather			1				5	
Corylus type	e.g. hazel	10	13	14	4	12	7	12	11
Erica sp.	heath							1	
Hedera	ivy						1		
Ilex	holly					1			
Sambucas nigra	elder								2
Salix	willow		1	4	2				
Lonicera periclymenum	honeysuckle			1					
Herbs									
Cyperaceae	sedge family	2			2	1			
Poaceae	grass family	12	11	27	14	24	12	64	11
Cereale type	e.g. barley				3			2	2
Asteraceae	daisy family			1					
Artemisia	mugwort				1			2	
Lactuceae	dandelion family		1	2				3	
Plantago lanceolata	ribwort plantain		1	1	1		1	6	3
Plantago media/major	hoary plantain							2	
Chenopodium type	goosefoot family								
Caryophyllaceae	pink family								

						1389-1338, 1318-1191, 1177-1163 and 1144-1131 cal BC		1896-1742 and 1710-1701 cal BC	
	Depth (m)	**0.15**	**0.23**	**0.31**	**0.39**	**0.47**	**0.56**	**0.68**	**0.78**
Latin name	**Common name**								
Potentilla type	cinquefoil	1		3	1	1		3	
Rumex acetosa/acetosella	sorrel				1			1	
Apiaceae	carrot family					1			
Ranunculus type	buttercup / water crowsfoot	2	2	1	1	1			1
Cirsium type	thistle			1		1	1		
Mentha type	mint			1					
Galium type	bedstraw							1	
Polygonum aviculare	knotgrass							1	
Lotus type	lotus							1	
Aquatics									
Sparganium type	bur-reed					2			
Spores									
Pteridium aquilinum	bracken			1	2	1		4	
Sphagnum	moss					1			
Filicales	ferns		5			6			
Polypodium vulgare	polypody			1			3		
Total Land Pollen (grains counted)		121	118	116	118	107	116	115	125
Concentration*		5	5	5	5	5	5	5	5
Preservation**		4	4	4	4	4-5	4	4	4
Microcharcoal Concentration***		1	1	1	0	0	2	2	0
Suitable for further analysis		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**

*Key: *Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide; **Preservation: 0 = absent; 1 = very poor; 2 = poor; 3 = moderate; 4 = good; 5 = excellent; ***Microcharcoal Concentration: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant*

Table 12: Results of the pollen assessment from <609>

	Depth (m)	**0.60**	**0.68**	**0.76**	**0.84**	**0.93**	**1.07**
Latin name	**Common name**						
Trees							
Alnus	alder	2	85	1	1		
Quercus	oak	13	11	14	1		2
Pinus	pine						
Ulmus	elm						
Tilia	lime		3				
Fraxinus	ash			3			
Betula	birch	7		2			
Shrubs							
Calluna vulgaris	heather	11		1	4	10	17
Corylus type	e.g. hazel	9	10	12	1		
Ilex	holly						
Lonicera periclymenum	honeysuckle			1	1		1
Herbs							
Cyperaceae	sedge family	3		1	1		
Poaceae	grass family	76	1	46	32	100	88
Cereale type	e.g. barley	12			2	2	1
Asteraceae	daisy family	2		1	1		1
Artemisia	mugwort			2			
Lactuceae	dandelion family	5		4	1	2	4
Plantago lanceolata	ribwort plantain	6		5	5	5	11
Plantago media/major	hoary plantain	1					
Potentilla type	cinquefoil	1		9	5	1	
Rumex acetosa/acetosella	sorrel	3		2	2	3	4
Rumex obtusifolius	dock			1			
Apiaceae	carrot family	1					
Ranunculus type	buttercup / water crowsfoot				1	1	2
Sinapis type	mustard family				1		
Centaurea nigra	black knapweed	1					
Cirsium type	thistle			1			
Polygonum persicaria	ladysthumb			1			
Aquatics							
Sparganium type	bur-reed					1	
Spores							
Pteridium aquilinum	bracken	8					4
Sphagnum	moss			1			
Filicales	ferns		2				
Polypodium vulgare	polypody		2				
Total Land Pollen (grains counted)		154	110	109	60	127	132
Concentration*		5	5	5	5	5	5
Preservation**		5	3	4	4	4	4
Microcharcoal Concentration***		1	5	2	0	1	1
Suitable for further analysis		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**

*Key: *Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide; **Preservation: 0 = absent; 1 = very poor; 2 = poor; 3 = moderate; 4 = good; 5 = excellent; ***Microcharcoal Concentration: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant*

Table 13: Results of the pollen assessment from <610>

	Sample number	**201**	**900**		**901**		**1206**	**1501**		**1802**	**1804**		**2102**	
	Depth (m)	**1.32**	**1.10**	**1.30**	**0.40**	**1.20**	**0.90**	**0.40**	**1.20**	**0.60**	**0.50**	**1.10**	**0.60**	**0.66**
Latin name	**Common name**													
Trees														
Alnus	alder	10	1		2	1			4					
Quercus	oak	8							1					1
Pinus	pine												2	1
Tilia	lime	1	1											
Betula	birch	1												
Fagus	beech												1	
Shrubs														
Corylus type	e.g. hazel	19							3		1		1	
Salix	willow	1												
cf Prunus	blackthorn	3												
Herbs														
Cyperaceae	sedge family	1											8	8
Poaceae	grass family	46	1		1		1		3				22	10
Cereale type	e.g. barley													1
Asteraceae	daisy family	1											3	1
Artemisia	mugwort	1												
Lactuceae	dandelion family	8			23	23	5	9	30	1	15		23	20
Plantago lanceolata	ribwort plantain	3											2	7
Chenopodium type	goosefoot family				1									3
Caryophyllaceae	pink family	1												
Potentilla type	cinquefoil	1												
Rumex acetosa/acetosella	sorrel	2												
Apiaceae	carrot family	2			1								2	1
Ranunculus type	buttercup / water crowsfoot	2											3	
Galium type	bedstraw												1	
Cirsium type	thistle												1	1
Sinapis type	mustard family				22	6							1	
Centaurea nigra	black knapweed												2	3
Sanguisorba minor	burnet	2												
Aquatics														

Typha latifolia	bulrush												1	2
Sparganium type	bur-reed	3											1	1
Spores														
Pteridium aquilinum	bracken	4											4	1
Filicales	ferns				1								2	
Polypodium vulgare	polypody		2									1		1
Total Land Pollen (grains counted)		113	3	0	50	30	6	9	41	1	16	0	72	57
Concentration*		5	1	0	5	5	1	2	5	1	2	0	5	5
Preservation**		4	2	0	2	2	2	1	2	1	2	0	4	3
Microcharcoal Concentration***		2	5	1	2	2	3	2	2	3	4	0	1	1
Suitable for further analysis		**YES**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**YES**

Key:

**Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide; **Preservation: 0 = absent; 1 = very poor; 2 = poor; 3 = moderate; 4 = good; 5 = excellent; ***Microcharcoal Concentration: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant*

Table 14: Results of the pollen assessment from <201>, <900>, <901>, <1206>, <1501>, <1802>, <1804> and <2102>

Sample number	<901>								<900>							<1206>							<1502>								<1501>								<1803>			<1802>		<1800>		<1906>
TMB 15 Rampion	0.0-0.1	0.2-0.3	0.3-0.5	0.6-0.7	0.8-0.9	1.0-1.1	1.2-1.3	1.4-1.5	0.0-0.1	0.3-0.4	0.5-0.6	0.7-0.8	0.9-1.0	1.1-1.2	1.3-1.4	0.2-0.3	0.3-0.4	0.5-0.6	0.7-0.8	0.9-1.0	1.1-1.2	1.3-1.4	0.0-0.1	0.2-0.3	0.4-0.5	0.6-0.7	0.8-0.9	1.0-1.1	1.2-1.3	1.4-1.5	0.0-0.1	0.2-0.3	0.4-0.5	0.6-0.7	0.8-0.9	1.0-1.1	1.2-1.3	1.4-1.5	0.1-0.2	0.3-0.4	0.5-0.6	0.2-0.3	0.8-0.85	0.34-0.47	0.60-0.73	0.1-0.2
Pomatias elegans			R	S	R		S	R	R	R	R	C	C	R	C	S										S					R		R	R	S				R	S						
Cochlicella lubrica	R	R	R	R	C	R	R	R	S	R	R	S	R		S		S	R	R	R	R	S														S			R							
Vertigo pygmaea								R			S																		S		R	S	R		S											
Pupilla muscorum							S				R					S	R	C	C	S	R	R				R					C	C	C	E	C	S		R	S							
Acanthinula aculeata									S						R																															
Vallonia costata							R			S	R	S	R			R	R	S	R		C	R			S	R	S				8		1											S		
Vallonia excentrica	C	R	D	R	R	C	C	S	C	C	A	C	C	R		A	A	A	A	C	C	C	C	C	C	A	R	R	R	S	A	A	A	A	A	R	R	S	R	C					S	
Punctum pygmaeum																																														
Discus rotundatus										R	S	S	S	S																				S	S				R							
Vitrea contracta			R	R	R	R										R	S	S	S												R	S														
Vitrea crystallina											S								S			S				S					S	R														
Aegopinella nitidula										R	R	S	S		R	R	R						S			S								S	R											
Oxychilus alliarius											S		S																																	
Ocychilus cellarius																	S																													
Slug plates	C	C	C	C	C	C	C	C	R		R					R	S	S	R	R	R	R			S							R														
Cecilioides acicula	R	R	R	R	S	R	S		R	S						C	C	C	C	R	C	R	R	R	C	C	C	C	C	R	S	R		S					R	R						
Clausilia bidentata			S						R	R	S	R	S	S	R																															
Cochlicella acuta																R	S																													
Ashfordia granulata																															R	S		S	S											
Candidula intersecta	S															R	R	C	C	R	R	S	C	R	R														R							
Cernuella virgata	S		S								S						R									R		R								R										
Helicella itala	S	R		R		A		R	R	R	R	S	S						C	R	R	R		R	S	S					R	C	C	C	R					R		S				
Trochulus sp.	C	C	C	C	C	C	C	C	C	C	C	C	C	R	R	C	A	A	A	A	A	A	C	C	C	C	C	R	R	R	A	C	C	C	C				R	R				S		S
Cepaea sp.				S			R	R	E	E		C	E	E	C						S		S																S							
Cornu aspersum					A	A										R	S		S				S			S					S	S		R	S				S							
Galba truncatula																R															S															
Peringia ulvae																			R		R	S													S											
Mytilus fragments						y												y		y											y	y	y							y						
Fossil scallop					1																																		1							

Key: S: single specimen; R (rare): 2-10 specimens; C (common): 11-50 specimens; A (abundant): more than 50 specimens

Table 15: Results of the mollusca assessment

Site	**Sample Type**	**Sample Number**	**Context**	**Sample Depth**	**Sub-Sample Volume (L)**	**Charcoal >4mm**	**Weight (g)**	**Charcoal 2-4mm**	**Weight (g)**	**Uncharred Botanicals**		**<2mm fraction**	2-4mm fraction	>4mm fraction
F	GA Col WS for insects and plant macros	608		0.15-0.3	2	*	<1			* 1 *Prunus* cf. *spinosa*		grass culms, small wood flecks.	grass culms, wood frags and occ twig frags	some large pieces of wood >20mm and up to ca 70mm long, twig frags mod common,
F	GA Col WS for insects and plant macros	608		0.4-0.5	2	*	<1	**	<1	* Caryophylaceae, *Lycopus europeus*, *Carex* sp., cf *Ilex aquifolium*		small wood flecks, indet organics and grass culm frags	wood frags and occ twigs,	wood frags incl some large and twig frags some retaining bark
F	GA Col WS for insects and plant macros	608		0.6-0.7	2	*	<1	***	<1			indet organics, twigs common,	twigs common and wood frags,	twigs and wood frags
F	GA Col WS for insects and plant macros	608		0.8-0.9	2		<1	**	<1			indet organics, twigs common	twigs common and wood frags,	twigs and wood frags
F	GA B WS for insects and plant macros	601a	6018		2					cf. *Carex* sp., cf. *Polygonum* sp., cf *Ranunculus* sp. (1)		wood flecks, indet fruit skins and occ seeds.	fraction wood flecks, grass culms, cf insect egg cases, cf. indet fruit skins, 1 seed frag.	rootlets and roots
F	GA B WS for insects and plant macros	601b	6017		2					*Rubus* sp. (1)		rootlets, charcoal flecks incl 1 charred twig frag, unch cf fruit skins, 1 seed and cf insect egg cases.	rootlets only.	rootlets only.

Table 16: Plant macrofossil sample quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250)

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
I	GA col	900	9000	0.1-0.2	NA	2			*	<1							FCF (*/<1g)
I	GA col	900	9000	0.3-0.4	NA	2			*	<1							Flint (*/1g)
I	GA col	900	9000	0.5-0.6	NA	2			**	<1							CBM (*/9g)
I	GA col	900	9000	0.7-0.8	NA	2			*	<1							
I	GA col	900	9000	0.9-1.0	NA	2	*	<1	*	<1							B. Clay (*/<1g) FCF (*/11g)
I	GA col	900	9000	1.1-1.2	NA	2					* *Corylus avellana* shell frag (1), Poaceae culm node and internode frag (1)	<1					Flint (*/1g)
I	GA col	900	9000	1.3-1.4	NA	2	*	<1									
I	GA col	901	9001	0.0-0.1	NA	2	*	<1									Slate (*/1g) FCF (*/1g) Flint (*/1g)
I	GA col	901	9001	0.2-0.3	NA	2			*	<1							CBM (*/1g) FCF (*/<1g) Flint (*/1g)
I	GA col	901	9001	0.4-0.5	NA	2					* cpr indet. (1)	<1					
I	GA col	901	9001	0.6-0.7	NA	2			*	<1							FCF (*/<1g)
I	GA col	901	9001	0.8-0.9	NA	2											FCF (*/7g)

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
I	GA col	901	9001	1.0-1.1	NA	2					* cf. *Hordeum* sp. (1)	<1					CTP (*/<1g) FCF (*/<1g) Flint (*/<1g)
I	GA col	901	9001	1.2-1.3	NA	2			*	<1	* Poaceae indet (1)	<1					FCF (*/1g)
I	GA col	901	9001	1.4-1.5	NA	2	*	<1	*	<1							B.Clay (*/1g) FCF (*/<1g) Flint (*/2g)
I	GA col	906	9113	0.0-0.1	NA	2											Empty
I	GA col	906	9113	0.2-0.3	NA	2											Empty
I	GA col	906	9113	0.4-0.5	NA	2											Empty
I	GA col	906	9113	0.6-0.7	NA	2			*	<1							Coal (*/<1g)
I	GA col	906	9113	0.8-0.9	NA	2											Empty
L	GA col	1206	12023	0.1-0.2	NA	2							*	<1			Pot (*/1g) Flint (*/5g) FCF (*/1g)
L	GA col	1206	12023	0.2-0.3	NA	2											Flint (*/1g) FCF (*/28g)
L	GA col	1206	12023	0.3-0.4	NA	2			*	<1	* Cerealia indet. (1), cpr indet. (1)	<1					Flint (*/2g) FCF (*/<1g)
L	GA col	1206	12023	0.5-0.6	NA	2											Coal (*/<1) Flint (*/4g) FCF (*/36g)
L	GA col	1206	12023	0.7-0.8	NA	2											FCF (*/<1g)

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
L	GA col	1206	12023	0.9-1.0		2			*	<1							FCF (*/9g)
L	GA col	1206	12023	1.1-1.2		2			*	<1							Flint (*/23g)
L	GA col	1206	12023	1.3-1.4		2											FCF (*/1g)
O	GA col	1501	15006	0.0-0.1		2									*	<1	FCF (*/6g)
O	GA col	1501	15006	0.2-0.3		2											Empty
O	GA col	1501	15006	0.4-0.5		2											Pot (*/5g) FCF (*/19g)
O	GA col	1501	15006	0.6-0.7		2			*	<1	* cerealia indet (1)	<1					FCF (*/4g) FCF (*/<1g)
O	GA col	1501	15006	0.8-0.9		2			*	<1	* cerealia indet (1)	<1					
O	GA col	1501	15006	1.0-1.1		2					* cerealia indet (2)	<1					Flint (*/42g) FCF (*/<1g)
O	GA col	1501	15006	1.2-1.3		2			*	<1					*	<1	
O	GA col	1501	15006	1.4-1.5		2			**	<1							
O	GA col	1502	15007	0.0-0.1		2			*	<1							
O	GA col	1502	15007	0.2-0.3		2			*	<1							FCF (*/49g)

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
O	GA col	1502	15007	0.4-0.5		2											Empty
O	GA col	1502	15007	0.6-0.7		2			*	<1							Flint (*/<1g)
O	GA col	1502	15007	0.8-0.9		2			*	<1							FCF (*/1g) Flint (*/1g)
O	GA col	1502	15007	1.0-1.1		2			*	<1							Pot (*/<1g) FCF (*/13g)
O	GA col	1502	15007	1.2-1.3		2			*	<1							Flint (*/<1g)
O	GA col	1502	15007	1.4-1.5		2											FCF (*/1g)
R	GA col	1800	18008	0.08-0.21		2			*	<1							FCF (*/23g)
R	GA col	1800	18008	0.34-0.47		2											FCF (*/7g)
R	GA col	1800	18008	0.6-0.73		2											Empty
R	GA col	1802	18009	0.2-0.3		2	*	<1									
R	GA col	1802	18009	0.4-0.5		2											Empty
R	GA col	1802	18009	0.6-0.7		2			*	<1							
R	GA col	1802	18009	0.8-0.85		2											Empty

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
R	GA col	1803	18010	0.1-0.2		2							*	<1			
R	GA col	1803	18010	0.3-0.4		2							*	<1			
R	GA col	1803	18010	0.5-0.6		2			*	<1							
R	GA col	1803	18010	0.7-0.8		2			*	<1							
R	GA col	1803	18010	0.9-1.0		2			*	<1							
R	GA col	1803	18010	1.1-1.2		2			*	<1							
S	GA B	1906	19021		40	2			*	<1							FCF (*/37g)

Table 17: Geoarchaeological Sample Residues (* = 1-10, ** = 11-50, *** = 51-250, **** = >250)

Lab code	**material**	**Location**	**13C relative to VPBD**	**Conventional radiocarbon age Cal BP**	**Calibrated date (95.4%)**
SUERC 75845	Waterlogged wood	<201> 1.27m in core 2.97mbgl ASE_DS_513	-27.3‰	2456 ±29	756 to 679 (28.7%) cal BC 671 to 606 (18.2%) cal BC 598 to 414 (48.6%) cal BC
SUERC 75846	Waterlogged wood	<201> 1.49m in core 3.19m bgl ASE_DS_514	-27.0‰	2466±29	765 to 472 (91.0%) cal BC 466 to 430 (4.4%) cal BC
SUERC 75847	Bulk sediment (humic acid)	<603> 0.75-0.79mbgl ASE_DS_515	-29.4‰	2822±27	1048 to 909 cal BC
SUERC 75848	Bulk sediment (humic acid)	<603> 1.42-1.44mbgl ASE_DS_516	-28.8‰	3907±25	2471 to 2334 (89.2%) cal BC 2325 to 2301 (6.2%) cal BC
SUERC 75849	Waterlogged wood	<609> 0.48mbgl ASE_DS_517	-29.9‰	3017±29	1389 to 1338 (16.4%) cal BC 1318 to 1191 (75.0%) cal BC 1177 to 1163 (1.7%) cal BC 1144 to 1131 (2.3%) cal BC
SUERC 75850	Charcaol, *Corylus avellana*	<609> 0.65-0.69mbgl ASE_DS_518	-26.1‰	3494±29	1896 to 1742 (94.1%) cal BC 1710 to 1701 (1.3%) cal BC
SUERC 75854	Waterlogged wood	<610> 0.76mbgl ASE_DS_519	-27.1‰	1201±26	722 to 740 (4.0%) cal AD 767 to 892 (91.4%) cal AD
SUERC 75855	Bulk sediment (humic acid)	<610> 0.85-0.87mbgl ASE_DS_520	-29.6‰	1829±29	87 to 106 (2.6%) cal AD 121 to 252 (92.2%) cal AD 306 to 311 (0.5%) cal AD

Table 18: Radiocarbon dating

Appendix 2: Context Register

Context	Type	Interpretation	Parent	Sub Group	Group	Period
1000	Layer	Topsoil	1000		0	
1001	Layer	Subsoil	1001		0	
1002	Layer	Natural	1002		0	
1003	Cut	Tree throw	1003	11	6	
1004	Fill	Fill of tree throw	1003	314	6	
1005	Cut	Pit	1005	16	87	2.2
1006	Fill	Fill of pit	1005	16	87	2.2
1007	Cut	Gully	1007	8	5	2.2
1008	Fill	Fill of gully	1007	8	5	2.2
1009	Cut	Pit	1009	10	81	
1010	Fill	Fill of pit	1009	10	81	
1011	Cut	Gully terminus	1011	13	3	2.2
1012	Fill	Fill of gully terminus	1011	13	3	2.2
1013	Cut	Ditch	1013	7	2	2.2
1014	Fill	Fill of ditch	1013	7	2	2.2
1015	Cut	Hearth	1015	14	85	2.2
1016	Fill	Hearth	1015	14	85	2.2
1017	Cut	Ditch	1017	6	2	2.2
1018	Fill	Fill of ditch	1017	6	2	2.2
1019	Cut	Ditch terminus	1019	1	1	2.2
1020	Fill	Fill, upper, of ditch terminus	1019	1	1	2.2
1021	Fill	Fill, primary, of ditch terminus	1019	1	1	2.2
1022	Cut	Gully	1022	9	5	2.2
1023	Fill	Fill of gully	1022	9	5	2.2
1024	Cut	Ditch	1024	2	1	2.2
1025	Fill	Fill of ditch	1024	2	1	2.2
1026	Cut	Posthole	1026	15	86	2.2
1027	Fill	Fill of posthole	1026	15	86	2.2
1028	Cut	Ditch	1028	3	1	2.2
1029	Fill	Fill, upper, of ditch	1028	3	1	2.2
1030	Fill	Fill, primary, of ditch	1028	3	1	2.2
1031	Cut	Gully terminus	1031	12	4	2.2
1032	Fill	Fill of gully terminus	1031	12	4	2.2
1033	Cut	Ditch	1033	5	2	2.2
1034	Fill	Fill of ditch	1033	5	2	2.2
1035	Cut	Ditch	1035	4	1	2.2
1036	Fill	Fill of ditch	1035	4	1	2.2
1320	Void				0	
1321	Void				0	

Context	Type	Interpretation	Parent	Sub Group	Group	Period
2000	Cut	Ditch	2000	17	8	5.2
2001	Fill	Fill, single	2000	17	8	5.2
2002	Cut	Ditch	2002	20	7	5.2
2003	Fill	Fill, single	2002	20	7	5.2
2004	Cut	Pit	2004	30	103	
2005	Fill	Fill, single	2004	30	103	
2006	Cut	Ditch terminus	2006	18	8	5.2
2007	Fill	Fill, single	2006	18	8	5.2
2008	Cut	Ditch	2008	27	9	5.2
2009	Fill	Fill, single	2008	27	9	5.2
2010	Cut	Ditch	2010	19	7	5.2
2011	Fill	Fill, single	2010	19	7	5.2
2012	Cut	Pit	2012	31	88	5.2
2013	Fill	Fill, single	2012	31	88	5.2
2014	Cut	Ditch	2014	24	10	5.2
2015	Fill	Fill, single	2014	24	10	5.2
2016	Cut	Ditch	2016	28	9	5.2
2017	Fill	Fill, single	2016	28	9	5.2
2018	Cut	Ditch	2018	29	9	5.2
2019	Fill	Fill, single	2018	29	9	5.2
2020	Cut	Ditch	2020	21	7	5.2
2021	Fill	Fill, single	2020	21	7	5.2
2022	Cut	Ditch	2022	22	7	5.2
2023	Fill	Fill, single	2022	22	7	5.2
2024	Cut	Ditch	2024	25	10	5.2
2025	Fill	Fill, single	2024	25	10	5.2
2026	Cut	Ditch	2026	23	7	5.2
2027	Fill	Fill, single	2026	23	7	5.2
2028	Cut	Ditch	2028	26	8	5.2
2029	Fill	Fill, single	2028	26	8	5.2
3001					0	
4000	Layer	Topsoil	4000		0	
4001	Deposit	Made ground	4001		0	
4002	Layer	Subsoil	4002		0	
4003	Layer	Natural	4003		0	
4004	Cut	Pit	4004	72	89	
4005	Fill	Fill, single	4004	72	89	
4006	Cut	Pit	4006	61	90	5.2
4007	Fill	Fill, single	4006	61	90	5.2
4008	Cut	Ditch terminus	4008	62	19	5.2
4009	Fill	Fill, single	4008	62	19	5.2
4010	Deposit	Modern deposit	4010	364	83	6.2

Context	Type	Interpretation	Parent	Sub Group	Group	Period
4011	Cut	Ditch	4011	64	20	5.2
4012	Fill	Fill, single	4011	64	20	5.2
4013	Cut	Ditch	4013	59	18	5.2
4014	Fill	Fill, single	4013	59	18	5.2
4015	Cut	Ditch	4015	63	19	5.2
4016	Fill	Fill, single	4015	63	19	5.2
4017	Cut	Ditch	4017	65	20	5.2
4018	Fill	Fill, single	4017	65	20	5.2
4019	Cut	Ditch	4019	58	73	
4020	Fill	Fill, single	4019	58	73	
4021	Cut	Ditch	4021	43	13	5.2
4022	Fill	Fill, single	4021	43	13	5.2
4023	Cut	Ditch	4023	52	17	5.2
4024	Fill	Fill, single	4023	52	17	5.2
4025	Cut	Gully	4025	57	72	5.2
4026	Fill	Fill, single	4025	57	72	5.2
4027	Cut	Pit	4027	73	91	5.2
4028	Fill	Fill, single	4027	73	91	5.2
4029	Cut	Posthole	4029	74	91	5.2
4030	Fill	Fill, single	4029	74	91	5.2
4031	Cut	Ditch	4031	68	22	5.2
4032	Fill	Fill, single	4031	68	22	5.2
4033	Cut	Pit	4033	71	92	5.2
4034	Fill	Fill, single	4033	71	92	5.2
4035	Cut	Ditch	4035	69	22	5.2
4036	Fill	Fill, single	4035	69	22	5.2
4037	Cut	Posthole	4037	75	91	5.2
4038	Fill	Fill, primary	4037	75	91	5.2
4039	Fill	Fill, secondary	4037	75	91	5.2
4040	Cut	Posthole	4040	76	91	5.2
4041	Fill	Fill, primary	4040	76	91	5.2
4042	Fill	Fill, secondary	4040	76	91	5.2
4043	Cut	Posthole	4043	77	91	5.2
4044	Fill	Fill, single	4043	77	91	5.2
4045	Cut	Posthole	4045	78	91	5.2
4046	Fill	Fill, single	4045	78	91	5.2
4047	Cut	Pit	4047	80	23	
4048	Fill	Fill, primary-heat affected geo?	4047	80	23	
4049	Fill	Fill, secondary-c'coal-rich	4047	80	23	
4050	Fill	Fill, tertiary	4047	81	23	
4051	Cut	Ditch	4051	53	17	5.2
4052	Fill	Fill, primary	4051	53	17	5.2

Context	Type	Interpretation	Parent	Sub Group	Group	Period
4053	Fill	Fill, secondary	4051	53	17	5.2
4054	Cut	Ditch	4054	82	24	
4055	Fill	Fill, single	4054	82	24	
4056	Cut	Ditch	4056	49	16	5.2
4057	Fill	Fill, primary	4056	49	16	5.2
4058	Cut	Ditch	4058	83	24	
4059	Fill	Fill, single	4058	83	24	
4060	Cut	Pit	4060	84	119	
4061	Fill	Fill, single	4060	84	119	
4062	Cut	Pit	4062	85	25	
4063	Fill	Fill, primary	4062	85	25	
4064	Fill	Fill, secondary	4062	86	25	
4065	Cut	Posthole	4065	87	118	
4066	Fill	Fill, single	4065	87	118	
4067	Cut	Ditch	4067	54	17	5.2
4068	Fill	Fill, single	4067	54	17	5.2
4069	Cut	Pit	4069	56	93	5.2
4070	Fill	Fill, single	4069	56	93	5.2
4071	Fill	Fill, secondary	4056	49	16	5.2
4072	Cut	Pit	4072	88	120	
4073	Fill	Fill, single	4072	88	120	
4074	Cut	Ditch	4074	89	26	
4075	Fill	Fill, single	4074	89	26	
4076	Cut	Ditch	4076	91	27	
4077	Fill	Fill, single	4076	91	27	
4078	Cut	Pit	4078	93	121	
4079	Fill	Fill, single	4078	93	121	
4080	Cut	Ditch	4080	90	26	
4081	Fill	Fill, single	4080	90	26	
4082	Cut	Ditch	4082	92	27	
4083	Fill	Fill, single	4082	92	27	
4084	Cut	Ditch	4084	50	16	5.2
4085	Fill	Fill, primary	4084	50	16	5.2
4086	Fill	Fill, secondary	4084	50	16	5.2
4087	Cut	Ditch	4087	47	15	5.2
4088	Fill	Fill, single	4087	47	15	5.2
4089	Cut	Ditch	4089	55	17	5.2
4090	Fill	Fill, single	4089	55	17	5.2
4091	Cut	Ditch	4091	51	16	5.2
4092	Fill	Fill, single	4091	51	16	5.2
4093	Cut	Ditch	4093	60	18	5.2
4094	Fill	Fill, single	4093	60	18	5.2

Context	Type	Interpretation	Parent	Sub Group	Group	Period
4095	Cut	Ditch	4095	48	15	5.2
4096	Fill	Fill, single	4095	48	15	5.2
4097	Cut	Ditch	4097	70	22	5.2
4098	Fill	Fill, single	4097	70	22	5.2
4099	Cut	Pit? spread?	4099	66	21	5.2
4100	Fill	Fill, single	4099	66	21	5.2
4101	Cut	Pit? spread?	4101	67	21	5.2
4102	Fill	Fill, single	4101	67	21	5.2
4103	Cut	Gully	4103	45	14	5.2
4104	Fill	Fill, single	4103	45	14	5.2
4105	Cut	Gully	4105	46	14	5.2
4106	Fill	Fill, primary	4105	46	14	5.2
4107	Fill	Fill, secondary	4105	46	14	5.2
4108	Cut	Ditch	4108	44	13	5.2
4109	Fill	Fill, single	4108	44	13	5.2
4110	Cut	Ditch	4110	42	13	5.2
4111	Fill	Fill, single	4110	42	13	5.2
4112	Cut	Gully	4112	33	11	5.1
4113	Fill	Fill, single	4112	33	11	5.1
4114	Cut	Ditch	4114	40	12	5.2
4115	Fill	Fill, single	4114	40	12	5.2
4116	Cut	Gully	4116	32	11	5.1
4117	Fill	Fill, single	4116	32	11	5.1
4118	Cut	Ditch	4118	36	12	5.2
4119	Fill	Fill, secondary	4118	36	12	5.2
4120	Fill	Fill, primary	4118	36	12	5.2
4121	Cut	Ditch	4121	79	84	5.2
4122	Fill	Fill, single	4121	79	84	5.2
4123	Cut	Ditch	4123	38	12	5.2
4124	Fill	Fill, single	4123	38	12	5.2
4125	Cut	Ditch	4125	39	12	5.2
4126	Fill	Fill, single	4125	39	12	5.2
4127	Cut	Ditch	4127	41	12	5.2
4128	Fill	Fill, single	4127	41	12	5.2
4129	Cut	Gully	4129	34	11	5.1
4130	Fill	Fill, single	4129	34	11	5.1
4131	Cut	Ditch	4131	35	12	5.2
4132	Fill	Fill, single	4131	35	12	5.2
4133	Cut	Ditch	4133	37	12	5.2
4134	Fill	Fill, single	4133	37	12	5.2
5000	Layer	Subsoil	5000		0	
5001	Layer	Natural	5001		0	

Context	Type	Interpretation	Parent	Sub Group	Group	Period
5002	Cut	Pit	5002	94	122	5.2
5003	Fill	Fill, primary	5002	94	122	5.2
5004	Fill	Fill, secondary	5002	94	122	5.2
5005	Cut	Gully	5005	95	74	1.2
5006	Fill	Fill, single	5005	95	74	1.2
5007	Cut	Ditch terminus	5007	96	75	1.2
5008	Fill	Fill, single	5007	96	75	1.2
6000	Layer	Subsoil	6000		0	
6001	Layer	Natural	6001		0	
6002	Cut	Ditch	6002	134	31	6.2
6003	Fill	Fill, single	6002	134	31	6.2
6004	Cut	Ditch	6004	128	30	5.3
6005	Fill	Fill, upper	6004	129	30	5.3
6006	Cut	Ditch	6006	137	70	6.2
6007	Fill	Fill, primary	6006	137	70	6.2
6008	Cut	Pit	6008	127	79	
6009	Fill	Fill, single	6008	127	79	
6010	Fill	Fill, secondary	6006	137	70	6.2
6011	Layer	Topsoil	6011		0	
6012	Deposit	Spread	6012	135	80	2.2
6013	Cut	Pit	6013	324	123	
6014	Fill	Fill, single	6013	324	123	
6015	Cut	Pit	6015	138	123	
6016	Fill	Fill, single	6015	138	123	
6017	Fill	Fill, intermediate	6004	129	30	5.3
6018	Fill	Fill, secondary	6004	129	30	5.3
6019	Fill	Fill, basal	6004	129	30	5.3
6020	Cut	Ditch	6020	144	33	
6021	Fill	Fill, single	6020	144	33	
6022	Cut	Gully	6022	143	33	
6023	Fill	Fill, single	6022	143	33	
6024	Cut	Furrow	6024	139	33	
6025	Fill	Fill, single	6024	139	33	
6026	Cut	Furrow	6026	140	33	
6027	Fill	Fill, single	6026	140	33	
6028	Cut	Ditch	6028	148	35	3.1
6029	Fill	Fill	6028	148	35	3.1
6030	Fill	Fill, upper	6028	149	35	5.2
6031	Cut	Ditch	6031	124	28	6.2
6032	Fill	Fill, basal	6031	124	28	6.2
6033	Fill	Fill, secondary	6031	124	28	6.2
6034	Fill	Fill, upper	6031	125	28	

Context	Type	Interpretation	Parent	Sub Group	Group	Period
6035	Cut	Spread	6035	101	127	2.2
6036	Fill	Fill, single	6035	101	127	2.2
6037	Fill	Fill, tertiary	6031	124	28	6.2
6038	Cut	Posthole	6038	100	128	2.2
6039	Fill	Fill, single	6038	100	128	2.2
6040	Cut	Ditch	6040	99	129	2.2
6041	Fill	Fill, single	6040	99	129	2.2
6042	Cut	Drain	6042	98	130	2.2
6043	Fill	Fill, single	6042	98	130	2.2
6044	Cut	Ditch	6044	97	131	2.2
6045	Fill	Fill, single	6044	97	131	2.2
6046	Cut	Posthole	6046	157	135	2.2
6047	Fill	Fill, single	6046	157	135	2.2
6048	Cut	Posthole	6048	117	135	3.1
6049	Fill	Fill, single	6048	117	135	3.1
6050	Cut	Posthole	6050	114	135	2.2
6051	Fill	Fill, single	6050	114	135	2.2
6052	Cut	Posthole	6052	113	135	2.2
6053	Fill	Fill, single	6052	113	135	2.2
6054	Cut	Posthole	6054	115	135	2.2
6055	Fill	Fill, single	6054	115	135	2.2
6056	Cut	Posthole	6056	112	135	2.2
6057	Fill	Fill, single	6056	112	135	2.2
6058	Cut	Posthole	6058	120	135	2.2
6059	Fill	Fill, single	6058	120	135	2.2
6060	Cut	Posthole	6060	121	135	2.2
6061	Fill	Fill, single	6060	121	135	2.2
6062	Cut	Stakehole	6062	122	135	2.2
6063	Fill	Fill, single	6062	122	135	2.2
6064	Cut	Stakehole	6064	123	135	2.2
6065	Fill	Fill, single	6064	123	135	2.2
6066	Cut	Posthole	6066	102	134	2.2
6067	Fill	Fill, single	6066	102	134	2.2
6068	Cut	Stakehole	6068	118	135	2.2
6069	Fill	Fill, single	6068	118	135	2.2
6070	Cut	Posthole	6070	119	135	2.2
6071	Fill	Fill, single	6070	119	135	2.2
6072	Cut	Posthole	6072	110	135	2.2
6073	Fill	Fill, single	6072	110	135	2.2
6074	Cut	Posthole	6074	111	135	2.2
6075	Fill	Fill, single	6074	111	135	2.2
6076	Cut	Posthole	6076	109	135	2.2

Context	Type	Interpretation	Parent	Sub Group	Group	Period
6077	Fill	Fill, single	6076	109	135	2.2
6078	Cut	Posthole	6078	107	135	2.2
6079	Fill	Fill, single	6078	107	135	2.2
6080	Cut	Stakehole	6080	108	135	2.2
6081	Fill	Fill, single	6080	108	135	2.2
6082	Cut	Pit	6082	106	132	2.2
6083	Fill	Fill, single	6082	106	132	2.2
6084	Cut	Posthole	6084	104	134	2.2
6085	Fill	Fill, single	6084	104	134	2.2
6086	Cut	Posthole	6086	105	134	2.2
6087	Fill	Fill, single	6086	105	134	2.2
6088	Cut	Posthole	6088	103	134	2.2
6089	Fill	Fill, single	6088	103	134	2.2
6090	Cut	Pit	6090	116	133	2.2
6091	Fill	Fill, primary	6090	116	133	2.2
6092	Fill	Fill, secondary	6090	116	133	2.2
6093	Cut	Posthole	6093	156	124	
6094	Fill	Fill, single	6093	156	124	
6095	Cut	Pit	6095	155	124	
6096	Fill	Fill, single	6095	155	124	
6097	Cut	Ditch	6097	142	33	
6098	Fill	Fill, single	6097	142	33	
6099	Cut	Ditch	6099	141	33	
6100	Fill	Fill, single	6099	141	33	
6101	Cut	Ditch	6101	150	35	3.1
6102	Fill	Fill, primary	6101	150	35	3.1
6103	Cut	Pit	6103	153	125	
6104	Fill	Fill, single	6103	153	125	
6105	Cut	Gully	6105	154	126	
6106	Fill	Fill, single	6105	154	126	
6107	Fill	Fill, tertiary	6101	150	35	3.1
6108	Fill	Fill, secondary	6101	150	35	3.1
6109	Fill	Fill, intermediate	6101	150	35	3.1
6110	Fill	Fill, intermediate	6101	151	35	3.2
6111	Fill	Fill, intermediate	6101	151	35	3.2
6112	Fill	Fill, intermediate	6101	151	35	3.2
6113	Fill	Fill, upper	6101	152	35	5.2
6114	Cut	Gully	6114	145	34	
6115	Fill	Fill, single	6114	145	34	
6116	Cut	Pit	6116	147	136	
6117	Fill	Fill, single	6116	147	136	
6118	Cut	Gully	6118	146	34	

Context	Type	Interpretation	Parent	Sub Group	Group	Period
6119	Fill	Fill, single	6118	146	34	
6120	Cut	Posthole	6120	126	137	
6121	Fill	Fill, single	6120	126	137	
6122	Cut	Ditch	6122	132	29	
6123	Fill	Fill, single	6122	132	29	
6124	Cut	Ditch	6124	133	31	6.2
6125	Fill	Fill, basal	6124	133	31	6.2
6126	Fill	Fill, intermediate	6124	133	31	6.2
6127	Fill	Fill, upper	6124	133	31	6.2
6128	Cut	Ditch	6128	130	30	5.3
6129	Fill	Fill, single	6128	131	30	
6130	Deposit	Spread	6130	136	32	2.2
6131	Cut	Gully	6131	158	138	
6132	Fill	Fill, single	6131	158	138	
6133	Cut	Posthole	6133		0	
6134	Fill	Fill, single	6133		0	
6135	Cut	Gully	6135	159	139	
6136	Fill	Fill, single	6135	159	139	
7000	Layer	Topsoil	7000		0	
7001	Layer	Natural	7001		0	
7002	Void	Tree throw	7002		0	
7003	Void	Fill, single	7002		0	
7004	Void	Tree throw	7004		0	
7005	Void	Fill, single	7004		0	
7006	Cut	Pit	7006	161	140	
7007	Fill	Fill, single	7006	161	140	
7008	Cut	Ditch	7008	162	36	
7009	Fill	Fill, single	7008	162	36	
7010	Void	Tree throw	7010		0	
7011	Void	Fill, single	7010		0	
7012	Void	Tree throw	7012		0	
7013	Void	Fill, single	7012		0	
7014	Void	Tree throw	7014		0	
7015	Void	Fill, single	7014		0	
7016	Cut	Ditch terminus	7016	163	36	
7017	Fill	Fill, single	7016	163	36	
7018	Cut	Gully	7018	160	141	
7019	Fill	Fill, single	7018	160	141	
7020	Cut	Ditch terminus	7020	164	36	
7021	Fill	Fill, single	7020	164	36	
8000	Layer	Topsoil	8000		0	
8001	Layer	Natural	8001		0	

Context	Type	Interpretation	Parent	Sub Group	Group	Period
8002	Cut	Pit	8002	175	142	
8003	Fill	Fill, single	8002	175	142	
8004	Cut	Ditch	8004	178	40	6.2
8005	Fill	Fill, single	8004	178	40	6.2
8006	Cut	Pit	8006	176	142	
8007	Fill	Fill, single	8006	176	142	
8008	Cut	Ditch	8008	177	40	
8009	Fill	Fill, single	8008	177	40	
8010	Cut	Ditch	8010	182	42	5.1
8011	Fill	Fill, single	8010	182	42	5.1
8012	Fill	Fill, single	8013	179	41	5.1
8013	Cut	Ditch	8013	179	41	5.1
8014	Cut	Ditch	8014	180	41	5.1
8015	Fill	Fill, single	8014	180	41	5.1
8016	Cut	Ditch	8016	181	42	
8017	Fill	Fill, single	8016	181	42	
8018	Fill	Fill, single	8019	173	39	
8019	Cut	Gully	8019	173	39	
8020	Cut	Gully	8020	174	39	
8021	Fill	Fill, single	8020	174	39	
8022	Cut	Gully	8022	171	39	
8023	Fill	Fill, single	8022	171	39	
8024	Cut	Gully	8024	172	39	
8025	Fill	Fill, single	8024	172	39	
8026	Cut	Gully	8026	169	39	
8027	Fill	Fill, single	8026	169	39	
8028	Cut	Ditch	8028	170	39	
8029	Fill	Fill, single	8028	170	39	
8030	Fill	Fill, single	8031	167	38	
8031	Cut	Palaeochannel	8031	167	38	
8032	Cut	Ditch terminus	8032	168	38	
8033	Fill	Fill, single	8032	168	38	
8034	Cut	Ditch	8034	165	37	
8035	Fill	Fill, single	8034	165	37	
8036	Cut	Gully	8036	166	37	
8037	Fill	Fill, single	8036	166	37	
9000	Deposit	Possible stream	9000	247	82	4.2
9001	Deposit	Colluvium	9001		0	
9002	Void				0	
9003	Void				0	
9004	Void				0	
9005	Void				0	

Context	Type	Interpretation	Parent	Sub Group	Group	Period
9006	Deposit	Colluvium	9006		0	
9007	Layer	Topsoil	9007		0	
9008	Layer	Natural	9008		0	
9009	Cut	Gully, ring	9009	264	58	3.2
9010	Fill	Fill, primary	9009	264	58	3.2
9011	Fill	Fill, secondary	9009	264	58	3.2
9012	Cut	Gully, ring (terminus)	9012	265	58	3.2
9013	Fill	Fill, single	9012	265	58	3.2
9014	Cut	Pit	9014	252	53	2.1
9015	Fill	Fill, single	9014	252	53	2.1
9016	Cut	Pit	9016	251	53	2.1
9017	Fill	Fill, single	9016	251	53	2.1
9018	Cut	Pit	9018	250	53	2.1
9019	Fill	Fill, single	9018	250	53	2.1
9020	Cut	Pit	9020	249	53	2.1
9021	Fill	Fill, single	9020	249	53	2.1
9022	Cut	Pit	9022	248	95	1.2
9023	Fill	Fill, single	9022	248	95	1.2
9024	Cut	Ditch	9024	257	55	2.2
9025	Fill	Fill, single	9024	257	55	2.2
9026	Cut	Ditch terminus	9026	266	55	2.2
9027	Fill	Fill, single	9026	266	55	2.2
9028	Cut	Pit	9028	260	56	2.1
9029	Fill	Fill, single	9028	260	56	2.1
9030	Cut	Pit	9030	259	56	2.1
9031	Fill	Fill, single	9030	259	56	2.1
9032	Cut	Pit	9032	258	56	2.1
9033	Fill	Fill, single	9032	258	56	2.1
9034	Cut	Pit	9034	261	56	2.1
9035	Fill	Fill, single	9034	261	56	2.1
9036	Cut	Ditch	9036	262	57	2.1
9037	Fill	Fill, single	9036	262	57	2.1
9038	Cut	Ditch	9038	254	54	2.1
9039	Fill	Fill, single	9038	254	54	2.1
9040	Cut	Ditch	9040	256	55	2.2
9041	Fill	Fill, single	9040	256	55	2.2
9042	Cut	Ditch terminus	9042	253	54	2.1
9043	Fill	Fill, single	9042	253	54	2.1
9044	Cut	Ditch	9044	263	57	2.1
9045	Fill	Fill, single	9044	263	57	2.1
9046	Cut	Ditch	9046	255	54	2.1
9047	Fill	Fill, single	9046	255	54	2.1

Context	Type	Interpretation	Parent	Sub Group	Group	Period
9048	Cut	Gully	9048	232	51	
9049	Fill	Fill, primary	9048	232	51	
9050	Fill	Fill, secondary	9048	232	51	
9051	Fill	Fill, tertiary	9048	232	51	
9052	Cut	Posthole	9052	242	143	
9053	Fill	Fill, single	9052	242	143	
9054	Cut	Posthole	9054	243	143	
9055	Fill	Fill, single	9054	243	143	
9056	Cut	Posthole	9056	244	143	
9057	Fill	Fill, single	9056	244	143	
9058	Cut	Posthole	9058	241	143	
9059	Fill	Fill, single	9058	241	143	
9060	Cut	Gully terminus	9060	233	51	
9061	Fill	Fill, primary	9060	233	51	
9062	Fill	Fill, secondary	9060	233	51	
9063	Fill	Fill, single	9064	237	52	
9064	Cut	Gully terminus	9064	237	52	
9065	Fill	Fill, secondary	9067	215	48	2.1
9066	Fill	Fill, primary	9067	215	48	2.1
9067	Cut	Ditch	9067	215	48	2.1
9068	Fill	Fill, single	9069	231	144	
9069	Cut	Pit	9069	231	144	
9070	Fill	Fill, single	9071	238	52	
9071	Cut	Gully	9071	238	52	
9072	Cut	Pit	9072	229	145	
9073	Fill	Fill, primary	9072	229	145	
9074	Fill	Fill, secondary	9072	229	145	
9075	Cut	Pit recut	9075	230	145	
9076	Fill	Fill, single	9075	230	145	
9077	Cut	Ditch	9077	221	50	3.1
9078	Fill	Fill, single	9077	221	50	3.1
9079	Cut	Ditch	9079	218	49	
9080	Fill	Fill, single	9079	218	49	
9081	Cut	Ditch	9081	222	50	3.1
9082	Fill	Fill, single	9081	222	50	3.1
9083	Cut	Ditch	9083	223	50	3.1
9084	Fill	Fill, single	9083	223	50	3.1
9085	Cut	Ditch	9085	224	50	3.1
9086	Fill	Fill, single	9085	224	50	3.1
9087	Cut	Ditch	9087	219	49	
9088	Fill	Fill, single	9087	219	49	
9089	Fill	Fill, single	9090	184		

Context	Type	Interpretation	Parent	Sub Group	Group	Period
9090	Cut	Natural hollow on downslope?	9090	184		
9091	Cut	Gully	9091	234	51	
9092	Fill	Fill, single	9091	234	51	
9093	Cut	Gully	9093	239	52	
9094	Fill	Fill, single	9093	239	52	
9095	Cut	Gully	9095	240	52	
9096	Fill	Fill, primary	9095	240	52	
9097	Fill	Fill, secondary	9095	240	52	
9098	Cut	Ditch terminus	9098	206	46	5.1
9099	Fill	Fill, single	9098	206	46	5.1
9100	Cut	Gully terminus	9100	235	51	
9101	Fill	Fill, primary	9100	235	51	
9102	Fill	Fill, secondary	9100	235	51	
9103	Fill	Fill, single	9104	211	47	2.1
9104	Cut	Ditch	9104	211	47	2.1
9105	Fill	Fill, single	9106	217	48	2.1
9106	Cut	Ditch	9106	217	48	2.1
9107	Cut	Gully terminus	9107	236	51	
9108	Fill	Fill, single	9107	236	51	
9109	Cut	Pit	9109	209	146	2.1
9110	Fill	Fill, single	9109	209	146	2.1
9111	Cut	Pit	9111	210	146	2.1
9112	Fill	Fill, single	9111	210	146	2.1
9113	Deposit	Colluvium	9113	225		
9114	Cut	Posthole	9114	207	147	2.1
9115	Fill	Fill, single	9114	207	147	2.1
9116	Cut	Ditch	9116	267	51	
9117	Fill	Fill, primary	9116	267	51	
9118	Fill	Fill, secondary	9116	267	51	
9119	Cut	Posthole	9119	208	147	2.1
9120	Fill	Fill, single	9119	208	147	2.1
9121	Cut	Posthole	9121	227	148	
9122	Fill	Fill, single	9121	227	148	
9123	Cut	Posthole	9123	195	149	
9124	Fill	Fill, single	9123	195	149	
9125	Cut	Gully	9125	198	150	
9126	Fill	Fill, single	9125	198	150	
9127	Cut	Posthole	9127	228	148	
9128	Fill	Fill, single	9127	228	148	
9129	Cut	Ditch	9129	220	49	
9130	Fill	Fill, primary	9129	220	49	
9131	Fill	Fill, secondary	9129	220	49	

Context	Type	Interpretation	Parent	Sub Group	Group	Period
9132	Fill	Fill, tertiary	9129	220	49	
9133	Fill	Fill, upper	9136	201	44	2.1
9134	Fill	Fill, intermediate	9136	201	44	2.1
9135	Fill	Fill, basal	9136	201	44	2.1
9136	Cut	Ditch	9136	201	44	2.1
9137	Fill	Fill, single	9138	203	45	2.1
9138	Cut	Ditch terminus	9138	203	45	2.1
9139	Cut	Pit	9139	199	94	
9140	Fill	Fill, single	9139	199	94	
9141	Cut	Ditch	9141	200	44	2.1
9142	Fill	Fill, primary	9141	200	44	2.1
9143	Fill	Fill, secondary	9141	200	44	2.1
9144	Fill	Fill, tertiary	9141	200	44	2.1
9145	Cut	Pit	9145	226	151	
9146	Fill	Fill, single	9145	226	151	
9147	Cut	Pit	9147	192	152	
9148	Fill	Fill, single	9147	192	152	
9149	Cut	Pit	9149	193	152	
9150	Fill	Fill, single	9149	193	152	
9151	Cut	Pit	9151	197	152	
9152	Fill	Fill, single	9151	197	152	
9153	Cut	Pit	9153	196	152	
9154	Fill	Fill, single	9153	196	152	
9155	Void				0	
9156	Deposit	Colluvium/ trample	9156	214	97	2.1
9157	Deposit	Charcoal rich deposit	9157	213	98	2.1
9158	Cut	Posthole	9158	191	153	
9159	Fill	Fill, single	9158	191	153	
9160	Cut	Furrow?	9160	189	43	
9161	Fill	Fill, single	9160	189	43	
9162	Cut	Ditch	9162	202	44	2.1
9163	Fill	Fill, single	9162	202	44	2.1
9164	Cut	Recut	9164	204	45	2.1
9165	Fill	Fill, single	9164	204	45	2.1
9166	Cut	Furrow?	9166	187	43	
9167	Fill	Fill, single	9166	187	43	
9168	Cut	Furrow?	9168	188	43	
9169	Fill	Fill, single	9168	188	43	
9170	Cut	Furrow?	9170	190	43	
9171	Fill	Fill, single	9170	190	43	
9172	Cut	Gully	9172	205	46	5.1
9173	Fill	Fill, single	9172	205	46	5.1

Context	Type	Interpretation	Parent	Sub Group	Group	Period
9174	Cut	Ditch	9174	216	48	2.1
9175	Cut	Ditch	9175	212	47	2.1
9176	Cut	Furrow?	9176	185	43	
9177	Fill	Fill, single	9176	185	43	
9178	Fill	Fill, basal	9174	216	48	2.1
9179	Fill	Fill, upper	9174	216	48	2.1
9180	Fill	Fill, basal	9175	212	47	2.1
9181	Fill	Fill, upper	9175	212	47	2.1
9182	Cut	Furrow?	9182	186	43	
9183	Fill	Fill, single	9182	186	43	
9184	Cut	Furrow?	9184	194	43	
9185	Fill	Fill, single	9184	194	43	
9186	Cut	Gully	9186	183	154	
9187	Fill	Fill, single	9186	183	154	
9188	Cut	Ditch	9188	245	96	1.2
9189	Fill	Fill, single	9188	245	96	1.2
9190	Deposit	Stream	9190	246		
9191	Void		9191	0	0	
slot					0	
10000	Layer	Topsoil	10000		0	
10001	Layer	Subsoil	10001		0	
10002	Layer	Natural	10002		0	
10003	Cut	Ditch	10003	268	59	
10004	Fill	Ditch fill	10003	269	59	
10005	Fill	Ditch fill (primary)	10003	268	59	
10006	Cut	Ditch	10006	270	59	
10007	Fill	Ditch fill	10006	271	59	
10008	Fill	Ditch fill (primary)	10006	270	59	
10009	Cut	Ditch	10009	272	59	
10010	Fill	Ditch fill	10009	273	59	
10011	Fill	Ditch fill (primary)	10009	272	59	
10012	Cut	Ditch	10012	274	59	
10013	Fill	Ditch fill	10012	275	59	
10014	Fill	Ditch fill (primary)	10012	274	59	
10015	Cut	Pipe trench (modern)	10015	276	155	
10016	Fill	Fill of pipe trench (modern)	10015	276	155	
11003	Deposit	Construction debris	11003	366	63	6.2
12000	Layer	Topsoil	12000		0	
12001	Layer	Natural	12001		0	
12002	Fill	Grave fill	12004	277	60	4.2
12003	Skeleton	Skeleton	12004	277	60	4.2
12004	Cut	Grave cut	12004	277	60	4.2

Context	Type	Interpretation	Parent	Sub Group	Group	Period
12005	Cut	Geological feature	12005		0	
12006	Fill	Geological feature	12005		0	
12007	Cut	Geological feature	12007		0	
12008	Fill	Geological feature	12007		0	
12009	Fill	Geological feature	12007		0	
12010	Cut	Pit	12010	278	61	4.2
12011	Fill	Fill	12010	278	61	4.2
12012	Cut	Geological feature	12012		0	
12013	Fill	Geological feature	12012		0	
12014	Cut	Geological feature	12014		0	
12015	Fill	Geological feature	12014		0	
12016	Cut	Geological feature	12016		0	
12017	Fill	Geological feature	12016		0	
12018	Fill	Geological feature	12016		0	
12019	Cut	Geological feature	12019		0	
12020	Fill	Geological feature	12019		0	
12021	Cut	Geological feature	12021		0	
12022	Fill	Geological feature	12021		0	
12023	Deposit	Colluvium	12023		0	
13000	Layer	Topsoil	13000		0	
13001	Layer	Natural alluvial deposit	13001		0	
13002	Layer	Natural alluvial deposit	13002		0	
13003	Layer	Natural alluvial deposit	13003		0	
13004	Cut	Pit	13004	285	157	5.1
13005	Fill	Fill, single	13004	285	157	5.1
13006	Fill	Fill	13009	287	157	5.1
13007	Fill	Fill, tertiary	13012	291	157	5.1
13008	Fill	Fill	13009	287	157	5.1
13009	Cut	Hearth	13009	287	157	5.1
13010	Fill	Fill, upper	13012	292	159	
13011	Void		13011		0	
13012	Cut	Pit	13012	291	157	5.1
13013	Fill	Fill, primary	13012	291	157	5.1
13014	Fill	Fill, secondary	13012	291	157	5.1
13015	Fill	Fill, intermediate	13012	291	157	5.1
13016	Deposit	Spread	13016	282	158	5.1
13017	Cut	Pit	13017	281	158	5.1
13018	Fill	Fill, single	13017	281	158	5.1
13019	Deposit	Spread	13019	283	158	5.1
13020	Cut	Posthole	13020	284	160	5.1
13021	Fill	Fill, single	13020	284	160	5.1
13022	Cut	Ditch	13022	279	62	5.1

Context	Type	Interpretation	Parent	Sub Group	Group	Period
13023	Fill	Fill, single	13026	280	62	5.2
13024	Fill	Fill, secondary	13022	279	62	5.1
13025	Fill	Fill, tertiary	13022	279	62	5.1
13026	Cut	Recut	13026	280	62	5.2
13027	Fill	Fill, primary	13022	279	62	5.1
13028	Cut	Pit	13028	299	157	5.1
13029	Fill	Fill	13028	299	157	5.1
13030	Cut	Pit, salt	13030	289	157	5.1
13031	Fill	Fill	13028	299	157	5.1
13032	Fill	Fill	13028	299	157	5.1
13033	Fill	Fill	13028	299	157	5.1
13034	Fill	Fill	13028	299	157	5.1
13035	Fill	Fill	13028	299	157	5.1
13036	Fill	Fill	13028	299	157	5.1
13037	Fill	Fill	13028	299	157	5.1
13038	Fill	Fill	13028	299	157	5.1
13039	Fill	Fill	13028	299	157	5.1
13040	Fill	Fill	13028	299	157	5.1
13041	Cut	Pit	13041	293	161	5.1
13042	Fill	Fill, primary	13041	293	161	5.1
13043	Fill	Fill, secondary	13041	293	161	5.1
13044	Cut	Posthole	13044	295	160	5.1
13045	Fill	Fill, single	13044	295	160	5.1
13046	Fill	Fill, basal	13030	289	157	5.1
13047	Fill	Fill, secondary	13030	289	157	5.1
13048	Fill	Fill	13030	289	157	5.1
13049	Fill	Fill	13030	289	157	5.1
13050	Fill	Fill	13030	289	157	5.1
13051	Fill	Fill	13030	289	157	5.1
13052	Fill	Fill	13030	289	157	5.1
13053	Fill	Fill	13030	289	157	5.1
13054	Fill	Fill	13030	289	157	5.1
13055	Fill	Fill	13030	289	157	5.1
13056	Fill	Fill	13030	289	157	5.1
13057	Fill	Fill	13030	289	157	5.1
13058	Fill	Fill	13030	289	157	5.1
13059	Fill	Fill	13030	289	157	5.1
13060	Fill	Fill	13030	289	157	5.1
13061	Fill	Fill	13030	289	157	5.1
13062	Fill	Fill	13030	290	159	5.1
13063	Cut	Posthole	13063	296	160	5.1
13064	Fill	Fill, single	13063	296	160	5.1

Context	Type	Interpretation	Parent	Sub Group	Group	Period
13065	Cut	Posthole/ small fire pit?	13065	286	157	5.1
13066	Fill	Fill, single	13065	286	157	5.1
13067	Cut	Stakehole	13067	288	160	5.1
13068	Fill	Fill, single	13067	288	160	5.1
13069	Cut	Pit	13069	297	162	5.1
13070	Fill	Fill, primary	13069	297	162	5.1
13071	Fill	Fill, secondary	13069	298	159	
13072	Fill	Fill, tertiary	13069	298	159	
13073	Cut	Pit	13073	294	161	5.1
13074	Fill	Fill, single	13073	294	161	5.1
15000	Layer	Topsoil	15000		0	
15001	Layer	Natural	15001		0	
15002	Fill	Fill, upper, of ditch	15004	300	163	
15003	Fill	Fill, primary, of ditch	15004	300	163	
15004	Cut	Ditch, field boundary	15004	300	163	
15005	Layer	Colluvium	15005	303		
15006	Deposit	Colluvium	15006	301		
15007	Deposit	Colluvium	15007	302		
17001	Layer	Topsoil	17001		0	
17002	Layer	Subsoil	17002		0	
17003	Layer	Natural	17003		0	
17004	Fill	Fill of ditch	17005		0	
17005	Cut	Ditch, field boundary	17005	365	164	
17006	Cut	Ditch	17006	306	164	6.2
17007	Fill	Fill of ditch	17006	306	164	6.2
17008	Cut	Ditch, boundary	17008	305	164	6.2
17009	Fill	Fill of ditch	17008	305	164	6.2
18001	Layer	Topsoil	18001		0	
18002	Layer	Natural	18002		0	
18003	Cut	Ditch, field boundary	18003	307	64	6.1
18004	Fill	Fill of ditch	18003	307	64	6.1
18005	Layer	Bank material	18005	308	64	6.1
18006	Cut	Post med. drainage gully	18006	309	64	6.1
18007	Fill	Fill of post-med. drainage gully	18006	309	64	6.1
18008	Layer	Colluvium on north side of Titch Hill	18008	304	69	
18009	Layer	Colluvium on south side of Steep Down Hill	18009	313	68	
18010	Deposit	Colluvium on north side of steep down hill	18010	312	67	
18011	Deposit	Colluvium on north side of steep down hill	18011	311	66	
18012	Deposit	Colluvium	18012	310	65	1.1
19001	Layer	Topsoil	19001		0	

Context	Type	Interpretation	Parent	Sub Group	Group	Period
19002	Layer	Subsoil	19002		0	
19005	Cut	Pit	19005	315	77	1.1
19006	Fill	Fill, upper	19005	315	77	1.1
19007	Cut	Pit	19007	316	100	1.2
19008	Fill	Fill, single	19007	316	100	1.2
19009	Cut	Pit. posthole	19009	317	100	1.2
19010	Fill	Fill, single	19009	317	100	1.2
19011	Cut	Pit	19011	318	100	1.2
19012	Fill	Fill, single	19011	318	100	1.2
19013	Deposit	Modern deposit	19013		0	
19014	Deposit	Surface finds	19014	319	99	1.2
19016	Deposit	Surface finds	19016	320	99	1.2
19018	Deposit	Surface finds	19018	321	99	1.2
19020	Deposit	Surface finds	19020	322	99	1.2
19021	Layer	Colluvium	19021	323	71	
19022	Layer	Natural	19022		0	
19023	Cut	Ditch	19023	325	76	4.1
19024	Fill	Fill, upper	19023	363	76	
19025	Fill	Fill, lower	19023	325	76	4.1
19100	Cut	Pit	19100	326	101	1.2
19101	Fill	Fill of pit	19100	326	101	1.2
19102	Cut	Pit	19102	327	101	1.2
19103	Fill	Fill of pit	19102	327	101	1.2
19104	Cut	Pit	19104	328	101	1.2
19105	Fill	Fill of pit	19104	328	101	1.2
19106	Cut	Pit	19106	329	101	1.2
19107	Fill	Fill of pit	19106	329	101	1.2
19108	Cut	Posthole	19108	330	101	1.2
19109	Fill	Fill of posthole	19108	330	101	1.2
19110	Cut	Pit	19110	331	101	1.2
19111	Fill	Fill of pit	19110	331	101	1.2
19112	Cut	Pit	19112	332	101	1.2
19113	Fill	Fill of pit	19112	332	101	1.2
19114	Cut	Pit	19114	333	100	1.2
19115	Fill	Fill of pit	19114	333	100	1.2
19116	Cut	Posthole	19116	334	101	1.2
19117	Fill	Fill of posthole	19116	334	101	1.2
19118	Cut	Posthole	19118	335	101	1.2
19119	Fill	Fill of posthole	19118	335	101	1.2
19120	Cut	Posthole	19120	336	101	1.2
19121	Fill	Fill of posthole	19120	336	101	1.2
19122	Cut	Posthole	19122	337	101	1.2

Context	Type	Interpretation	Parent	Sub Group	Group	Period
19123	Fill	Fill of posthole	19122	337	101	1.2
19124	Cut	Pit	19124	338	100	1.2
19125	Fill	Fill of pit	19124	338	100	1.2
19126	Cut	Posthole	19126	339	101	1.2
19127	Fill	Fill of posthole	19126	339	101	1.2
19128	Cut	Pit	19128	340	100	1.2
19129	Cut	Tree throw	19129	341	100	1.2
19130	Fill	Fill of tree throw	19129	342	100	1.2
19131	Fill	Upper fill of pit	19133	315	77	1.1
19132	Fill	Lower fill of pit	19133	315	77	1.1
19133	Cut	Pit	19133	315	77	1.1
19134	Fill	Fill of pit	19128	340	100	1.2
19135	Cut	Possible trackway	19135	343	102	1.2
19136	Fill	Fill of possible trackway	19135	343	102	1.2
20000	Layer	Topsoil	20000		0	
20001	Layer	Subsoil	20001		0	
20002	Layer	Natural alluvial deposit	20002		0	
20003	Fill	Fill of linear earthworks	20004	344	156	6.2
20004	Cut	Linear earthworks	20004	344	156	6.2
21001	Layer	Topsoil	21001		0	
21002	Layer	Subsoil	21002		0	
21003	Layer	Natural	21003		0	
21004	Cut	Ditch, boundary	21004	345	114	6.1
21005	Fill	Fill of ditch	21004	345	114	6.1
21006	Cut	Ditch	21006	346	115	6.2
21007	Fill	Fill of ditch	21006	346	115	6.2
21008	Cut	Ditch	21008	347	116	6.2
21009	Fill	Fill of ditch	21008	347	116	6.2
21010	Cut	Ditch	21010	348	117	6.2
21011	Fill	Fill of ditch	21010	348	117	6.2
21012	Cut	Ditch	21012	349	78	6.1
21013	Fill	Fill of ditch	21012	349	78	6.1
21014	Cut	Ditch	21014	350	78	6.1
21015	Fill	Fill of ditch	21014	350	78	6.1
21016	Cut	Ditch	21016	351	104	6.2
21017	Fill	Fill of ditch	21016	351	104	6.2
21018	Cut	Ditch, boundary	21018	352	105	6.2
21019	Fill	Fill of ditch	21018	352	105	6.2
21020	Cut	Recut of boundary ditch 21018	21020	353	105	6.2
21021	Fill	Fill of recut	21020	353	105	6.2
21022	Cut	Ditch, boundary	21022	354	106	6.2
21023	Fill	Fill of ditch	21022	354	106	6.2

Context	Type	Interpretation	Parent	Sub Group	Group	Period
21024	Cut	Ditch, boundary	21024	355	107	6.2
21025	Fill	Fill of ditch	21024	355	107	6.2
21026	Cut	Ditch, boundary	21026	356	108	6.2
21027	Fill	Fill of ditch	21026	356	108	6.2
21028	Cut	Recut of boundary ditch 21026	21028	357	108	6.2
21029	Fill	Fill of recut	21028	357	108	6.2
21030	Cut	Ditch, boundary	21030	358	109	6.2
21031	Fill	Fill of ditch	21030	358	109	6.2
21032	Cut	Possible stream	21032		0	
21033	Fill	Upper fill of possible stream	21032		0	
21034	Fill	Lower fill of possible stream	21032		0	
21035	Cut	Possible stream	21035		0	
21036	Fill	Fill of possible stream	21035		0	
21037	Cut	Possible pond	21037		0	
21038	Fill	Upper fill of possible pond	21037		0	
21039	Fill	Lower fill of possible pond	21037		0	
21040	Cut	Ditch, boundary	21040	359	110	6.2
21041	Fill	Fill of ditch	21040	359	110	6.2
21042	Fill	Fill of sollifluction feature			0	
21043	Cut	Possible pond	21043		0	
21044	Fill	Upper fill of possible pond	21043		0	
21045	Fill	Lower fill of possible pond	21043		0	
21046	Layer	Peat	21046		0	
21047	Layer	Made ground	21047		0	
21048	Cut	Modern field boundary ditch	21048	360	111	6.2
21049	Fill	Fill of ditch	21048	360	111	6.2
21050	Cut	Ditch, boundary	21050	361	112	
21051	Fill	Fill of ditch	21050	361	112	
21052	Cut	Ditch, boundary	21052	362	113	6.2
21053	Fill	Fill, single	21052	362	113	6.2
21054	Layer	Topsoil	21054		0	
21055	Layer	Natural head deposit	21055		0	
21056	Layer	Natural head deposit	21056		0	

Appendix 3: Quantification of hand-collected bulk finds

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
131			1	11																								
900			3	19																								
1001							2	48													4	11						
1006			3	11																								
1008			5	12																	3	68						
1010	1	10																			5	10						
1012			9	59																	6	19						
1018			17	46																	5	25						
1019																					2	5						
1020			80	256																	2	8						
1021			80	223			1	191													28	1094						
1023			11	15																	6	11						
1025			3	10																	4	20						
1029			66	173																	5	53						
1030	2	16	13	66			1	8													4	61						
1036							1	49																				
2001			44	130																								
2003			16	106																								
2005																					39	290						

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
2009			12	15																								
2011			14	25																								
2021			3	12																								
2029			3	1																								
3001					4	321																						
4005	3	9																			4	10						
4007	2	10	1	3																								
4009			8	51																	1	1						
4012			4	26																								
4014			6	35																	1	2						
4016			6	16																								
4018			12	51																								
4022	2	84																	1	15								
4024			88	573											5	8												
4026			52	455																	2	3						
4030			9	31																								
4044			1	2																								
4046			2	4																								
4052			575	4828	5	367	1	95																				
4053			83	636																								
4055									3	23																		
4057			10	111																								

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
4061																					1	3						
4066			2	12																								
4068			47	150																								
4070			68	207																								
4071			16	83															1	6								
4079	1	9																										
4085			18	124																								
4086			24	135	6	23																						
4090			8	37																	2	12						
4092			35	229																								
4102			6	15																								
4104			1	1																								
4109			1	1			1	699													1	6						
4111			25	118																								
4115			1	1																								
4119			9	19	1	2													3	35								
4120			2	9															1	16								
4124			1	2																								
4126			7	34																								
4128			2	12																								
4132			1	3																								
4134			6	7																								

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
5000			15	43																								
5003																					24	111						
5004			7	36																	3	7						
5006	2	24	64	531															3	24								
5008	3	64	34	306															1	7								
6000	16	264																										
6003	6	57	1	7																								
6005					1	148																						
6007			8	132	1	44	1	19			1	37																
6009	3	36	2	2																								
6012	2	26	4	33																								
6029	1	2	3	6															5	14								
6030	5	28																										
6036			1	1	4	12																						
6045	2	27																										
6059	3	1																										
6083	4	12	3	4															3	8								
6089																			3	7								
6091																			8	7								
6102			31	202																								
6107	1	19	77	740																								
6110			2	12																								

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
6113	3	40	2	6															1	3	1	5						
6126	2	15	1	3			5	156																				
6130	2	15	1	6																								
6136																			1	13								
7007	1	207																										
8005	1	18			1	10																						
8033	1	15																										
9007			2	130	3	91									3	186												
9010			1	9											50	45												
9011			65	682	1	18									28	32					7	55						
9013			2	11											1	1					2	43						
9015			1	4																								
9017			1	4																								
9019																					2	388						
9021			1	1																								
9023	2	32	5	98			1	19							80	88												
9025			2	9																	9	405						
9027			4	120																								
9029	1	2	6	30																	2	7						
9031			21	37																								
9033			2	5																								
9035																					1	19						

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
9037			5	49															1	51	8	203						
9039	2	89																	1	55								
9041			10	87																	7	73						
9043			1	15																								
9045			2	11																								
9047			1	16																								
9066	3	6	1	2																								
9070	1	2																										
9078	5	27					1	23																				
9080	4	62	1	3																								
9082			2	5																								
9084	3	60																										
9098	1	2																										
9110																			1	5								
9134	1	2																										
9142	2	15	3	11																								
9152	1	2																										
9156			2	15																								
9157			1	4			1	29																				
9165	3	27	1	2																								
9173	2	13	2	1																								
9181	5	12	1	4															3	19								

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
9189	1	20	11	122															4	64								
10001	44	582											1	1														
10004	3	38																										
10005	10	106																										
10007	17	266									1	1																
10008	5	173																										
10010	16	315																										
10011	2	76																										
10013	17	219									1	1																
10014	5	59																										
10016																												
12003																	1	1										
13006													3	38														
13008			1	7																								
13016																					90	819						
13019																					6	9						
13021																					2	8						
13023											1	20			6	10												
13025															4	16												
13029	1	200	4	37																								
13050			1	3																	1	3						
15003			1	3											1	44											1	54

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
15006			3	1																					2	237		
18004	1	21	1	38																								
18005			1	38																								
18012	3	52																	5	97								
19001	2	24	2	31	2	29													2	10								
19002	4	45	3	151	3	131																						
19012	25	296																										
19014	5	86					10	109											2	205								
19016	1	1	5	7															3	13								
19018			6	19																								
19020			3	7																								
19021	30	374	17	82			10	261											20	504								
19025			9	53											1	1					1	4						
19101			1	1			14	243																				
19103																			1	40								
19107	4	51	4	3															4	73								
19109			2	10																								
19111			12	117			2	49			2	49							10	246								
19113	1	51	7	9															18	408								
19117	7	71	13	16			10	414											154	1634	2	1						
19119	21	241	5	19			2	266											121	1385	9	4						
19121	4	7	5	8			11	262											24	223								

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Other Metal	Weight (g)	Bone	Weight (g)	Human Bone	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Other	Weight (g)	Shell	Weight (g)
19123	29	261	11	51			2	88											62	817	6	5						
19125			10	306																								
19127	3	116					1	25																				
19130	1	30																										
19131			1	10																								
19132	3	54																										
19134			60	394																								
19136	69	657	9	20															4	68								
21005																							2	61				
21007	2	15																	7	148								
21011			2	13	2	126																						
21013					3	28													1	32								
21015	1	12	1	2					1	5					5	3			2	10	1	1						
21017											7	67															1	8
U/S																					10	80						
Total	449	5935	2141	15815	38	1455	78	3053	4	28	13	175	4	39	184	434	1	1	482	6292	319	3962	2	61	2	237	2	62

Appendix 4: Flot and residue quantification tables for archaeological samples

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
S	B	1903	19132	Pit	***	10	***	4	*Quercus* sp. (7), *Fraxinus excelsior* (1), *Corylus/ Alnus* sp. (1), Maloideae (1)	** *Corylus avelana* (20 frags), *Hordeum* sp. (1)	<1					*	<1	**	<1	*	<1	*	<1	Pot (**/58g) Flint (**/61g) FCF (**/272g) Mag.Mat. >2mm (**/1g) Mag.Mat. <2mm (**/<1g)
S	B	1900	19111	Pit																				
S	B	1901	19115	Pit																				
S	B	1902	19125	Pit	*	<1	*	<1		* Cerealia indet. (1)	<1													FCF (*/<1g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (**/<1g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
S	B	1904	19134	Pit			*	<1																Pot (*/5g) FCF (*/2g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (**/1g)
S	B	1905	19134	Vessel (spit 1)			*	<1																FCF (***/65g)
S	B	1905	19134	Vessel (spit 2)																				FCF (***/55g
S	B	1905	19134	Vessel (spit 3)			*	<1																FCF (***/38g)
O	B	1500	15003	Ditch			*	<1				*	<1									***	10	

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
I	B	911	9080	Ditch	*	<1	**	<1																Pot (*/1g) Flint (*/<1g) FCF (*/2g) Mag.Mat. >2mm (*/<1g) Mag.Mat <2mm (*/<1g)
F	B	600	6012	Spread	**	5	***	2	*Quercus* sp. (5), cf. Maloideae (1), *Corylus/ Alnus* sp. (2), *Salix/ Populus* sp. (2)															
I	B	907	9143	Ditch	*	<1	**	1																Ind.Mat. >2mm (*/<1g) FCF (*/5g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (**/<1g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
I	B	908	9031	Pit	*	<1	**	<1	*Quercus* sp. (2), *Corylus/ Alnus* sp. (1)															Pot (*/5g) Coal (*/<1g) FCF (*/1g) Flint (*/1g) Mag.Mat. >2mm (*/<1g) Mag.Mat <2mm (*/<1g)
I	B	909	9157	Spread	****	37	****	28	*Quercus* sp. (5), *Acer campestre* (5)							*	2	**	1					Flint (*/43g) Pot (*/3g) FCF (*/9g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (**/<1g)
I	B WS	912	9180	Ditch					small quant of small charcoal <4mm (see flot).	No waterlogged botanicals or other remains so could be floated														

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
A	B	100	1006	Pit	****	120	****	100	*Quercus* sp. (10) well pres and poss more taxa present															Pot (*/14g) B.Clay (**/18g) Mag.Mat. >2mm (**/2g) Mag.Mat. <2mm (****/3g)
A	B	101	1021	Ditch	**	2	**	1	*Quercus* sp. rw (4), *Quercus* sp. (6)															Pot (*/2g) B.Clay (**/56g) Mag.Mat. >2mm (*/<2mm) Mag.Mat. <2mm (**/<1g)
A	B	102	1030	Ditch	**	2	***	2	*Quercus* sp. (5), *Salix/ Populus* sp. (1), *Ulmus* sp. (1), *Corylus/ Alnus* sp. (2 incl 1 rw), *Prunus* sp. (1)															Pot (*/<1g) B.Clay (*/16g) B.Stone (*/1g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (**/1g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
A	B	103	1018	Ditch	*	<1	**	1																Stone (*/<1g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (*/<1g)
I	B	903	9041	Ditch	*	<1	**	<1								*	<1	*	<1					Pot (*/19g) FCF (**/33g) Glass (*/<1g) Mag.Mat. >2mm (**/5g) Mag.Mat. (***/2g)
U	B	2100	21011	Ditch	*	<1	*	<1																Pot (*/4g) FCF (**.72g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
I	B	902	9011	Ditch	**	2	***	4	*Quercus* sp. (6), Maloideae (1), *Prunus* sp. (2), Bark frag (1)	* *Pisum sativum* (1), cf. *Pisum sativum* (1), *Triticum* sp. (1), *Triticum spelta/ dicoccum* (1)	<1	****	81			*	1	*	<1	*	2			Pot (***/178g) CBM (*/54g) B.Clay (*/35g) Fe (*/16g) FCF (***/35g) Glass (*/<1g) Mag.Mat. >2mm (**<1g) Mag.Mat. <2mm (**/<1g)
S	B	1907	19025	Ditch	**	6	***	4	*Corylus/ Alnus* sp. (5), *Fraxinus excelsior* (1), Maloideae (2), *Acer campestre* (1)	* *Triticum* sp. (1), Cerealia indet. (1), *Hordeum* sp. (1)	<1	***	30	*	2	*	1	**	1	**	12	*	<1	Slug Plate (*/<1g) Pot (*/18g) B.Clay (*/38g) Ind.Mat. (*/2g) FCF (**/147g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (**/<1g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
L	B	1200	12002	Grave	*	<1	*	<1	no ids. Too few													*	<1	FCF (*/3g) Human Bone (*/1g) Mag.Mat. <2mm (*/<1g)
L	B	1201	1202	Grave (pelvis)			*	<1																Human Bone 2-4mm (*/<1g)
L	B	1202	12002	Grave (feet)			*	<1																Flint (*/5g) Human Bone 4-8mm (*/<1g) Human Bone 2-4mm (*/<1g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
L	B	1203	12002	Grave (head)																*	<1			Human Bone >8mm (**/6g) Human Bone 4-8mm (**/3g) Human Bone 2-4mm (**/<1g) Mag.Mat. >"mm (*/<1g) Mag.Mat. <2mm (*/<1g)
L	B	1204	12002	Grave (hands)			*	<1												*	<1			Human Bone (*/2g) Human Bone 4-8mm (*/<1g) Human Bone 2-4mm (*/<1g) Flint (*/1g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
L	B	1205	12011	Pit			*	<1																Daub? (*/3g) FCF (*/<1g) Mag.Mat. >2mm (**/1g) Mag.Mat. <2mm (***/3g)
M	B	1301	13005	Pit																				
M	B	1302	13007	Pit																				
M	B	1303	13013	Pit	**	3	***	1	*Quercus* sp. (5), *Fraxinus excelsior* (1), bark frags (4)	* *Avena* sp. (1)	<1							*	<1			**	<1	Ind.Mat (*/<1g)
M	B	1305	13049	Pit	*	<1	*	<1	no ids - only 1 frag													*	<1	Mag.Mat. <2mm (*/<1g)
M	B	1304	13023	Ditch																**	9	**	1	Mag.Mat. <2mm (*/<1g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
D	B	4000	4024	Ditch	**	11	***	4	*Fagus sylvatica* (3), *Quercus* sp. (7)	* *Triticum* sp. (2), *Triticum* cf. *aestivum* (1)	<1	*	<1											Pot (**/84g) Mag.Mat. >2mm (**/<1g) Mag.Mat. <2mm (**/1g)
D	B	4001	4026	Gully																				
B	B	200	2001	Ditch	***	7	****	8	*Quercus* sp. (8), *Salix/ Populus* sp. (2)															Pot (*/3g) Mag.Mat. >2mm (**/<1g) Mag.Mat. <2mm (**/<1g)
F	B WS	604	6047	Posthole					Some charcoal (see flot) but not enough for analysis unless processed in its entirety	No waterlogged botanicals or other remains so could be floated														
F	B	605	6067	Posthole																				

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
F	B	606	6084	Posthole	***	12	****	30	*Corylus/ Alnus* sp. (4), cf. *Salix/ Populus* sp. (2), Bark frags (4)															Ind.Mat. >2mm (**/6g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (**/<1g)
F	B	607	6087	Posthole	***	16	****	6	*Corylus/ Alnus* sp. (10)															Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (*/<1g)
F	B	611	6121	Posthole	****	68	****	40	*Quercus* sp. (9), Bark frags (1)															Mag.Mat. >2mm (**/3g) Mag.Mat. <2mm (**1g)
I	B	904	8003	Pit	**	3	***	2	*Quercus* sp. (5), cf. *Corylus avellana* (5)															Ind.Mat. >2mm (*/<1g) FCF (*/<1g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (**/<1g)

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
I	B	910	9101	Gully			**	<1		* *Triticum* sp. (1), *Hordeum* sp. (2)	<1													FCF (*/6g) Coal (*/<1g) Mag.Mat. >2mm (*/<1g) Mag.Mat <2mm (*/<1g)
J	B	1000	10007	Ditch																				
J	B	1001	10008	Ditch																				
J	B	1002	10004	Ditch																**	2	**	4	Fe (*/1g) Mag.Mat. >2mm (*/<1g) Mag.Mat <2mm (*/<1g)
J	B	1003	10005	Ditch																				
J	B	1004	10010	Ditch																		**	1	Mag.Mat. <2mm (**/<1g)
J	B	1005	10011	Ditch																				

Site	Sample Type	Sample Number	Context	Context / Deposit Type	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charcoal Identifications	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt Bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail Shells	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
J	B	1006	10013	Ditch																				
J	B	1007	10014	Ditch			*	<1												**	<1	***	3	Fe (*/<1g) FCF (*/93g) Mag.Mat. >2mm (*/<1g) Mag.Mat. <2mm (*/<1g)
D	B	4002	4063	Pit	****	118	****	24	*Quercus* sp. (10)					***	93	****	144	****	56					B.Clay (***/7011g) Mag.Mat. >2mm (**/3g) Mag.Mat. <2mm (****/8g)

Table 1: Residue quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) (grey = currently unprocessed)

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
S	B	1903	77	19132	19133	1.1	Pit	40	40				<5	<5	*	*	**	****	*	cf *Hordeum* sp. (1), cerealia indet. (1)	+						***
S	B	1900	101	19111	19110	1.2	Pit	40																			
S	B	1901	100	19115	19114	1.2	Pit	30																			
S	B	1902	100	19125	19124	1.2	Pit	5	5				95	<5	*			**									*
S	B	1904	100	19134	19128	1.2	Pit	20	20				60	38			*	*	*	cerealia indet (1), *Avena* sp. (1)	+/++	*	*Chenopodium* sp. (1) NB broken to check if charred	+			
S	B	1905	100	19134	19128	1.2	Vessel in pit (spit 1)	10	10																		

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
S	B	1905	100	19134	19128	1.2	Vessel in pit (spit 2)	10	10																		
S	B	1905	100	19134	19128	1.2	Vessel in pit (spit 3)	10	10																		
O	B	1500	163	15003	15004	1.2/ 2.1?	Ditch, field boundary	40	40				5	30	*			**									**** 65%
I	B	911	49	9080	9079	1.2/ 2.1	Ditch	40	40				80	10	*		*	***	*	cerealia indet.	+						
F	B	600	80	6012	6012	2	Spread	40	40				35	45			*	***									
I	B	907	44	9143	9141	2.1	Ditch	20	20				80	15	*			***									
I	B	908	56	9031	9030	2.1	Pit	40	40				30	50	*		*	****	*	cerealia indet.	+						**

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
I	B	909	98	9157	9157	2.1	Spread charcoal rich	10	10				30	5				***									
I	B WS	912	47	9180	9175	2.1	Ditch	40	2								*	***									
A	B	100	87	1006	1005	2.2	Pit	40	40				65	10		*	**	****				*	tuber	++			*
A	B	101	1	1021	1019	2.2	Ditch terminus	40	40				45	50			*	**									
A	B	102	1	1030	1028	2.2	Ditch	40	40				70	20		*	*	**				1	*Triticum spelta/ dicoccum* gb.	+			
A	B	103	2	1018	1017	2.2	Ditch	40	20				70	25			*	***									
I	B	903	55	9041	9040	2.2	Ditch	40	40				30	60			**	****	*	*Triticum* sp. (1), cerealia indet. (1)	+	*	*Avena/ Bromus* sp. (2)	+			

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
F	B WS	604	135	6047	6046	2.2	Posthole	10	2							**	***	****									
F	B	605	134	6067	6066	2.2	Posthole	10																			
F	B	606	134	6084	6084	2.2	Posthole	5	5				<5	<5		***	****	****									
F	B	607	134	6087	6086	2.2	Posthole	10	10				<5	<5		**	*	****									
U	B	2100	117	21011	21010	3.1	Ditch	40	40				<5	50			*	****									
I	B	902	58	9011	9009	3.2	Gully, ring	40	40				95	<5				***	*	cerealia indet.	+						
S	B	1907	76	19025	19023	4.1	Ditch	40	40				10	<5		*	**	****	*	cerealia indet., *Hordeum* sp.	+/++	*	cpr indet (poss seeds)	+			****

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
L	B	1200	60	12002	12004	4.3	Grave	40	40				80	10			*	**	*	*Triticum* sp., Cerealia indet.	++					*	**
L	B	1201	60	12002	12004	4.3	Grave (pelvis)	5	5				95	<5	**			*							**		**
L	B	1202	60	12002	12004	4.3	Grave (feet)	5	5				95	<5	*			*									**
L	B	1203	60	12002	12004	4.3	Grave (head)	5	5				85	10	**			*									**
L	B	1204	60	12002	12004	4.3	Grave (hands)	5	5				80	15				*							*		**
L	B	1205	61	12011	12010	4.3	Pit	40	40				85	10			*	**							**		**
M	B	1301	157	13005	13004	5.1	Pit	10																			

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
M	B	1302	157	13007	13012	5.1	Pit	30																			
M	B	1303	157	13013	13012	5.1	Pit (oven/ saltern?)	10	10				75	<5	**	*	**	****	*	*Triticum* cf. *aestivum* (1)	++						**
M	B	1305	157	13049	13030	5.1	Pit, saltern	10	10				90	5	**		*	**									**
M	B	1304	62	13023	13026	5.2	Ditch recut	40	40				90	<5	***			**									****
D	B	4000	17	4024	4023	5.2	Ditch	40	40				95	<5	**		*	***	**	Cerealia indet. (2), *Triticum* cf. *aestivum* sl (8), cf. *Hordeum* sp. (1), *Triticum* sp. (1)	+/++	*	cf *Vicia* /*Pisum* /*Lathyrus* sp. (1), indet cpr	+			*

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
D	B	4001	72	4026	4025	5.2	Gully	40	40																		
B	B	200	8	2001	2000	5.2	Ditch	40	40				10	<5		**	***	***	*	*Triticum* cf. *aestivum* (1), cerealia indet. (1)	++						
F	B	611	137	6121	6120		Posthole	20	20				30	<5		***	****	****									
I	B	904	142	8003	8002		Pit	10	10				30	<5		**	***	**									
I	B	910	51	9101	9100		Gully terminus	40	40				45	50	**		*	***									
J	B	1000	59	10007	10006		Ditch	40																			

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
J	B	1001	59	10008	10006		Ditch (primary)	40																			
J	B	1002	59	10004	10003		Ditch	40	40				90	8	**			**							**		***
J	B	1003	59	10005	10003		Ditch (primary)	40																			
J	B	1004	59	10010	10009		Ditch	40	40				85	10	*			**									***
J	B	1005	59	10011	10009		Ditch (primary)	40																			
J	B	1006	59	10013	10012		Ditch	40																			
J	B	1007	59	10014	10012		Ditch (primary)	40	40				80	15				***									*

Site	Sample Type (B = Bulk, WS = Wet sieved)	Sample Number	Group	Context	Parent	Period	Context / Deposit Type	Sample Volume (L)	Sub-Sample Volume (L)	Weight (g)	Flot volume (ml)	Volume Scanned (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Weed Seeds Charred and other botanical remains	Identifications	Preservation	Insects, Fly Pupae etc.	Burnt Bone	Land Snail Shells
D	B	4002	25	4063	4062		Pit	40	40				50	5	**	*	**	****	**	cerealia indet., *Triticum* sp.	+/++	**	cpr indet.	+			

Table 2: Flot quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) and preservation (+ = poor, ++ = moderate, +++ = good) (grey = currently unprocessed)

Appendix 5: Flot and residue quantification tables for geoarchaeological samples

Site	Sample Type	Sample Number	Context	Sample Depth	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Uncharred Botanicals	<2mm fraction	2-4mm fraction	>4mm fraction
F	GA Col WS for insects and plant macros	608		0.15-0.3	2	*	<1			* 1 *Prunus* cf. *spinosa*	grass culms, small wood flecks.	grass culms, wood frags and occ twig frags	some large pieces of wood >20mm and up to ca 70mm long, twig frags mod common,
F	GA Col WS for insects and plant macros	608		0.4-0.5	2	*	<1	**	<1	* Caryophylaceae, *Lycopus europeus*, *Carex* sp., cf *Ilex aquifolium*	small wood flecks, indet organics and grass culm frags	wood frags and occ twigs,	wood frags incl some large and twig frags some retaining bark
F	GA Col WS for insects and plant macros	608		0.6-0.7	2	*	<1	***	<1		indet organics, twigs common,	twigs common and wood frags,	twigs and wood frags
F	GA Col WS for insects and plant macros	608		0.8-0.9	2		<1	**	<1		indet organics, twigs common	twigs common and wood frags,	twigs and wood frags
F	GA B WS for insects and plant macros	601a	6018		2					cf. *Carex* sp., cf. *Polygonum* sp., cf *Ranunculus* sp. (1)	wood flecks, indet fruit skins and occ seeds.	fraction wood flecks, grass culms, cf insect egg cases, cf. indet fruit skins, 1 seed frag.	rootlets and roots
F	GA B WS for insects and plant macros	601b	6017		2					*Rubus* sp. (1)	rootlets, charcoal flecks incl 1 charred twig frag, unch cf fruit skins, 1 seed and cf insect egg cases.	rootlets only.	rootlets only.

Table 1: Sample quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250)

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
I	GA col	900	9000	0.1-0.2	NA	2			*	<1							FCF (*/<1g)
I	GA col	900	9000	0.3-0.4	NA	2			*	<1							Flint (*/1g)
I	GA col	900	9000	0.5-0.6	NA	2			**	<1							CBM (*/9g)
I	GA col	900	9000	0.7-0.8	NA	2			*	<1							
I	GA col	900	9000	0.9-1.0	NA	2	*	<1	*	<1							B. Clay (*/<1g) FCF (*/11g)
I	GA col	900	9000	1.1-1.2	NA	2					* *Corylus avellana* shell frag (1), Poaceae culm node and internode frag (1)	<1					Flint (*/1g)
I	GA col	900	9000	1.3-1.4	NA	2	*	<1									
I	GA col	901	9001	0.0-0.1	NA	2	*	<1									Slate (*/1g) FCF (*/1g) Flint (*/1g)
I	GA col	901	9001	0.2-0.3	NA	2			*	<1							CBM (*/1g) FCF (*/<1g) Flint (*/1g)
I	GA col	901	9001	0.4-0.5	NA	2					* cpr indet. (1)	<1					
I	GA col	901	9001	0.6-0.7	NA	2			*	<1							FCF (*/<1g)
I	GA col	901	9001	0.8-0.9	NA	2											FCF (*/7g)

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
I	GA col	901	9001	1.0-1.1	NA	2					* cf. *Hordeum* sp. (1)	<1					CTP (*/<1g) FCF (*/<1g) Flint (*/<1g)
I	GA col	901	9001	1.2-1.3	NA	2			*	<1	* Poaceae indet (1)	<1					FCF (*/1g)
I	GA col	901	9001	1.4-1.5	NA	2	*	<1	*	<1							B.Clay (*/1g) FCF (*/<1g) Flint (*/2g)
I	GA col	906	9113	0.0-0.1	NA	2											Empty
I	GA col	906	9113	0.2-0.3	NA	2											Empty
I	GA col	906	9113	0.4-0.5	NA	2											Empty
I	GA col	906	9113	0.6-0.7	NA	2			*	<1							Coal (*/<1g)
I	GA col	906	9113	0.8-0.9	NA	2											Empty
L	GA col	1206	12023	0.1-0.2	NA	2							*	<1			Pot (*/1g) Flint (*/5g) FCF (*/1g)
L	GA col	1206	12023	0.2-0.3	NA	2											Flint (*/1g) FCF (*/28g)
L	GA col	1206	12023	0.3-0.4	NA	2			*	<1	* Cerealia indet. (1), cpr indet. (1)	<1					Flint (*/2g) FCF (*/<1g)
L	GA col	1206	12023	0.5-0.6	NA	2											Coal (*/<1) Flint (*/4g) FCF (*/36g)
L	GA col	1206	12023	0.7-0.8	NA	2											FCF (*/<1g)

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
L	GA col	1206	12023	0.9-1.0		2			*	<1							FCF (*/9g)
L	GA col	1206	12023	1.1-1.2		2			*	<1							Flint (*/23g)
L	GA col	1206	12023	1.3-1.4		2											FCF (*/1g)
O	GA col	1501	15006	0.0-0.1		2									*	<1	FCF (*/6g)
O	GA col	1501	15006	0.2-0.3		2											Empty
O	GA col	1501	15006	0.4-0.5		2											Pot (*/5g) FCF (*/19g)
O	GA col	1501	15006	0.6-0.7		2			*	<1	* cerealia indet (1)	<1					FCF (*/4g) FCF (*/<1g)
O	GA col	1501	15006	0.8-0.9		2			*	<1	* cerealia indet (1)	<1					
O	GA col	1501	15006	1.0-1.1		2					* cerealia indet (2)	<1					Flint (*/42g) FCF (*/<1g)
O	GA col	1501	15006	1.2-1.3		2			*	<1					*	<1	
O	GA col	1501	15006	1.4-1.5		2			**	<1							
O	GA col	1502	15007	0.0-0.1		2			*	<1							
O	GA col	1502	15007	0.2-0.3		2			*	<1							FCF (*/49g)

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
O	GA col	1502	15007	0.4-0.5		2											Empty
O	GA col	1502	15007	0.6-0.7		2			*	<1							Flint (*/<1g)
O	GA col	1502	15007	0.8-0.9		2			*	<1							FCF (*/1g) Flint (*/1g)
O	GA col	1502	15007	1.0-1.1		2			*	<1							Pot (*/<1g) FCF (*/13g)
O	GA col	1502	15007	1.2-1.3		2			*	<1							Flint (*/<1g)
O	GA col	1502	15007	1.4-1.5		2											FCF (*/1g)
R	GA col	1800	18008	0.08-0.21		2			*	<1							FCF (*/23g)
R	GA col	1800	18008	0.34-0.47		2											FCF (*/7g)
R	GA col	1800	18008	0.6-0.73		2											Empty
R	GA col	1802	18009	0.2-0.3		2	*	<1									
R	GA col	1802	18009	0.4-0.5		2											Empty
R	GA col	1802	18009	0.6-0.7		2			*	<1							
R	GA col	1802	18009	0.8-0.85		2											Empty

Site	Sample Type	Sample Number	Context	Spit (if relevant eg. cremation)	Bulk Sample Volume (L)	Sub-Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Other (eg. pot, cbm, etc.) (quantity/ weight)
R	GA col	1803	18010	0.1-0.2		2							*	<1			
R	GA col	1803	18010	0.3-0.4		2							*	<1			
R	GA col	1803	18010	0.5-0.6		2			*	<1							
R	GA col	1803	18010	0.7-0.8		2			*	<1							
R	GA col	1803	18010	0.9-1.0		2			*	<1							
R	GA col	1803	18010	1.1-1.2		2			*	<1							
S	GA B	1906	19021		40	2			*	<1							FCF (*/37g)

Table 2: Geoarchaeological Sample Residues (* = 1-10, ** = 11-50, *** = 51-250, **** = >250)

Appendix 6: Troels-smith system of sediment classification

Darkness	
nig.4	black
nig.3	
nig.2	
nig.1	
nig.0	white

Degree of Stratification	
strf.	well stratified
strf.	
strf.	
strf.	
strf.	no stratification

Degree of Elasticity	
elas.	very elastic
elas.	
elas.	
elas.	
elas.	no elasticity

Degree of Dryness	
sicc.4	very dry
sicc.3	
sicc.2	
sicc.1	
sicc.0	water

	Sharpness of Upper Boundary
lim.	< 0.5mm
lim.	< 1.0 and > 0.5mm
lim.	< 2.0 and > 1.0mm
lim.	< 10.0 and > 2.0mm
lim.	> 10.0mm

	Sh	*Substantia humosa*	Humous substance, homogeneous microscopic structure
I Turfa	*Tb*	*T. bryophytica*	Mosses +/- humous substance
	Tl	*T. lignosa*	Stumps, roots, intertwined rootlets, of ligneous plants
	Th	*T. herbacea*	Roots, intertwined rootlets, rhizomes of herbaceous plants
II Detritus	*Dl*	*D. lignosus*	Fragments of ligneous plants >2mm
	Dh	*D. herbosus*	Fragments of herbaceous plants >2mm
	Dg	*D. granosus*	Fragments of ligneous and herbaceous plants <2mm >0.1mm
III Limus	*Lf*	*L. ferrugineus*	Rust, non-hardened. Particles <0.1mm
IV Argilla	*As*	*A.steatodes*	Particles of clay
	Ag	*A. granosa*	Particles of silt
V Grana	*Ga*	*G. arenosa*	Mineral particles 0.6 to 0.2mm
	Gs	*G. saburralia*	Mineral particles 2.0 to 0.6mm
	Gg(min)	*G. glareosa minora*	Mineral particles 6.0 to 2.0mm
	Gg(maj)	*G. glareosa majora*	Mineral particles 20.0 to 6.0mm
	Ptm	*Particulae testae molloscorum*	Fragments of calcareous shells

Appendix 7: Sample lithology

<201>
Russian auger samples

Depth	DA	ST	EL	SICC	UB
0.6-0.65m	2	0	0	4	0

Ag1 As2 Sh1
Mid blue grey silty clay with humous. Hard, compact

Depth	DA	ST	EL	SICC	UB
0.65-1.20m	2	0	0	4	0

Ag1 As3 Sh+
Mid blue grey silty clay, fine, slightly oxidised and rooted, hard, v. occ. humous. Occ. small chalk inclusions

Depth	DA	ST	EL	SICC	UB
1.20-1.49m	3	0	0	3	0

Ag1 As2 Dl1 Sh+
Grey brown silty clay, occ humous, soft, and occ larger wood fragments

Depth	DA	ST	EL	SICC	UB
1.49-1.75m	2	0	0	3	0

Ag1 As3 Dl+
Mid blue grey silty clay, compact, small roots running throughout, occ seeds, v. hard

<603>
2 x Russian tubes

Depth	DA	ST	EL	SICC	UB
0.5-1.10m	4	0	1	2	0

As1 Ag1 Sh2 Dh+
Dark brown silty clayey peat, soft, rooted, salt crystals. 1.04-1.10m is a large root which has totally disturbed this section of the core.

Depth	DA	ST	EL	SICC	UB
1.10-1.51m	3	0	1	2	0

As2 Ag1 Sh1 Dh+
Dark grey brown silty clay with humous, rooted

Depth	DA	ST	EL	SICC	UB
1.51-1.63m	1	0	0	4	4

As2 Ag1 Sh1 Dh+
Whitish grey slightly silty sand, fine, compact, dry, rooted.

Depth	DA	ST	EL	SICC	UB
1.63-1.87m	2	2	0	3	0

Ga3 Ag1
Light greenish grey silty sand (medium) laminated with siltier bands of ~0.02m.

<608>

0-0.15m		DA ST EL SICC UB 4 0 0 4 / Sh2 Ag1 Dh1 Well humified silty pear, rooty, dry Unit 1	
0.15-0.30m		DA ST EL SICC UB 4 0 1 3 1 Sh2 Ag1 Dh1 Rooty well humified light brown silt peat, occasional woody fragments and reeds Unit 2	<608> 0.15-0.30m <609> sed block

0.30-0.40m		DA ST EL SICC UB 3 0 0 2 4 Sh2 Ag2 Reedy organic mud, soft Unit 3	<608> 0.30-0.40m <609> sed block
0.40-0.70m		DA ST EL SICC UB 4 0 1 2 2/3 Tl++ Sh1 Ag1 Dh2 Less well humified woody reedy silt peat, poss insects/seeds Unit 4	<608>0.40-0.50m, 0.50-0.60m, 0.60-0.70m <609> sed block
0.70-0.80m		DA ST EL SICC UB 4 0 0 2 2 Ag2 Sh2 Tl++ Black well humified organic silt with woody remains Unit 5	<608>0.70-0.80m <609> sed block
0.80-0.90m		DA ST EL SICC UB 2 0 0 2 4 Sh1 Ag3 Tl Soft grey brown organic silt Unit 6	<608>0.80-0.90m <609> sed block

<609>
3 x 25cm blocks
0.15-0.25m DA ST EL SICC UB
4 0 3 1 0
Sh3 Ag1 Dl+ Dh+
UNIT 2 – Dark brown peat, slightly silty, moderately humified, occ frags of woody plants and herbs, moist, crumbly
0.25-0.41m DA ST EL SICC UB
3 0 1 2 1
Ag3 Sh1 Dh+ Tl+
UNIT 3- Mid brown silty peat, soft, fine, roots, frags of herbs
0.41-0.65m DA ST EL SICC UB
4 1 3 2 0
Sh3 Ag1 Dl+ Dh+
UNIT 4- Dark brown silty peat, getting siltier with depth, not well humified @ top, siltier with depth, large frags of wood and herbs, crumbly at top.
0.65-0.69m DA ST EL SICC UB
4 0 0 2 3
Dl3 Ag1 Th+ Sh+
UNIT 5- Charcoal layer full of wood charcoal (Alder/Hazel), occ rootlets and orange staining within silts and peat.
0.69-0.78m DA ST EL SICC UB
2 0 1 2 4
Ag3 Sh1 Th+
UNIT 6- Mid grey brown organic silt, soft, fine, occ rootlets.

<610>
1 x 75cm and 1 x 50cm tins
0.0-0.38m DA ST EL SICC UB
2 0 0 3 0
Ga4 Ag+ Gg(min)+
Mid orange brown sand (medium), slightly mottled with lighter whitish brown sand, occ charcoal, 5% gravel, compact, quite a mixed deposit, getting lighter and more whitish grey with depth.
0.38-0.59m DA ST EL SICC UB

2 1 0 3 2
Ga4 Ag+
Mid orange medium sand, slightly mottled with grey brown sand with a couple of bands of grey brown sand, compact.

0.59-0.88m DA ST EL SICC UB
3 0 1 2 0
Ga1 Sh2 Ag1 Th+ Dl+
Dark brown sandy (medium) silty soil, occ orange sand lenses, compact, soft, well humified, occ rootlets, 1 piece of wood at 0.76m.

0.88-1.10m DA ST EL SICC UB
2 1 0 3 0
Ga3 Sh1 Gg(min)+
Dark grey brown sandy soil with light greenish grey laminations, occ small gravel SR. occ orange sandy clay lenses.

<900> Grab column of bags

0.0-0.90m DA ST EL SICC UB
2 0 0 3 0
Ag2 As2 Ga+ ptm+ Gg(min) +
Grey brown silty gravelly, sandy clay. Small chalk gravel and occ shell. Crumbly, loose.

0.9-1.2m DA ST EL SICC UB
3 0 0 2 0
Ag1 As3 Ga+ Gg(min)+
Dark brown sandy silty clay, crumbly, occ small chalk

1.2-1.4m DA ST EL SICC UB
2 0 0 2 0
Ag1 As2 Gg(min)1
Mid grey brown sandy silty clay, lots of small chalk, loose, crumbly

<901> Grab column of bags

0.0-1.5m DA ST EL SICC UB
2 0 0 3 0
Ag1 As3 Ga+ ptm+
Grey brown v. occ chalk, sandy clay, loose crumbly, v. occ shell, gets more compact with depth

<906> Grab column of bags

0.0-0.80m DA ST EL SICC UB
3 0 0 2 0
Ga3 As1
Dark orange brown clayey sand, loose, damp, more clayey with depth

<1206> Grab column of bags

0.0-0.70m DA ST EL SICC UB
3 0 0 3 0
Ga2 Ag2 Gg(maj)+
Dark brown fine soft crumbly silty sand, occ flint

0.7-1.4m DA ST EL SICC UB
2 0 0 2 0
Ga1 As2 Gg(min)1
Mid/light brown sandy clay with freq chalk, crumbly, blocky

<1501> Grab column of bags

0.0-1.5m DA ST EL SICC UB
2 0 0 2 0
Ga1 As2 Ag1 ptm+ Gg(maj)+
Orange brown sandy clay with occ gravel and occ shell, freq large SA flint, crumbly

<1502> Grab column of bags

0.0-1.5m DA ST EL SICC UB
2 0 0 3 0

Ga1 As2 Ag1 Gg(maj)+ Gg(min)+
Mid orange brown sandy silty clay with occ large flint, occ small chalk, crumbly, less flint with depth, wetter with depth

<1800> 2 x 50cm tins

0.08-0.73m	DA	ST	EL	SICC	UB
	2	0	1	3	0
	Ga1 Ag2				

<1802> Grab column of bags

0.0-0.85m	DA	ST	EL	SICC	UB
	3	0	0	3	0
	Ga2 Ag2 Gg(min)+				

Mid brown sandy silt, occ small chalk, crumbly, flint with depth and more chalk with depth.

<1803> Grab column of bags

0.0-0.2m	DA	ST	EL	SICC	UB
	3	0	0	3	0
	Gg(min)1 As2 Ga1				
	Dark brown sandy gravelly clay, crumbly				
0.2-0.4m	DA	ST	EL	SICC	UB
	2	0	0	0	0
	Ag2 As1 Gg(min)1 Ga+				
	Mid grey brown, sandy silty clay with chalk gravel, very wet				
0.4-1.00m	DA	ST	EL	SICC	UB
	2	0	0	3	0
	Gg(min)2 As2				
	Light grey brown clay chalk gravel				

<1804> Grab column of bags

0.0-0.8m	DA	ST	EL	SICC	UB
	3	0	0	3	0
	Ga1 As2 Ag1 Gg(maj)+				
	Dark brown sandy clay silt, with occ SA large flint				
0.8-1.0m	DA	ST	EL	SICC	UB
	2	0	0	1	0
	Ag2 As1 Gg(maj)1				
	Mid grey brown gravelly silty clay, with freq chalk gravel, quite wet				
1.0-1.4m	DA	ST	EL	SICC	UB
	2	0	0	2	0
	Ga1 Ag1 As2 Gg(maj)+				
	Mid orange brown sandy silty clay with occ large SA flint, blocky				

<1906> 40L bulk

	DA	ST	EL	SICC	UB
	2	0	0	2	0
	AS3 Ga1 Gg(mag)+				
	Mid brown sandy clay, malleable, compact in places, occ charcoal and flint				

<2102> Grab column of bags

1.10-1.15m	DA	ST	EL	SICC	UB
	1	0	0	0	0
	Ga2 Ag1 Gg(maj)1				
	Light greenish grey sandy silt with freq large SA flint				

Appendix 8: Particle size results (QUEST)

The results of the particle size analysis are displayed in Table 1, Figure 1. The results indicate that the composition of the sixty-three samples are dominated by silt (55-82%). However, the profiles can be divided into two groups on the basis of varying clay / sand percentage values:

(1) Profiles <900>, <901>, <906> and <1206> are characterised by consistent values of clay (13-26%) and variable proportions of sand, ranging from non-detectable values to up to 26%, Two main peaks of volume percentage can be identified in the individual profiles graphs (see attached Appendix) of particles ranging from 1-10 microns and 20-50 microns.

(2) Profiles <1501>, <1502>, <1800>, <1802>, <1803> and <1804> are characterised by relatively consistent values of both clay (8-16%) and sand (6-20%). Detailed results indicate that these samples contain a main peak of volume percentage of particles around 10 to 60 microns, which is comparable with the results of the single samples from locations <1906> and <2102> (see individual profile graphs within attached Appendix).

SAMPLE	**Clay (0.01-2 µ)**	**Silt (2-63 µ)**	**Sand (63-2000 µ)**
<900> 0.1-0.2m	19.66	57.22	21.2
<900> 0.3-0.4m	26.66	71.96	1.38
<900> 0.5-0.6m	26	72.18	1.82
<900> 0.7-0.8m	19.38	80.51	0.11
<900> 0.9-1.0m	21.26	78.74	0
<900> 1.1-1.2m	16.38	71.2	10.66
<900> 1.3-1.4m	16.93	82.02	1.04
<901> 0.0-0.1m	23.62	76.02	0.36
<901> 0.2-0.3m	21.11	78.09	0.8
<901> 0.4-0.5m	21.6	77.87	0.53
<901> 0.6-0.7m	21.79	77.95	0.26
<901> 0.8-0.9m	23.16	76.44	0.4
<901> 1.0-1.1m	23.48	76.42	0.1
<901> 1.2-1.3m	20.4	65.81	13.79
<901> 1.4-1.5m	22.73	77.14	0.13
<906> 0.1-0.2m	13.58	69.92	15.53
<906> 0.3-0.4m	13.78	63.88	21.79
<906> 0.5-0.6m	17.35	76.16	6.48
<906> 0.7-0.8m	11.82	61.78	26.4
<1206> 0.1-0.2m	15.06	82.09	2.86
<1206> 0.3-0.4m	16.07	80.75	3.18
<1206> 0.5-0.6m	16.73	79.92	3.34
<1206> 0.7-0.8m	20.44	76.77	2.79
<1206> 0.9-1.0m	19.42	63.72	15.67
<1206> 1.1-1.2m	16.95	55.54	24.99
<1206> 1.3-1.4m	23.66	75.64	0.7
<1501> 0.0-0.1m	18.41	66.1	15.49
<1501> 0.2-0.3m	19.59	68.18	12.23

<1501> 0.4-0.5m	18.09	70.38	11.54
<1501> 0.6-0.7m	11.57	56.33	24.14
<1501> 0.8-0.9m	13.8	70.8	15.4
<1501> 1.0-1.1m	12.18	74.72	13.1
<1501> 1.2-1.3m	12.84	73.04	14.12
<1501> 1.4-1.5m	12.29	78.64	9.08
<1502> 0.0-0.1m	12.03	70.02	17.95
<1502> 0.2-0.3m	13.03	69.72	17.25
<1502> 0.4-0.5m	11.68	71.82	16.49
<1502> 0.6-0.7m	13.88	70.61	15.51
<1502> 0.8-0.9m	14.2	73.68	12.12
<1502> 1.0-1.1m	13.19	74.06	12.74
<1502> 1.2-1.3m	12.61	76.15	11.24
<1502> 1.4-1.5m	10.29	80.02	9.69
<1800> 0.23-0.27m	12.01	78.03	9.96
<1800> 0.38-0.42m	12.69	77.95	9.36
<1800> 0.56-0.60m	12.03	78.19	9.78
<1802> 0.2-0.3m	11.75	78.26	9.99
<1802> 0.4-0.5m	10.82	77.79	11.4
<1802> 0.6-0.7m	11.72	78.71	9.57
<1802> 0.80-0.85m	12.33	77.9	9.76
<1803> 0.1-1.2m	8.98	70.85	20.17
<1803> 0.3-0.4m	10.19	71.3	18.51
<1803> 0.5-0.6m	17.6	66.57	15.83
<1803> 0.7-0.8m	15.34	72	12.65
<1803> 0.9-1.0m	16.38	68.18	15.44
<1804> 0.1-0.2m	13.56	78.19	8.25
<1804> 0.3-0.4m	13.14	78.2	8.66
<1804> 0.5-0.6m	13.14	77.9	8.96
<1804> 0.7-0.8m	14.03	79.01	6.97
<1804> 0.9-1.0m	14.39	78.99	6.63
<1804> 1.1-1.2m	14.65	78.1	7.25
<1804> 1.3-1.4m	13.57	78.09	8.33
<1906> 40L bulk	11.56	78.97	9.48
<2102> 1.10-1.15m	9.58	80.89	9.53

Table 1: Clay, Silt and Sand percentage results, Rampion Cable Route.

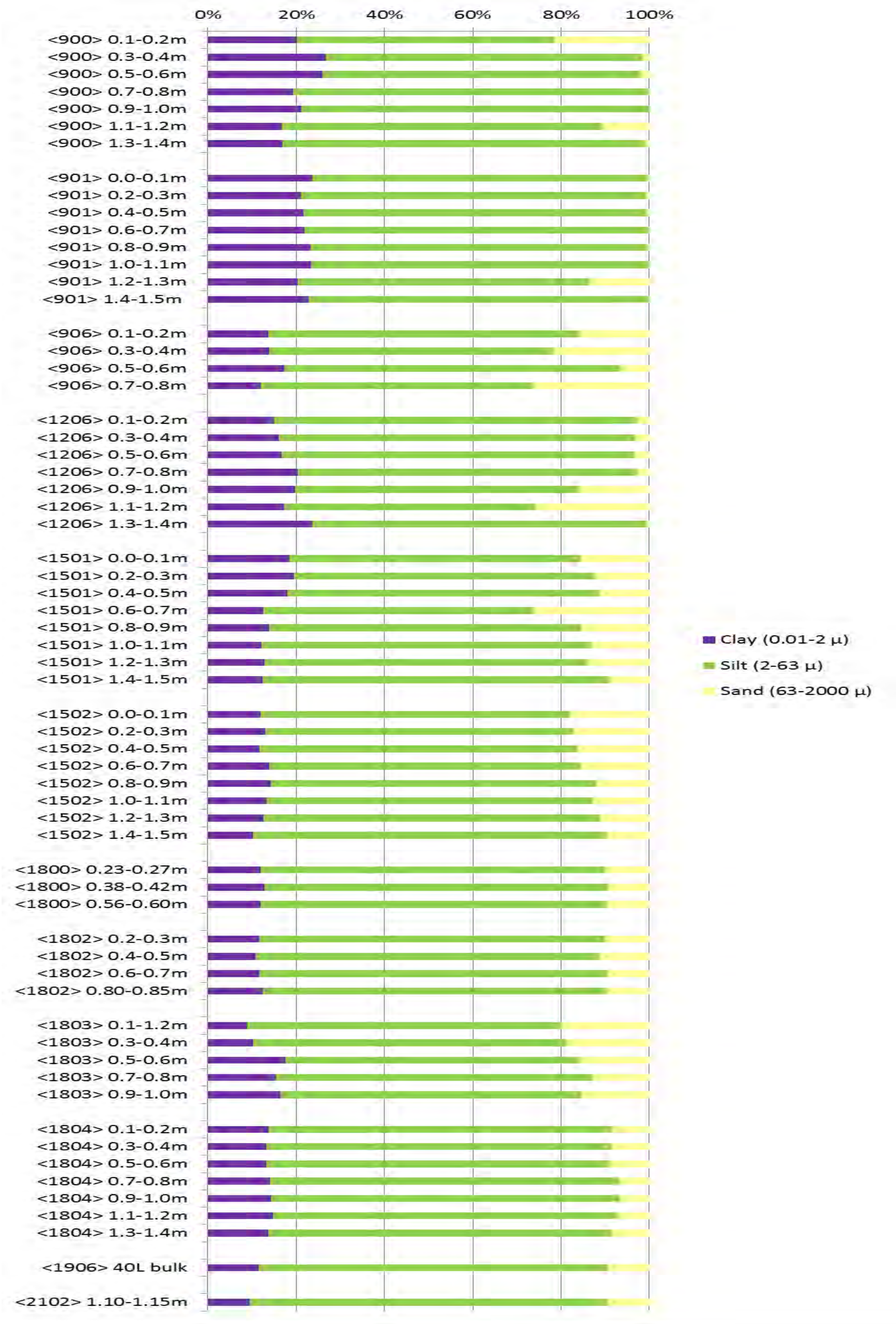


Figure 1: Clay, Silt and Sand percentage results, Rampion Cable Route.

Appendix 9: Assessment of insect remains by Enid Allison

Introduction

Waterlogged peat deposits in Field 86 on the route of the Rampion onshore cable route were damaged when a 20-tonne machine sank in the field and was recovered by excavating a large hole (Site F; NGR approximately 523000 115300). Geoarchaeological sampling of the sequence of deposits was carried out as part of the remedial action to offset the damage. No archaeological features or finds were recorded.

Samples from four geoarchaeological units within the sequence were submitted to assess whether insect remains were preserved and to assess their potential to provide data for environmental reconstruction. No dating information was available when this report was prepared.

Methods

The samples submitted had volumes of 5 – 6 litres. Each was gently wet-sieved to 0.3mm and the resulting material was subjected to paraffin flotation to extract insect remains following the methods of Kenward *et al*. (1980). The paraffin flots were scanned in industrial methylated spirits (IMS) using a low-power stereoscopic zoom microscope (x10). Abundance of beetles (Coleoptera) and bugs (Hemiptera) and their state of preservation was recorded, and the potential of the assemblages to provide detailed environmental data was assessed. Taxa have been categorized into broad ecological groups following Kenward *et al*. (1986) and Kenward (1997) (see Table 45 for groups used). Nomenclature for Coleoptera follows Duff (2012). Invertebrates other than insects were noted where present. The paraffin flots are currently stored in jars of IMS.

Results

A list of insect and other invertebrate taxa noted in the samples is shown in Table 1 and results from individual samples in Table 2. The lists are provisional and many identifications have not been pressed to species level.

The samples from Units 1, 3, and 4 (0.15 – 0.70m below existing ground level) all contained substantially-sized insect assemblages. The best-preserved remains are from Unit 3 where fragmentation is relatively low although varying degrees of erosion are apparent in many sclerites. Preservation in the samples from Units 1 and 4 is moderate to poor, the material generally being highly fragmented and moderately to seriously eroded. However, despite their condition, the majority of remains should be identifiable to a useful taxonomic level. All three assemblages consist of both aquatic and terrestrial taxa that are together suggestive of well-vegetated marshland with shallow standing water, a few taxa associated with dead wood habitats indicating the presence of trees or shrubs. Ground beetles (Carabidae) are common and closer identification will provide details of local ground conditions. Various plant-feeding taxa, particularly weevils (Erirhinidae, Curculionidae) should also provide information on local vegetation to augment information from plant macrofossils. Scarabaeoid dung beetles, which are primarily associated with herbivore dung, were recorded from all three samples and their abundance relative to other terrestrial insects may have a bearing on local land use (Smith *et al*. 2010; 2014). The lowermost sample from Unit 6 (0.80 – 0.90m bgl) produced very small numbers of insect sclerites with negligible interpretive value.

INSECTA

HEMIPTERA (bugs)

Heteroptera
- Pentatomoidea sp [oa-p]
- Lygaeidae sp [oa-p]
- Heteroptera sp(p) [u]

Homoptera
- Delphacidae spp [oa-p]
- Auchenorhyncha sp [oa-p]

COLEOPTERA (beetles)

Dytiscidae (diving beetles)
- *Agabus* or *Ilybius* sp [oa-w]
- Hydroporinae spp [oa-w]
- Dytiscidae sp [oa-w]

Carabidae (ground beetles)
- *Elaphrus cupreus* Duftschmid [oa-d]
- *Dyschirius* sp [oa]
- *Bembidion* (*Philochthus*) [oa]
- *Bembidion* spp [oa]
- *Pterostichus* sp(p)]oa]
- *Harpalini* sp [oa]
- Carabidae spp [ob]

Helophoridae (grooved water scavengers)
- *Helophorus* spp [oa-w]

Hydrophilidae
- *Chaetarthria* sp [oa-d]
- *Hydrobius fuscipes* (Linnaeus) [oa-w]
- Hydrophilinae spp [oa-w]
- *Coelostoma orbiculare* (Fabricius) [oa-w]
- *Cercyon ustulatus* (Preyssler) [u]
- *Cercyon* ?*nigriceps* (Marsham) rf-st]
- *Cercyon* sp [u]
- *Megasternum concinnum* (Marsham) s. l. [rt]
- *Cryptopleurum minutum* [rf-st]

Hydraenidae
- *Hydraena* sp [oa-w]
- *Limnebius* sp [oa-w]

Ptiliidae (featherwing beetles)
- Acrotrichis sp [rt]

Silphidae (sexton beetles)
- Silphidae sp [u]

Staphylinidae (rove beetles)
- *Anthobium* sp [oa]
- *Lesteva* sp [oa-d]
- *Olophrum* sp [oa]
- Omaliinae spp [u]
- *Metopsia clypeata* (Müller) [rt]
- Pselaphinae sp [u]
- *Tachinus* sp [u]
- Aleochariinae spp [u]
- *Anotylus* sp. [rt]
- *Scydmaeninae* sp [u]
- *Stenus* spp [u]
- *Lathrobium* spp [u]
- Paederinae sp [u]
- Xantholinini sp [u]
- Staphylininae spp [u]

Geotrupidae (dor beetles)
- Geotrupinae sp [oa-rf]

Scarabaeidae (dung beetles and chafers)
- *Aphodius prodromus* or *sphacelatus* [ob-rf]
- *Aphodius* spp [ob-rf]
- ?*Onthophagus* sp [oa-rf]
- *Melolonthinae/Rutelinae* sp [oa-p]

Scirtidae (marsh beetles)
- *Cyphon* sp [oa-d]

Byrrhidae (pill beetles)
- Byrrhidae sp [u]

Dryopidae (long-toed water beetles)
- *Dryops* sp [oa-d]

Heteroceridae (mud beetles)
- *Heterocerus* sp [oa-d]

Elateridae (click beetles)
- Elateridae spp [ob]
- Elateridae sp larval apex

Ptinidae (spider and woodworm beetles)
- *Ptinus fur* (Linnaeus) rd-sf]
- *Grynobius planus* (Fabricius) [l]

Coccinellidae (ladybirds)
- Coccinellidae sp [oa]

Latridiidae (small brown scavenger beetles)
Enicmus sp [rd-sf]
Corticariinae sp [rt]

Chrysomelidae (leaf beetles)
Donacia or Plateumaris sp [oa-p-d]

Erirhinidae (wetland weevils)
Notaris acridulus (Linnaeus) [oa-p-d]

Curculionidae (weevils)
Acalles sp [l]
Strophosomus sp [oa-p]
Curculionidae spp [oa-p]

Coleoptera spp

DIPTERA (flies)
Diptera spp puparia

HYMENOPTERA
Formicidae sp (ant)
Aculeata sp
Parasitica spp (parasitic wasps)

TRICHOPTERA (caddis flies)
Trichoptera sp(p) larval fragments

ARACHNIDA
Formicidae sp (ant)
Acarina (mite) spp

Table 1: Insects and other invertebrate taxa noted during scanning

Identification has not been pressed to species level in many cases, and the list is provisional. Ecological codes for Coleoptera and Hemiptera are as follows: d- damp ground/waterside, l – wood/timber, oa – outdoor taxa (not usually found within buildings or in accumulations of decomposing organic matter), ob – probable outdoor taxa, p – plant-associated taxa, rd – dry decomposers, rf – foul decomposers, rt – eurytopic decomposers, sf – facultative synanthropes, st – typical synanthropes, u – uncoded, w - aquatic. Some taxa are uncoded pending closer identification. Nomenclature for Coleoptera follows Duff (2012)

Unit	*Sample*	Depth	*Sample volume*	*Paraffin flot volume*	*Est. no. beetles and bugs*	*State of preservation*	*Comments on the beetle and bug assemblages*	*Taxa noted during scanning. The list is not intended to be exhaustive and identifications are provisional*	*Potential for further analysis*
1	<608>	0.15 - 0.30m	6L	30ml	150+	Moderate to very poor: fragmentation very high, erosion advanced in many sclerites with significant thinning, surafce erosion and colour loss	Aquatic and terrestrial beetles generally indicative of marshland with shallow water; ground beetles common; *Aphodius* dung beetles present. Fine plant material abundant in the paraffin flot	Heteroptera [u]; *Agabus* or *Ilybius* [oa-w], Hydroporinae [oa-w], Dytiscidae [oa-w], *Dyschirius* [oa], *Bembidion* spp [oa]; *Pterostichus* [oa], Harpalini [oa], Carabidae spp [ob], *Hydrobius fuscipes* [oa-w], Hydrophilinae [oa-w], *Coelostoma orbiculare* [oa-w], *Cercyon ustulatus* [oa-d], *Cercyon* ?*nigriceps* [rf-st], *Cercyon* spp [u], *Hydraena* [oa-w], *Limnebius* [oa-w], *Acrotrichis* [rt], Silphidae [u], *Lesteva* [oa-d], *Olophrum* [oa], Omaliinae [u], *Metopsia clypeata* [rt], *Tachinus* [u], Scydmaeninae [u], *Stenus*[u], *Lathrobium* [u], Xantholininae [u], Staphylininae [u], *Aphodius prodromus* or *sphacelatus* [ob-rf], *Aphodius* [ob-rf], *Cyphon* [oa-d], Byrrhidae [u], Elateridae [ob], Elateridae larval apex, *Ptinus fur* [rd-sf], Coccinellidae [oa], *Enicmus* [rd-sf], Corticariinae [rt], *Notaris acridulus* [oa-p-d], *Acalles* [l], Curculionidae spp. [oa-p], Coleoptera spp [u]; Hymenoptera Aculeata; Acarina	MODERATE TO HIGH
3	<608>	0.40 - 0.50m	5L	40ml	200+	Varied preservation: fragmentation relatively low but erosion obvious in many scerites, a high proportion with thinning, colour loss and surface erosion	Aquatic and terrestrial beetles generally indicative of marshland with shallow water; ground beetles common; *Aphodius* and Geotrupinae dung beetles present	Pentatomoidea [oa-p], Lygaeidae [oa-p], Heteroptera [u], Delphacidae spp. [o-p], Auchenorhyncha [oa-p]; Hydroporinae spp [oa-w], Dytiscidae [oa-w], *Elaphrus cupreus* [oa-d], *Bembidion* spp [oa]; *Pterostichus* [oa], Carabidae spp [ob], *Helophorus* spp [oa-w], *Chaetarthria* [oa-d], *Hydrobius fuscipes* [oa-w], Hydrophilinae [oa-w], *Coelostoma orbiculare* [oa-w], *Cercyon* spp [u], *Acrotrichis* [rt], Silphidae [u], *Anthobium* [oa], *Lesteva* [oa-d], *Olophrum* [oa], Omaliinae [u], Aleocharinae spp [u], *Anotylus* [rt], *Stenus* spp [u], *Lathrobium* [u], Paederinae [u], Staphylininae spp [u], Geotrupinae [oa-rf], ?*Onthophagus* [oa-rf], ?chafer [oa-p], *Cyphon* sp(p) [oa-d], Elateridae [ob], *Ptinus fur* [rd-sf], *Grynobius planus* [l], *Donacia* or *Plateumaris* [oa-p-d], Curculionidae spp. [oa-p], Coleoptera spp [u]; Diptera spp. puparia; Hymenoptera Parasitica; Trichoptera larval fragments; Acarina	HIGH

Unit	*Sample*	Depth	*Sample volume*	*Paraffin flot volume*	*Est. no. beetles and bugs*	*State of preservation*	*Comments on the beetle and bug assemblages*	*Taxa noted during scanning. The list is not intended to be exhaustive and identifications are provisional*	*Potential for further analysis*
4	<608>	0.60 - 0.70m	6L	20ml	100-150	Moderate to poor: fragmentation high, erosion advanced in many sclerites with significant thinning, surafce erosion and colour loss	Aquatic and terrestrial beetles generally indicative of marshland with shallow water; ground beetles common; occasional dung beetles present	Heteroptera [u]; Hydroporinae spp [oa-w], *Dyschirius* [oa], *Bembidion* (*Philochthus*) [oa]; Carabidae spp [ob], *Hydrobius fuscipes* [oa-w], *Cercyon ustulatus* [oa-d], *Megasternum concinnum* s.l. [rt], *Lesteva* [oa-d], *Olophrum* [oa], Pselaphinae [u], Aleocharinae spp. [u], *Stenus*[u], *Lathrobium* [u], Xantholininae [u], Staphylininae [u], Geotrupinae [oa-rf], *Aphodius*sp(p) [ob-rf], chafer [oa-p], *Cyphon* [oa-d], Elateridae spp [ob], *Enicmus* [rd-sf], *Strophosomus* [oa-p], Curculionidae spp. [oa-p], Coleoptera spp [u]; Formicidae, Hymenoptera Parasitica; Acarina	MODERATE TO HIGH
6	<608>	0.80 - 0.90m	5L	10ml	5	Moderate preservation	Very small assemblage with little interpretive value	Carabidae sp(p) [ob], Aleocharinae [u], Elateridae [ob], Curculionidae (possibly wood-boring species)	NEGLIGIBLE

Table 2: Details of individual insect samples

Appendix 11: Further Work/Analysis by DCO Requirement (Figure 34)

DCO Requirement	**Site**	**Further Work/Analysis**
Archaeology (23)	A	Ceramics Publication Summary: The Late Iron Age/Early Roman Material
		The apparent re-establishment of field systems and settlement across the route in the later Iron Age, and the impact of the Roman Conquest
	B	The evidence for settlement and agricultural exploitation of the landscape in the medieval periods
	D	Ceramics Publication Summary: The Saxo-Norman Assemblage
		Ceramics Publication Summary: The High Medieval Assemblage
		Radiocarbon Dating 2 Dates <4002> (G85)
		Charcoal Analysis <4002>
		The apparent re-establishment of field systems and settlement across the route in the later Iron Age, and the impact of the Roman Conquest
		The evidence for settlement and agricultural exploitation of the landscape in the medieval periods
	E	Publication Summary: The Later Bronze Age Assemblage
		The evidence for an intensification of agricultural activity and settlement in the Middle – Late Bronze Age;
	F	Analysis of Pollen Sequence <603>
		Radiocarbon Dating 2 Dates <603>
		Analysis of Pollen Sequence <609>
		Radiocarbon Dating 1 Date <609>
		Analysis of Pollen Sequence <610>
		Radiocarbon Dating 1 Date <610>

		Insect Analysis 3 Samples <608>
		Ceramics Publication Summary: The Earlier Roman Group
		Charcoal Analysis <606>
		Charcoal Analysis <607>
		Charcoal Analysis <604>
		Charcoal Analysis <611>
		The evidence for Late Neolithic/Early Bronze Age land clearance at the Weald margin
		The evidence for an intensification of agricultural activity and settlement in the Middle – Late Bronze Age
		The apparent re-establishment of field systems and settlement across the route in the later Iron Age, and the impact of the Roman Conquest
		Agricultural exploitation across the scheme in the early Romano- British period and the evidence for continuity and change into the Late Roman era
		The possible relationship between Saxon territorial boundaries and routeways from the Roman period;
		The evidence for settlement and agricultural exploitation of the landscape in the medieval periods
	G	No further analysis
	T	No further analysis
	U	Analysis of Pollen Sequence <2102>
		Radiocarbon Dating 2 Dates <2102>
	Herring Stream (Fields 118-119)	Analysis of Pollen Sequence <201>
	Edburton (Fields 62 - 63)	Analysis of Mollusc Samples <900>
		Radiocarbon Dating 2 Dates <900>
		Analysis of Mollusc Samples <901>
		Radiocarbon Dating 1 Date <901>

	Steyning Road (Field 50)	Analysis of Mollusc Samples <1206>
		Radiocarbon Dating 2 Dates <1206>
	Cow Valley Bottom (Field 40)	Analysis of Mollusc Samples <1501>
		Radiocarbon Dating 2 Dates <1501>
	Coombes Road (Field 42)	Analysis of Mollusc Samples <1502>
Archaeology in the South Downs National Park (24)	H	No further analysis
	I	Ceramics Publication Summary: The Later Roman Group
		Charcoal Analysis <909>
		The evidence for an intensification of agricultural activity and settlement in the Middle – Late Bronze Age;
		Agricultural exploitation across the scheme in the early Romano-British period and the evidence for continuity and change into the Late Roman era
		The evidence for settlement and agricultural exploitation of the landscape in the medieval periods
	J	The evidence (or not) for the establishment of large socio-political territories at the end of the Bronze Age/Early Iron Age, as represented by the Cross Dykes and the nearby downland hillforts, and how to reconcile this with the absence of evidence for Early Iron Age settlement from the scheme
	K	No further analysis
	L	Specialist Osteological Report: Skeleton [12003] (G60)
		Isotope Analysis: Skeleton [12003] (G60)
		The ‘deviant burial ‘and its possible significance
	M	Charcoal Analysis <1301>
		Charcoal Analysis <1302>
		Charcoal Analysis <1303>

		The evidence for settlement and agricultural exploitation of the landscape in the medieval periods
	O	Radiocarbon Dating 2 Dates <909> (G98): ?Middle– Late Iron Age Enclosure
		Radiocarbon Dating 2 Dates <1500> (G163)
		The evidence (or not) for the establishment of large socio-political territories at the end of the Bronze Age/Early Iron Age, as represented by the Cross Dykes and the nearby downland hillforts, and how to reconcile this with the absence of evidence for Early Iron Age settlement from the scheme
	Q	No further analysis
	R	No further analysis
	S	Ceramics Publication Summary: The Grooved Ware/Beaker Assemblage
		Ceramics Publication Summary: The Later Bronze Age Assemblage
		Radiocarbon Dating 2 Dates <1903> (G77)
		Radiocarbon Dating 2 Dates <1907> (G76)
		Charcoal Analysis <1903>
		The evidence for Late Neolithic/Early Bronze Age settlement evidence on the downland
		The evidence for an intensification of agricultural activity and settlement in the Middle – Late Bronze Age;
		The possible relationship between Saxon territorial boundaries and routeways from the Roman period

Appendix 11: HER Summary Form

Site Code	**TMB15**					
Identification Name and Address	Rampion Mitigation					
County, District and/or Borough	West Sussex South Downs National Park					
OS Grid Refs.	517252, 103229 523900, 121500					
Geology	Bedrock: Chalk Group, Lambeth Group, Thames Group, Gault Formation, Lower Greensand Group and Wealden Group. Superficial: Alluvium, River Terrace Deposits, Head and Clay with Flints.					
Arch. South-East Project Number	7547					
Type of Fieldwork		**Excav.**	**Watching Brief**			
Type of Site	**Green Field**			**Other**		
Dates of Fieldwork	Start: 17-08-2015 End: 16-02-2017					
Sponsor/Client	RSK Group Ltd. E.ON					
Project Manager	Jon Sygrave					
Project Supervisors	Giles Dawkes Kristina Krawiec Odile Rouard Gary Webster Suzie Westall					
Period Summary		**Meso.**	**Neo.**	**BA**	**IA**	**RB**
	AS	**MED**	**PM**			

Summary

Archaeology South-East carried out an extensive programme of an archaeological watching brief, strip, map and sample investigations, full excavations and geoarchaeological investigations between August 2015 and February 2017 along the onshore cable route of the Rampion offshore windfarm. The cable route makes landfall at Brooklands Pleasure Park, East Worthing and runs northwards for c.26.4km towards a new substation adjacent to the existing national grid substation at Bolney, West Sussex. Previous archaeological investigations, including desk-based assessments and an evaluation trench exercise, had identified a number of zones of potential archaeological importance spanning the Bronze Age to post-medieval periods, as well as zones of geoarchaeological significance. The watching brief and strip, map and sample investigations largely confirmed the results of the evaluation and eighteen zones of archaeological activity were recorded; these areas encompassed a Late Neolithic/ early Bronze Age pit and associated lithic and pottery finds, Middle - Late Bronze Age settlement and land division evidence, Middle - Late Iron Age pits and enclosure ditches, settlement activity spanning the early to late Roman period, a Middle Saxon probable boundary ditch, a late Saxon possible execution burial, 12th - 14th century field systems and settlement evidence, post-medieval field boundaries and probable late 19th century watercress cultivation features, as well as lithic scatters indicating human exploitation of the local environment from the Mesolithic/Early Neolithic onwards. This archaeological evidence was supported by geoarchaeological data which indicated land clearance and cereal cultivation on the Weald and Greensand/downland margin from the Middle/Late Bronze Age onwards.

Appendix 12: OASIS Form

OASIS ID: archaeol6-308365

Project details	
Project name	Rampion Mitigation
Short description of the project	Archaeology South-East carried out an extensive programme of an archaeological watching brief, strip, map and sample investigations, full excavations and geoarchaeological investigations between August 2015 and February 2017 along the onshore cable route of the Rampion offshore windfarm. The cable route makes landfall at Brooklands Pleasure Park, East Worthing and runs northwards for c.26.4km towards a new substation adjacent to the existing national grid substation at Bolney, West Sussex. Previous archaeological investigations, including desk-based assessments and an evaluation trench exercise, had identified a number of zones of potential archaeological importance spanning the Bronze Age to post-medieval periods, as well as zones of geoarchaeological significance. The watching brief and strip, map and sample investigations largely confirmed the results of the evaluation and eighteen zones of archaeological activity were recorded; these areas encompassed a Late Neolithic/ early Bronze Age pit and associated lithic and pottery finds, Middle - Late Bronze Age settlement and land division evidence, Middle - Late Iron Age pits and enclosure ditches, settlement activity spanning the early to late Roman period, a Middle Saxon probable boundary ditch, a late Saxon possible execution burial, 12th - 14th century field systems and settlement evidence, post-medieval field boundaries and probable late 19th century watercress cultivation features, as well as lithic scatters indicating human exploitation of the local environment from the Mesolithic/ Early Neolithic onwards. This archaeological evidence was supported by geoarchaeological data which indicated land clearance and cereal cultivation on the Weald/ Downlands margins from the Middle/ Late Bronze Age onwards.
Project dates	Start: 17-08-2015 End: 16-02-2017
Previous/future work	Yes / No
Any associated project reference codes	TMB15 - Sitecode
Any associated project reference codes	31217 - SM No.
Type of project	Field evaluation
Site status	National Park
Site status	Scheduled Monument (SM)
Current Land use	Cultivated Land 1 - Minimal cultivation
Current Land use	Cultivated Land 2 - Operations to a depth less than 0.25m
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m

Current Land use	Cultivated Land 4 - Character Undetermined
Current Land use	Other 15 - Other
Monument type	PIT Late Neolithic
Monument type	PIT Early Bronze Age
Monument type	FIELD SYSTEM Middle Bronze Age
Monument type	FIELD SYSTEM Late Bronze Age
Monument type	CROSS DYKE Late Bronze Age
Monument type	SETTLEMENT Iron Age
Monument type	FIELD SYSTEM Iron Age
Monument type	SETTLEMENT Roman
Monument type	FIELD SYSTEM Roman
Monument type	BOUNDARY DITCH Early Medieval
Monument type	INHUMATION Early Medieval
Monument type	SETTLEMENT Medieval
Monument type	FIELD SYSTEM Medieval
Monument type	SALTERN Medieval
Monument type	FIELD SYSTEM Post Medieval
Monument type	WATER CHANNEL Post Medieval
Monument type	FIELD SYSTEM Modern
Monument type	GREENHOUSE Modern
Monument type	SETTLEMENT Late Bronze Age
Significant Finds	LITHIC IMPLEMENT Late Mesolithic
Significant Finds	LITHIC IMPLEMENT Neolithic
Significant Finds	POTTERY Late Neolithic
Significant Finds	POTTERY Bronze Age
Significant Finds	LITHIC IMPLEMENT Bronze Age
Significant Finds	LITHIC IMPLEMENT Iron Age
Significant Finds	POTTERY Iron Age
Significant Finds	POTTERY Roman
Significant Finds	LOOMWEIGHT Late Prehistoric
Significant Finds	POTTERY Early Medieval
Significant Finds	POTTERY Medieval
Significant Finds	POTTERY Post Medieval

Project location

Country	England
Site location	WEST SUSSEX ADUR LANCING Rampion Mitigation
Study area	26.4 Kilometres

Site coordinates	TQ 521129 110394 50.878221255023 0.162447793461 50 52 41 N 000 09 44 E Point
Height OD / Depth	Min: 1.75m Max: 180m

Project creators

Name of Organisation	Archaeology South-East
Project brief originator	RSK Group Ltd
Project design originator	RSK Environment Ltd
Project director/manager	Jon Sygrave
Project supervisor	Odile Rouard
Project supervisor	Giles Dawkes
Project supervisor	Kristina Krawiec
Project supervisor	Suzie Westall
Project supervisor	Gary Webster
Type of sponsor/funding body	Consultant

Project archives

Physical Archive recipient	Local Museum
Physical Contents	"Ceramics","Environmental","Human Bones"
Digital Archive recipient	Local Museum
Digital Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Metal","Stratigraphic","Survey","Wood","Worked stone/lithics"
Digital Media available	"Database","GIS","Geophysics","Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	Local Museum
Paper Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Metal","Stratigraphic","Survey","Wood","Worked stone/lithics"
Paper Media available	"Context sheet","Correspondence","Diary","Drawing","Map","Matrices","Miscellaneous Material","Notebook - Excavation',' Research',' General Notes","Photograph","Plan","Report","Section","Survey ","Unpublished Text"

Entered by	garrett sheehan (g.sheehan@ucl.ac.uk)
Entered on	6 February 2018

© Archaeology South-East		Rampion Offshore Wind Farm Onshore Cable Route, West Sussex	Fig.1
Project Ref: 7547	March 2018	Site location showing areas of archaeology A-U	
Report Ref: 2017402	Drawn by: LG		

© Archaeology South-East		Rampion Offshore Wind Farm Onshore Cable Route	Fig.2
Project Ref: 7547	March 2018	Site A phased plan	
Report Ref: 2017402	Drawn by: LG		

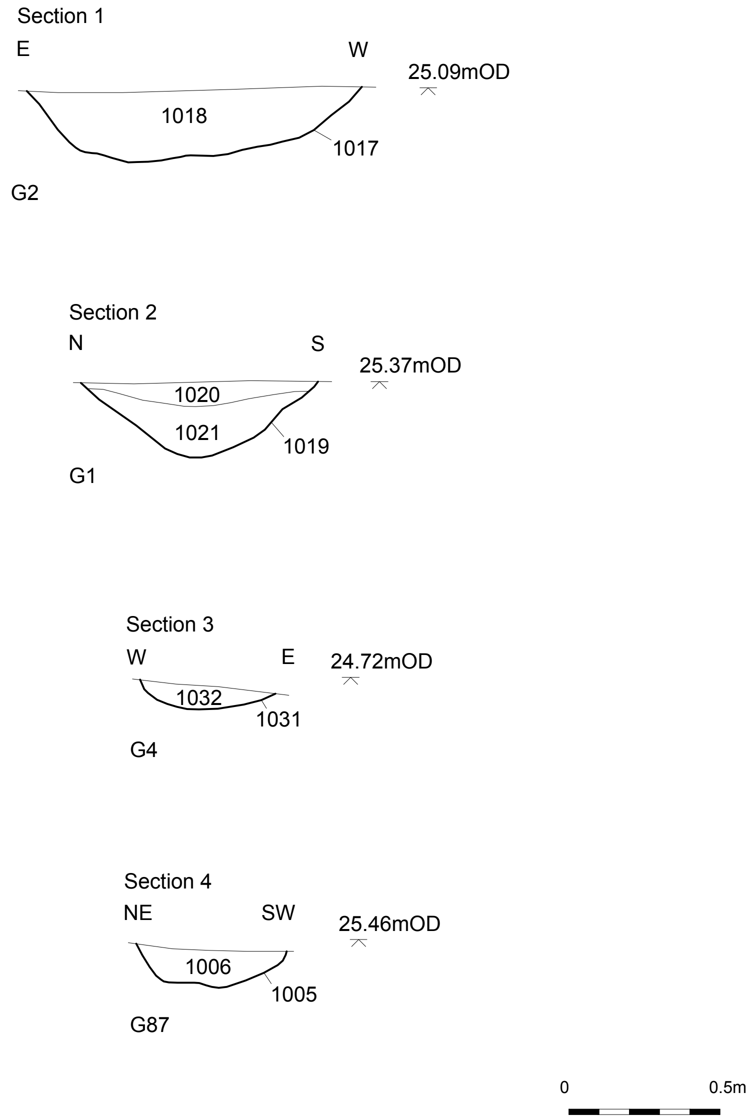
G87 looking south-west

G5 and G81 looking north-east

G85 looking north

G4 looking south-west

G1 looking east



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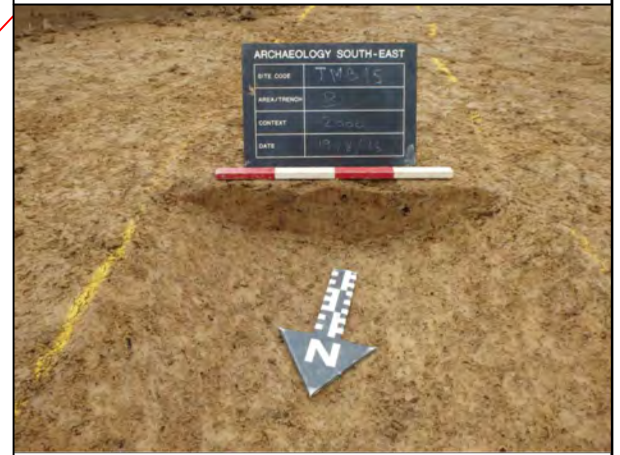
Project Ref: 7547	March 2018	Site A selected sections and photographs	
Report Ref: 2017402	Drawn by: LG		

G7 looking north-west



G8 looking south


G7 and G9 looking south-west


G88 looking east

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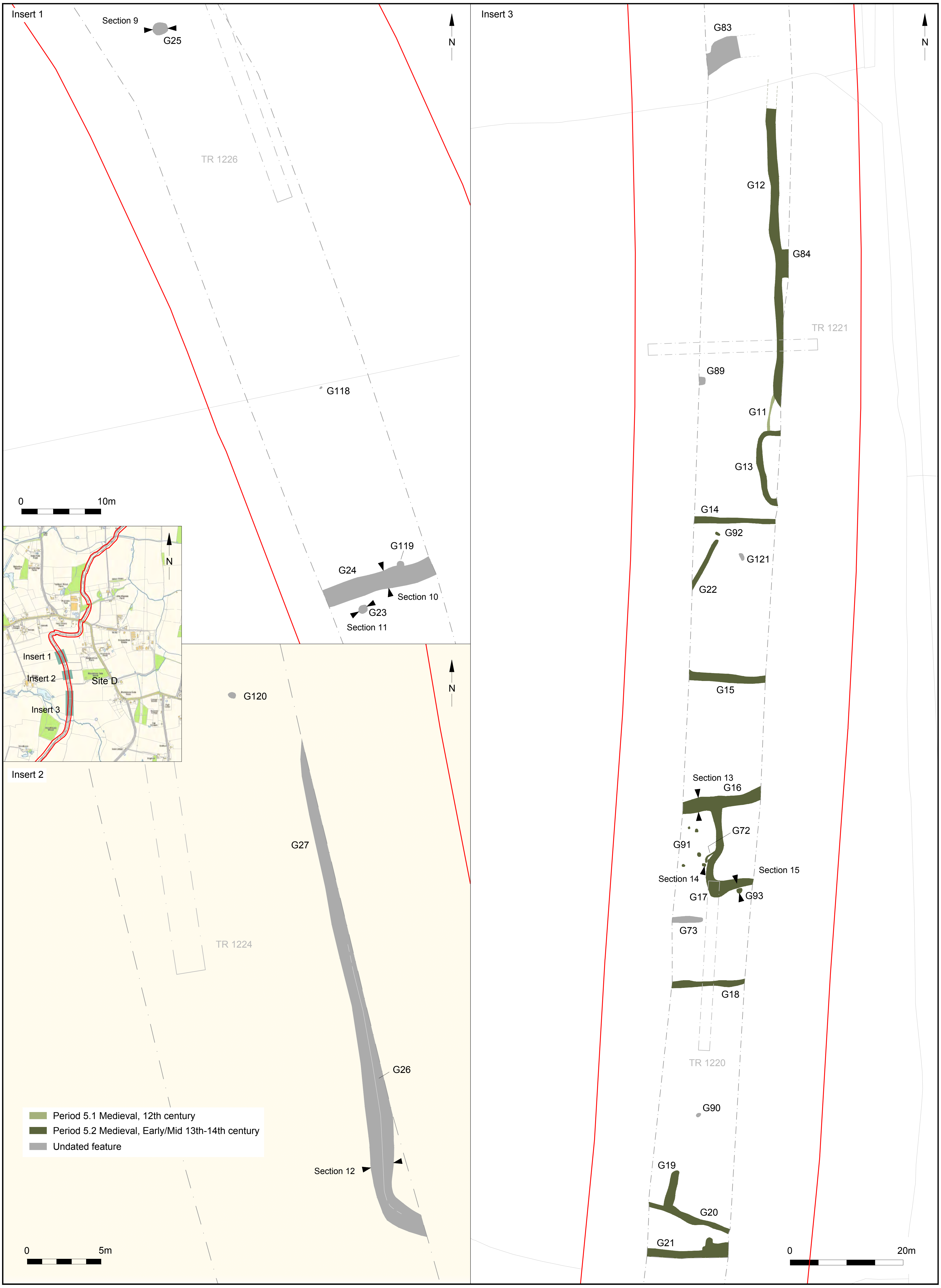
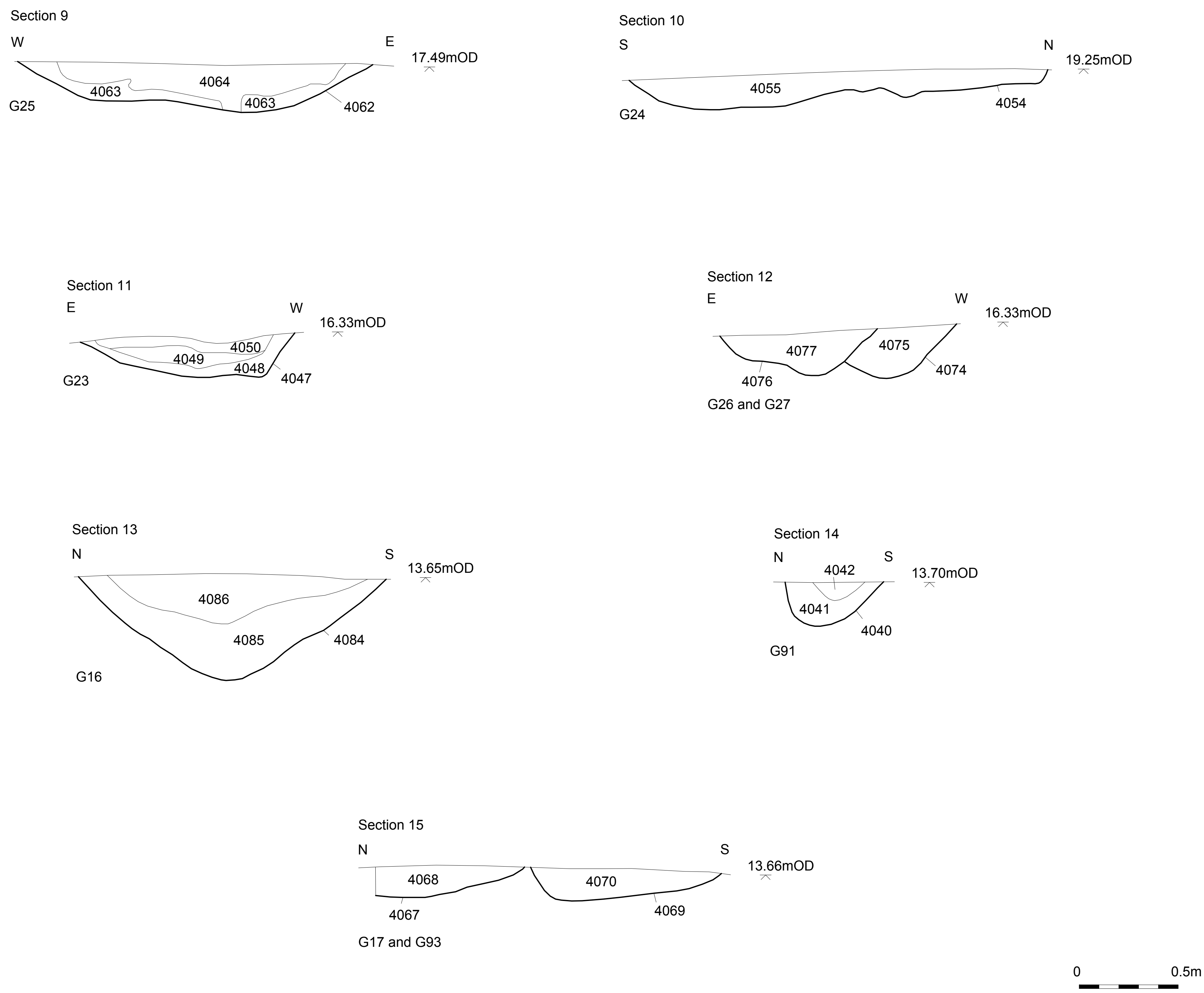
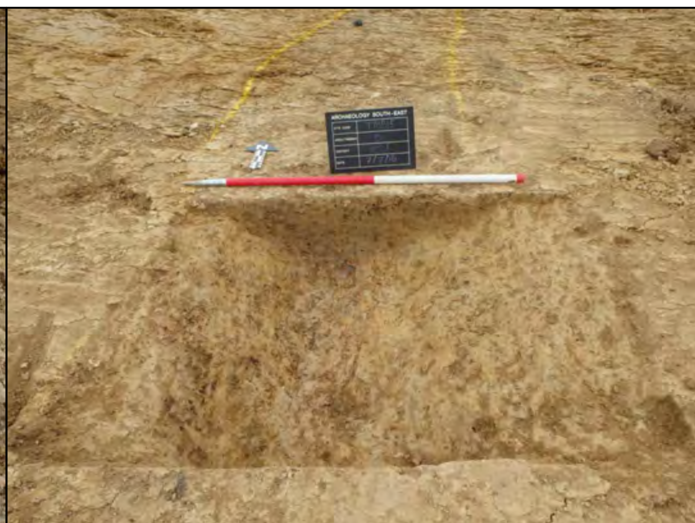
Project Ref: 7547	March 2018	Site B phased plan, selected sections and photographs	
Report Ref: 2017402	Drawn by: LG		

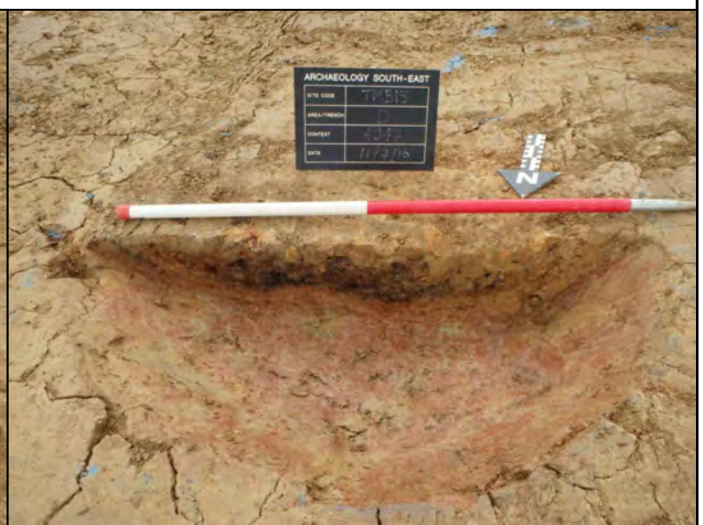


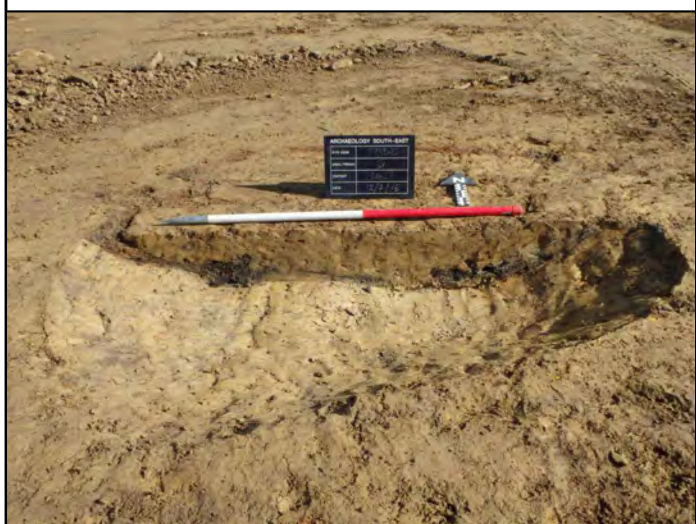
© Archaeology South-East		Rampion Offshore Wind Farm Onshore Cable Route	Fig.5
Project Ref: 7547	March 2018	Site D phased plans	
Report Ref: 170402	Drawn by: LG		

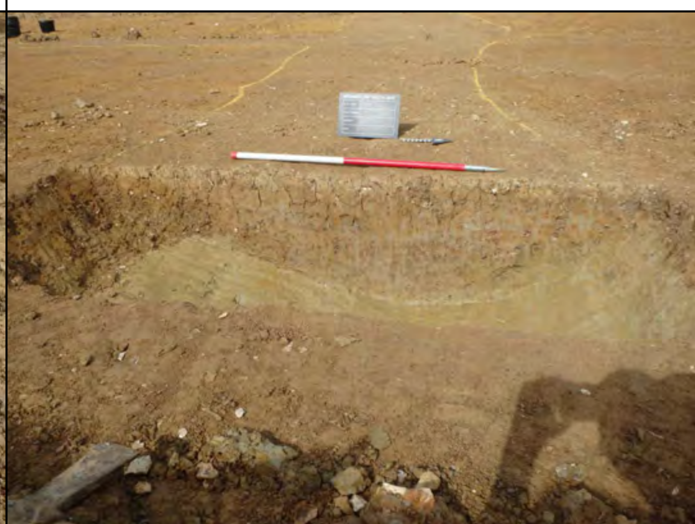



G20 looking east


G13 looking north


G23 looking south


G25 looking north


G16 looking west


G16 and G17 looking west

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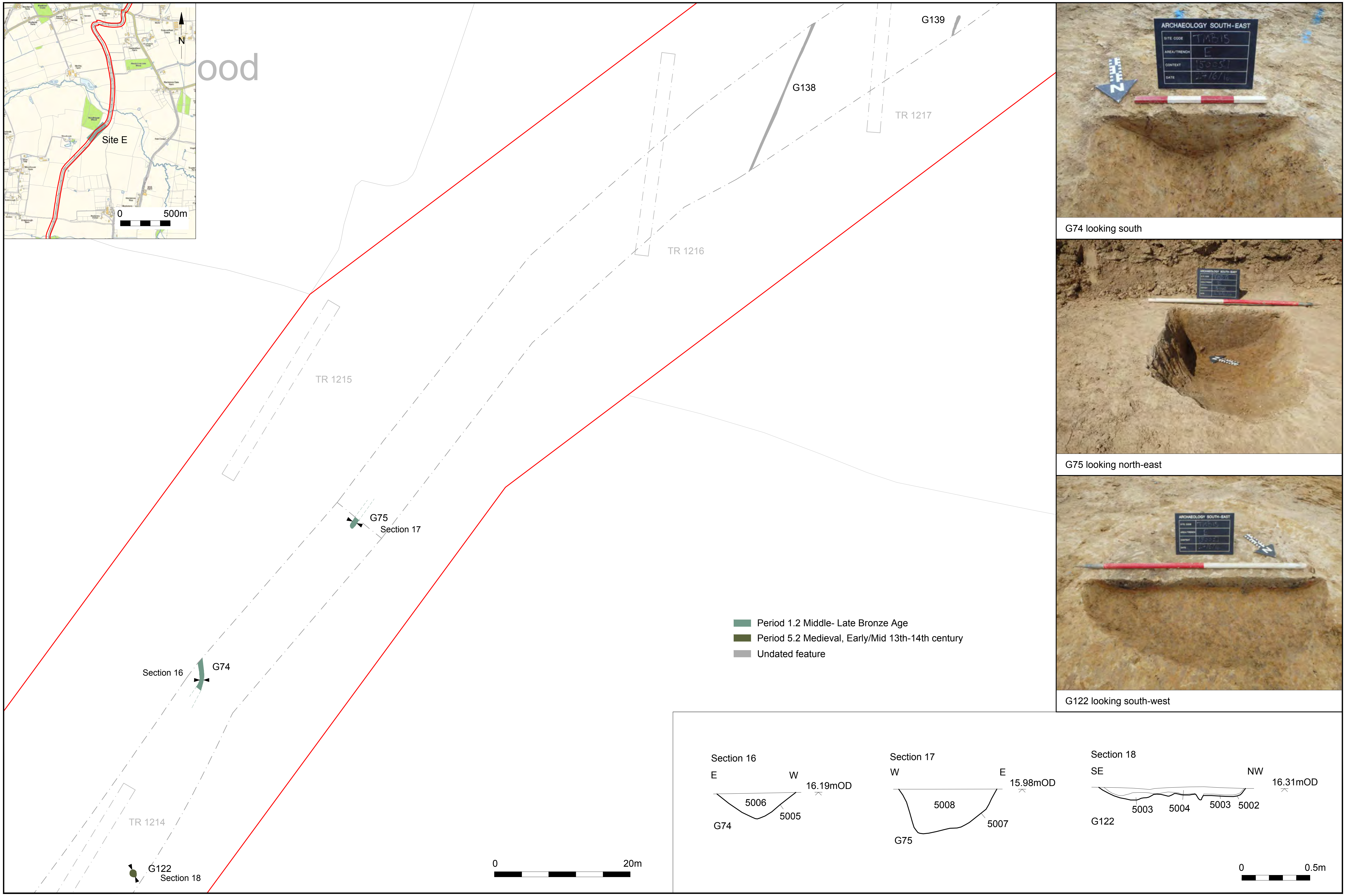
Project Ref: 7547	March 2018	Site D selected sections and photographs	
Report Ref: 170402	Drawn by: LG		



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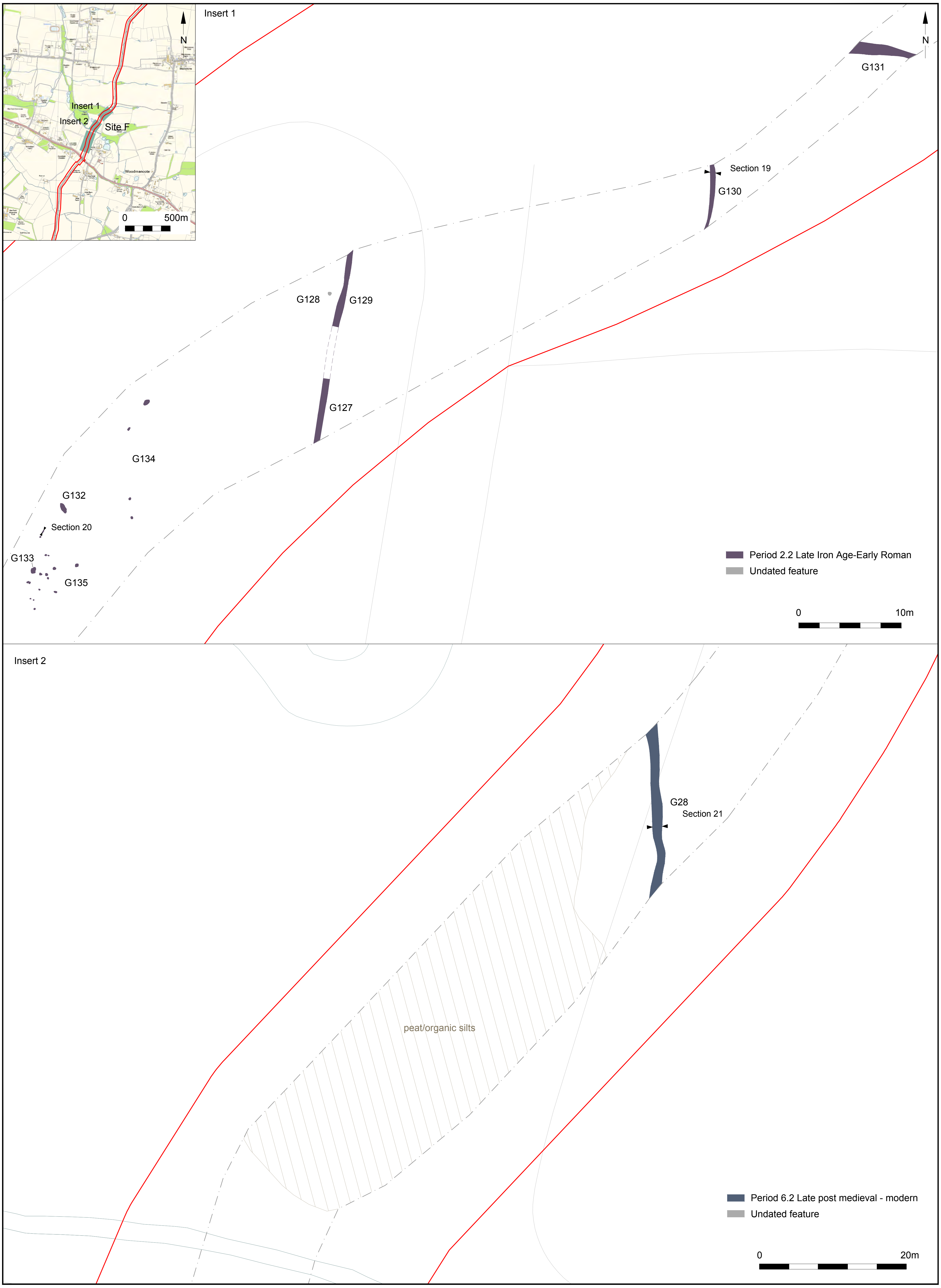
Project Ref: 7547	March 2018	Site E phased plan, sections and photographs	
Report Ref: 2017402	Drawn by: LG		



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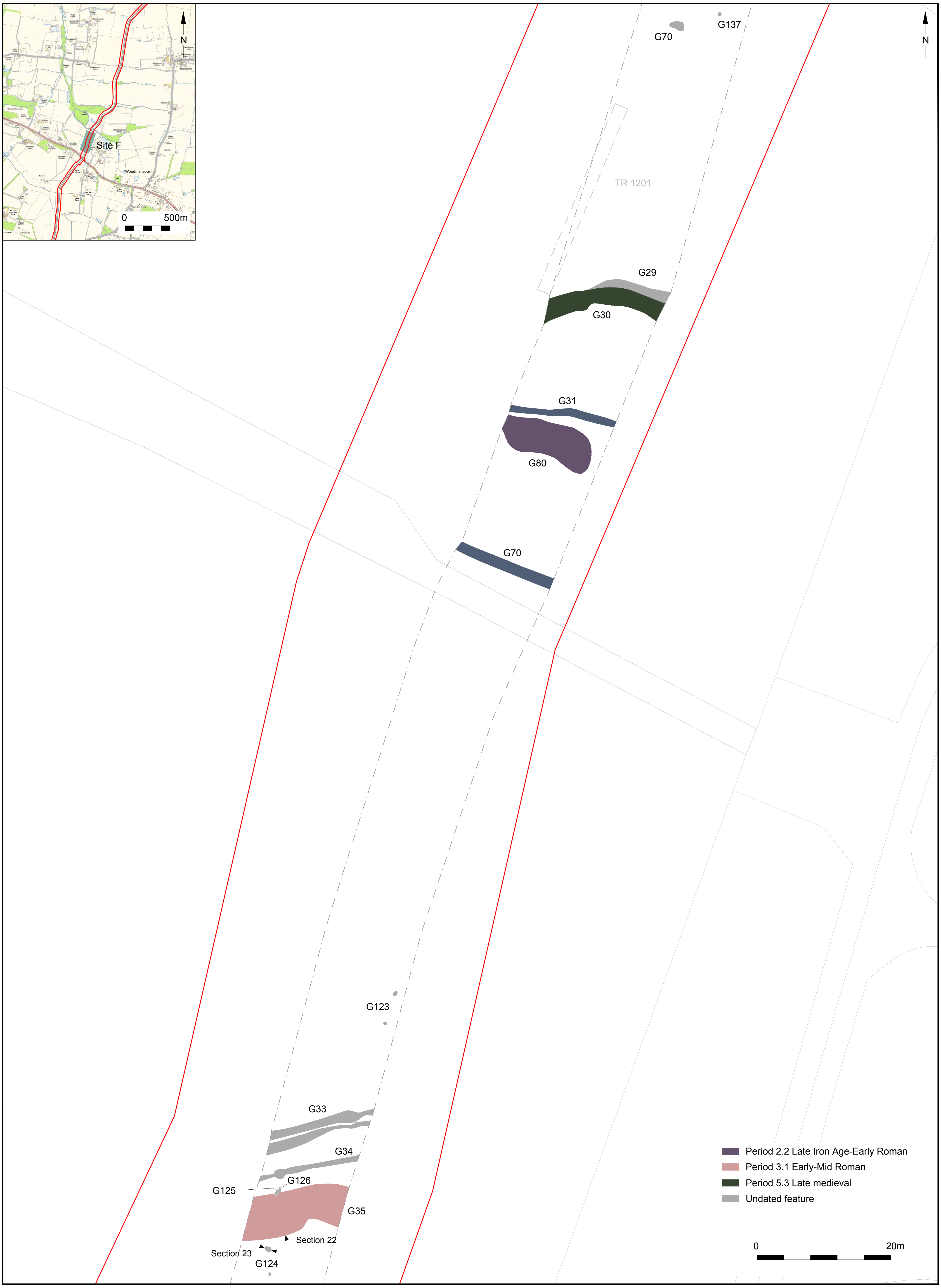
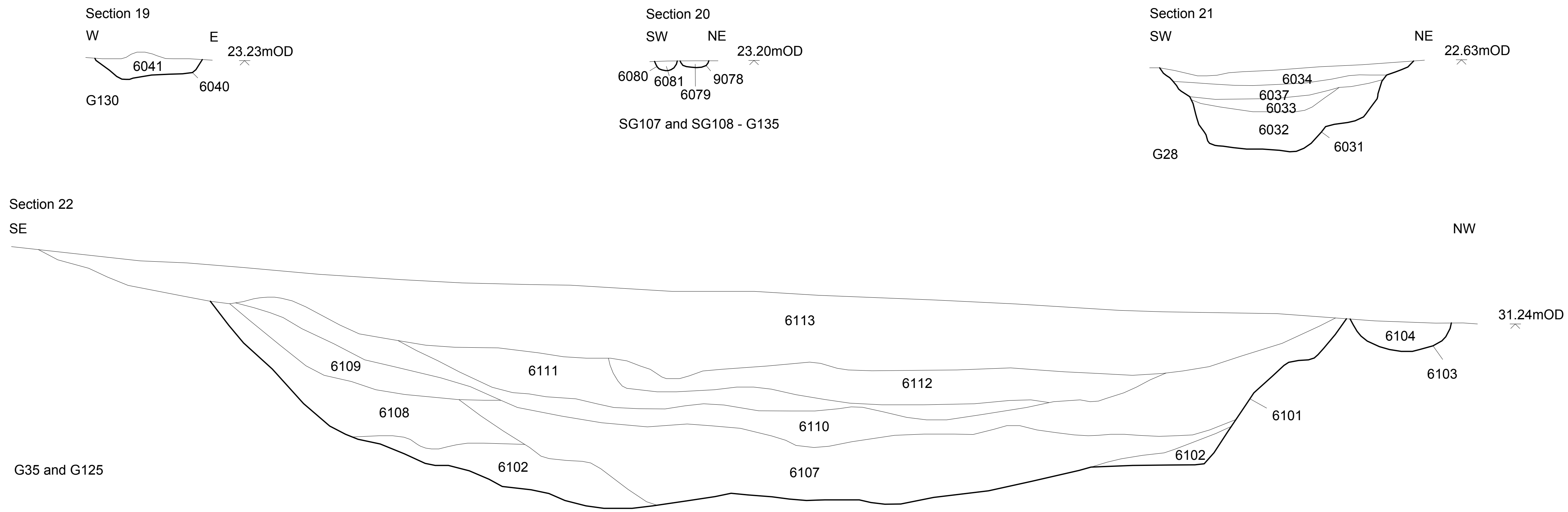
Project Ref: 7547	March 2018	Rampion Offshore Wind Farm Onshore Cable Route	Fig.8
Report Ref: 170402	Drawn by: LG	Site F phased plan 1	



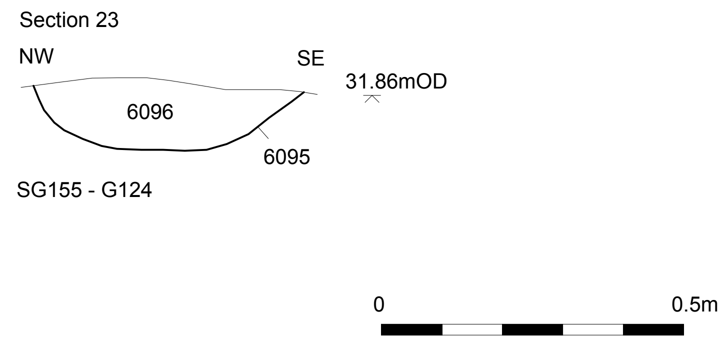
© Archaeology South-East		Rampion Offshore Wind Farm Onshore Cable Route	Fig.9
Project Ref: 7547	March 2018	Site F phased plan 2	
Report Ref: 170402	Drawn by: LG		

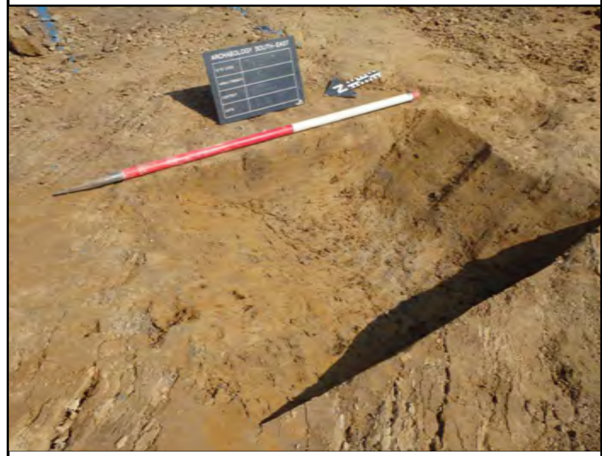



Site F wetland deposits

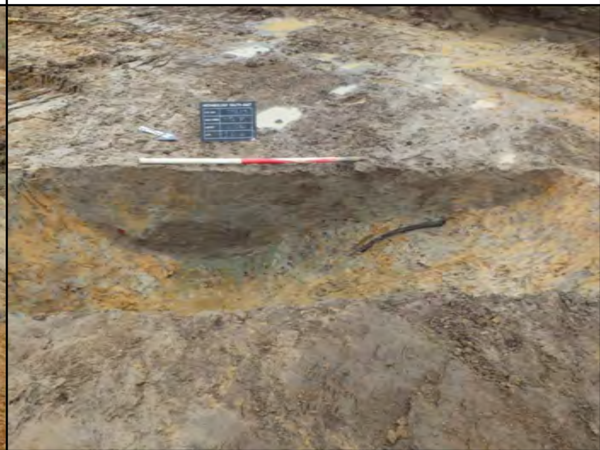
G135:SG112 looking south


G33 linear depressions looking west




G131 looking south-east


G35 looking north-west


G30 looking south-west


G28 looking north-west


G137 looking south-west

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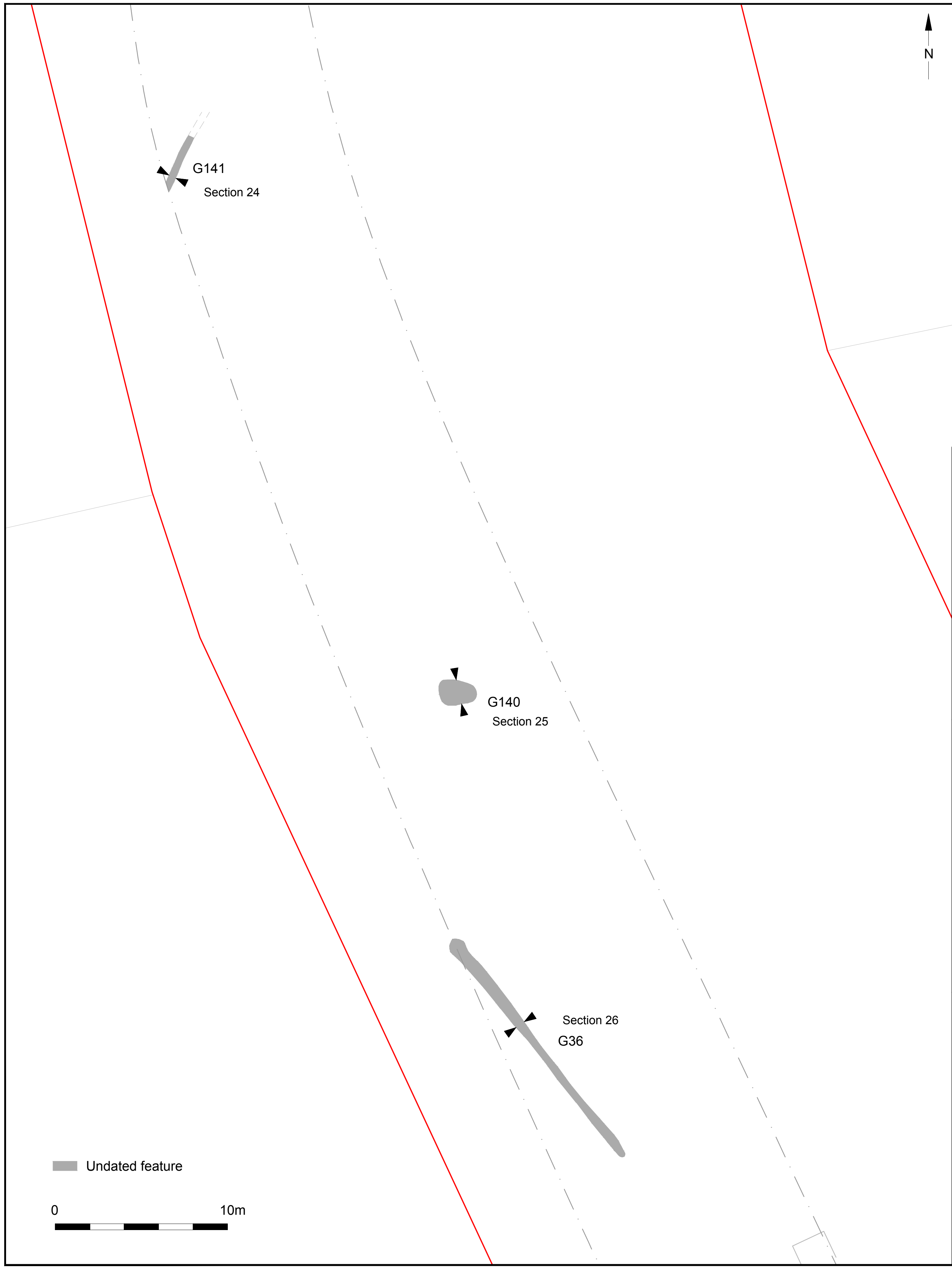
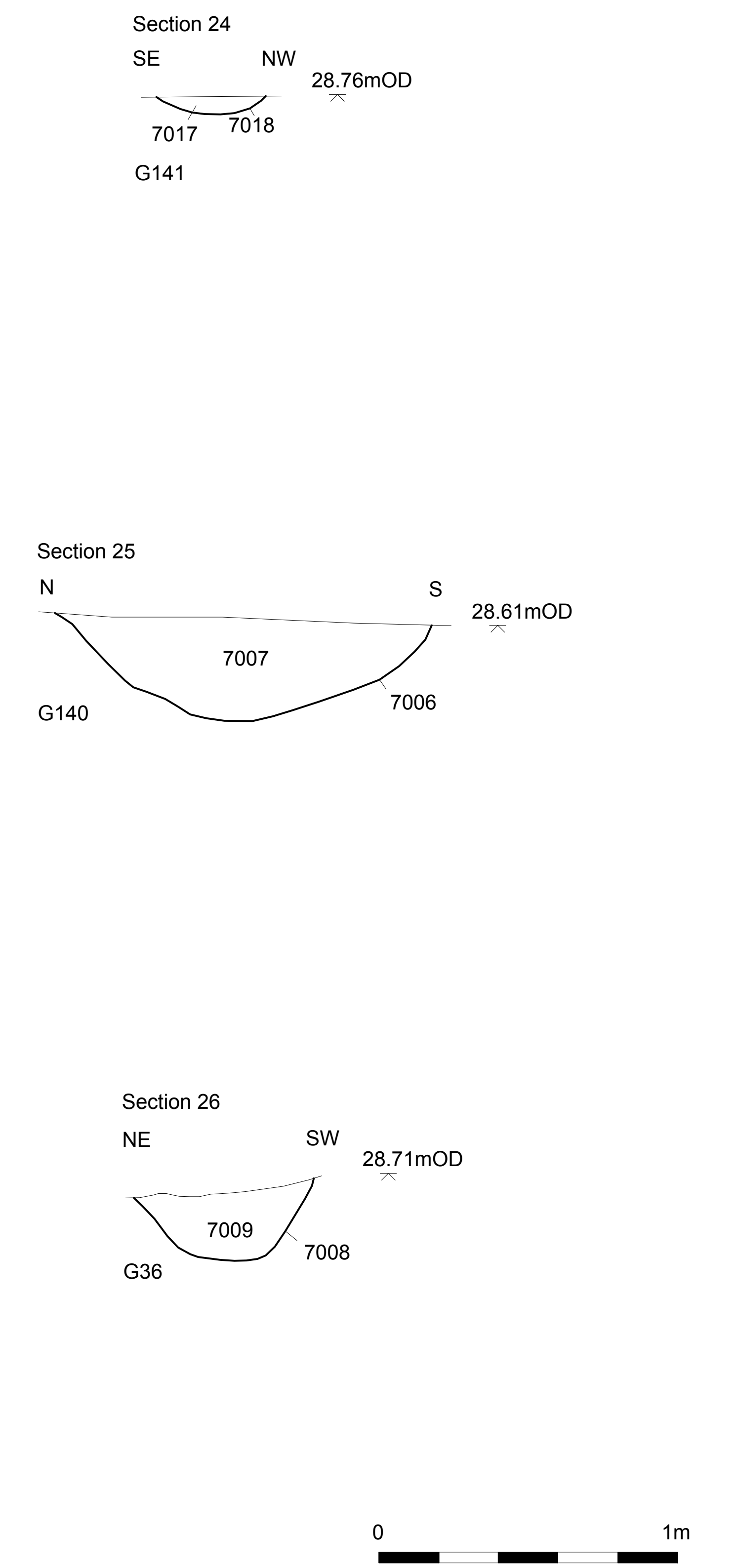
Project Ref: 7547	March 2018	Site F selected sections and photographs	
Report Ref: 2017402	Drawn by: LG		



G141 looking east

G140 looking south-west

G36 looking south-east



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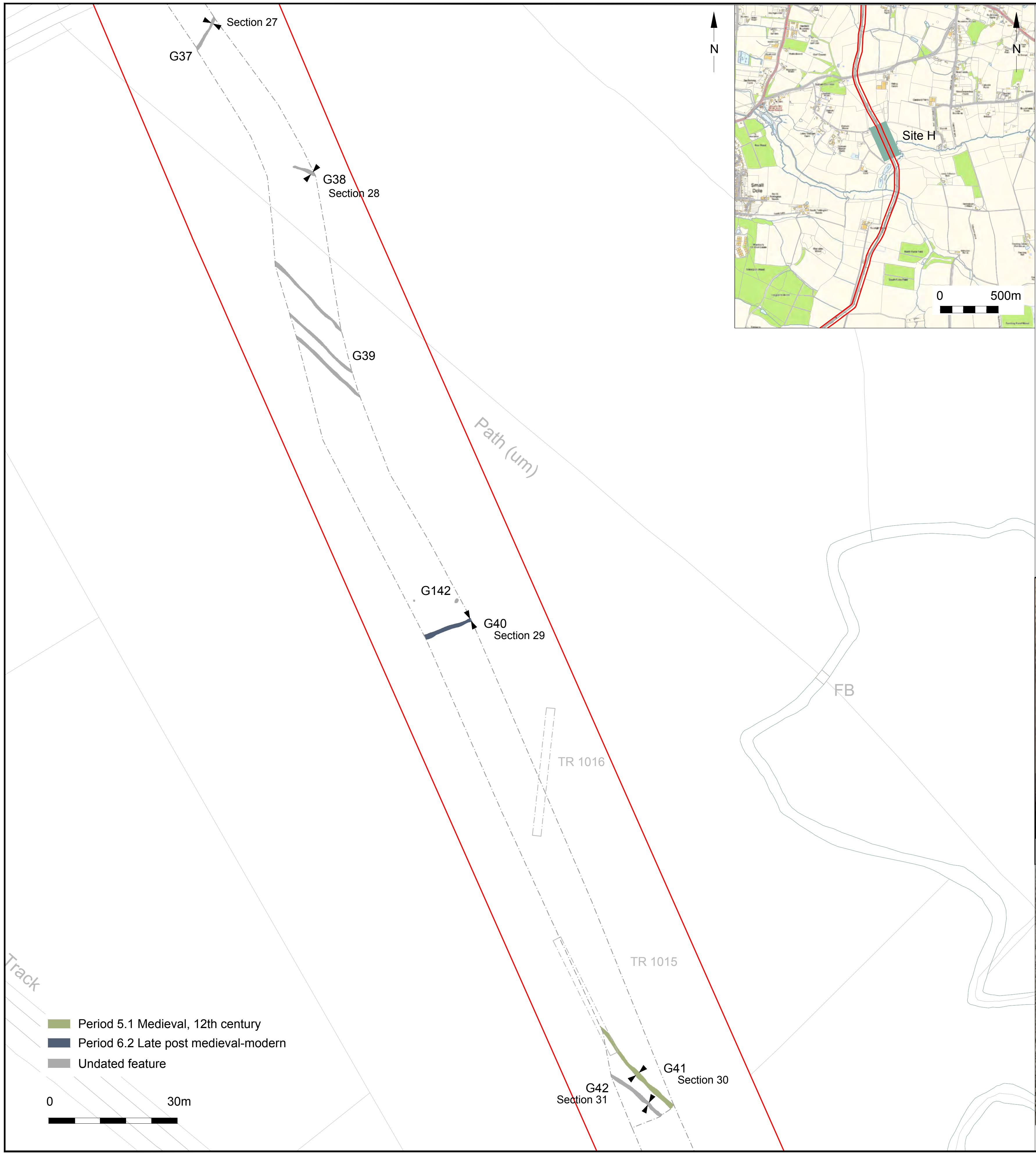
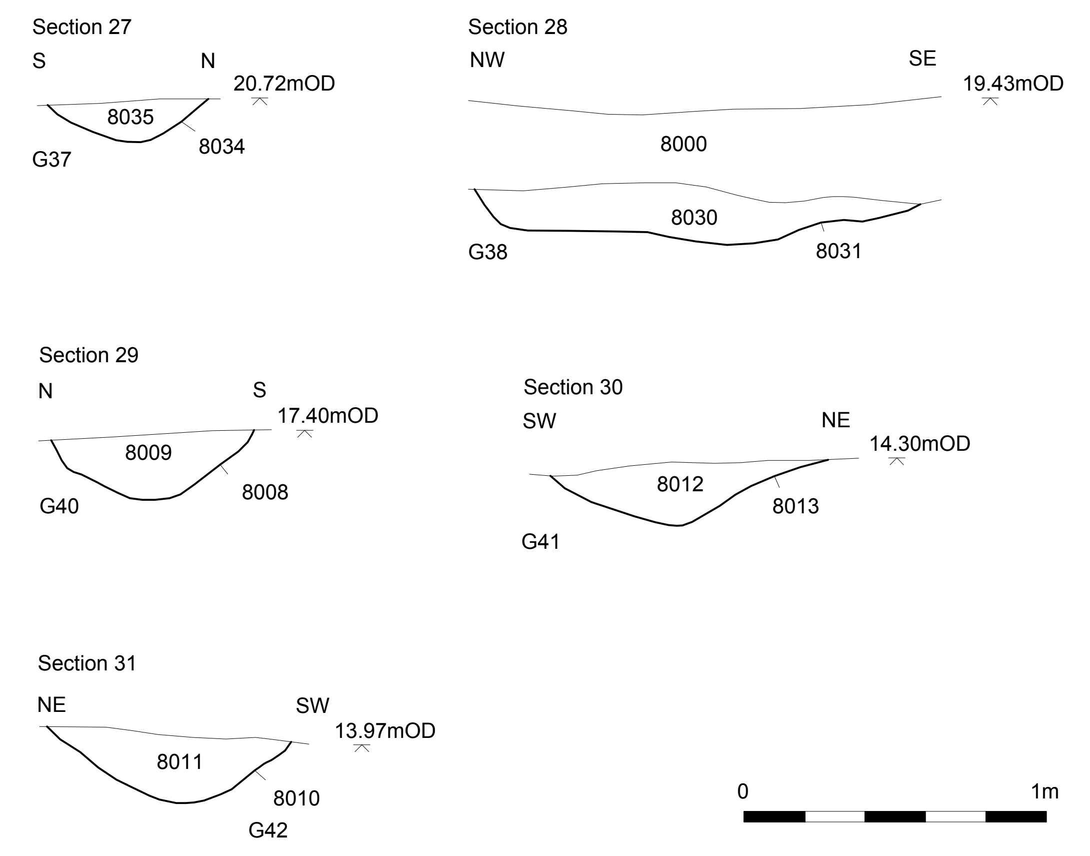
Project Ref: 7547	March 2018	Site G phased plan, selected sections and photographs	
Report Ref: 2017402	Drawn by: LG		






G41 looking north-west


G37 looking south-west


G38 looking south-east


G40 looking north-east

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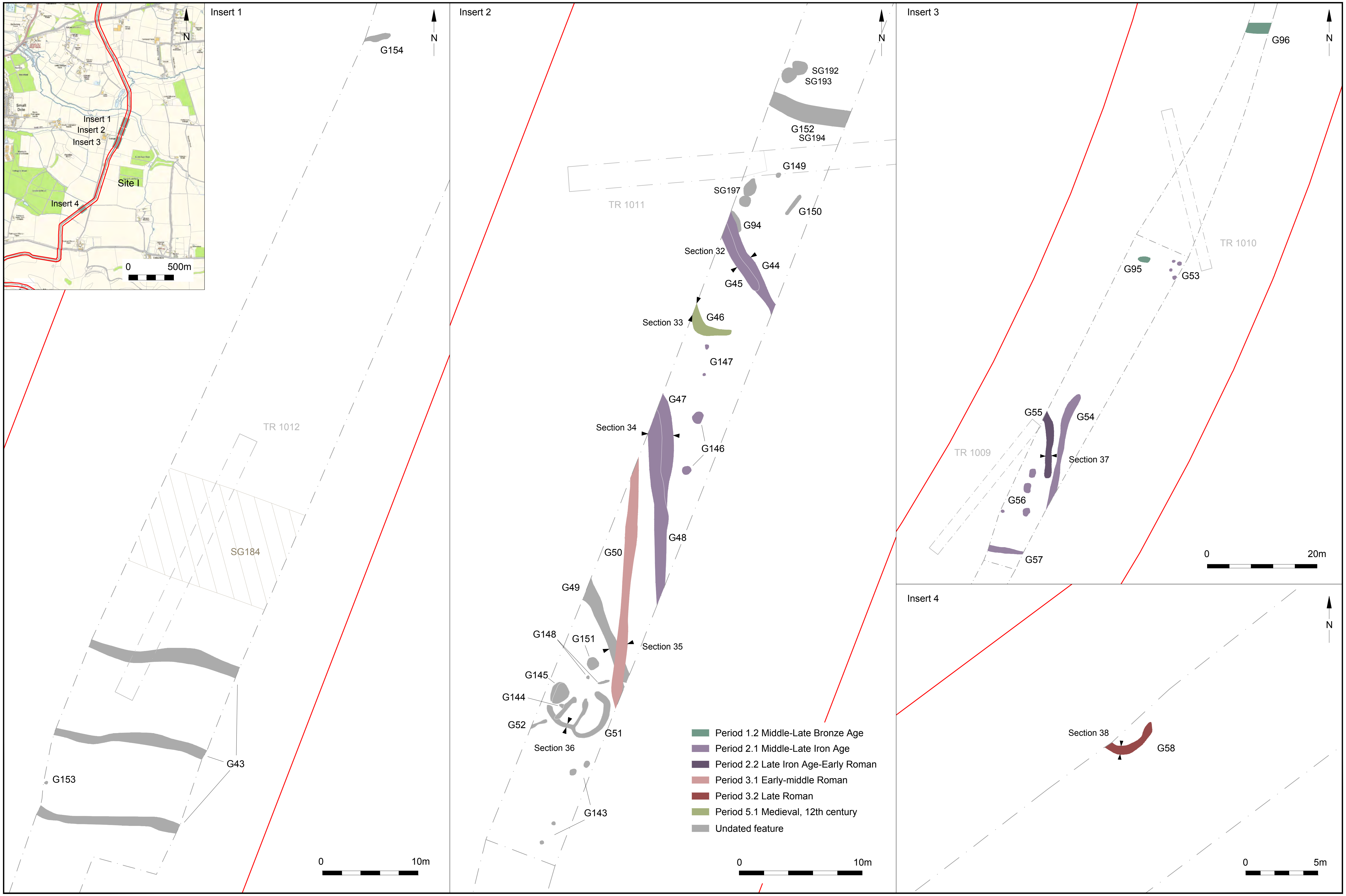
Project Ref: 7547	March 2018	Site H phased plan, selected sections and photographs	
Report Ref: 2017402	Drawn by: LG		



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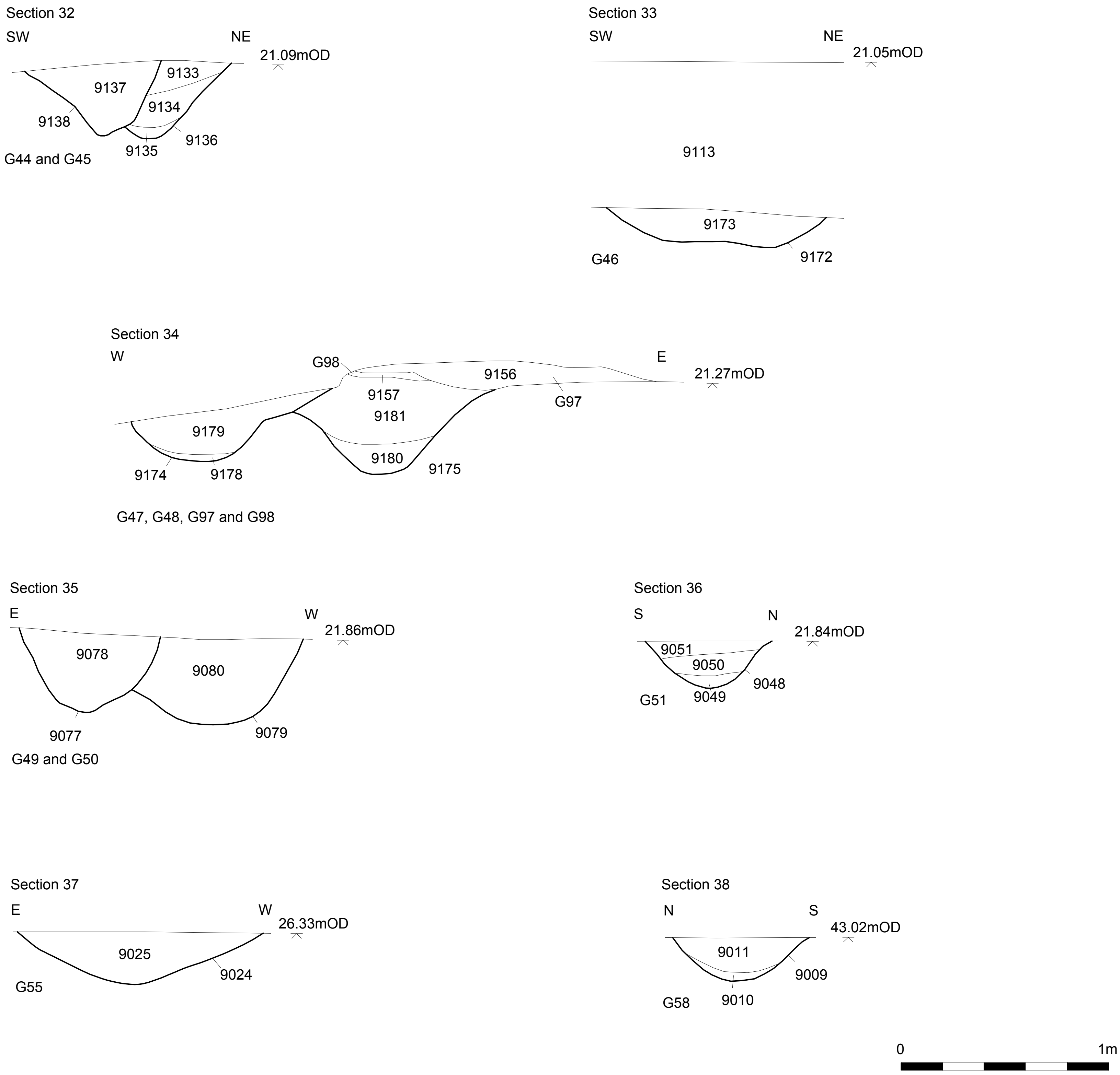
Project Ref: 7547	March 2018	Site I phased plans	
Report Ref: 2017402	Drawn by: LG		




G96 looking south-west


G57 looking east


G47 and G48 looking north


G44 and G45 looking south


G49 and G50 looking north


G152 looking north-west

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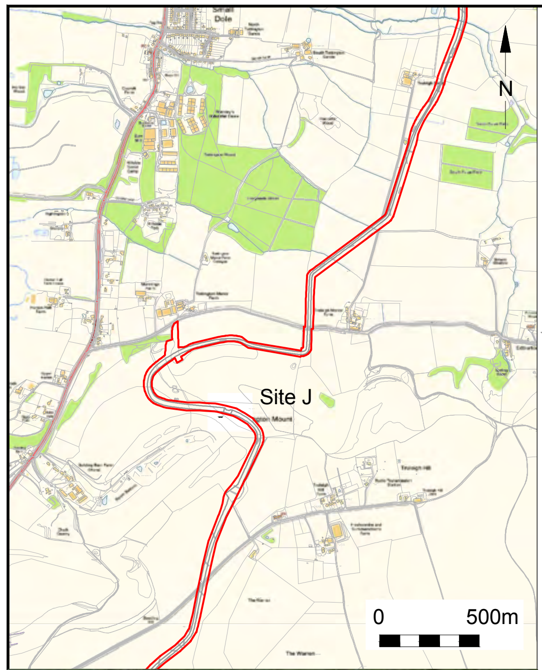
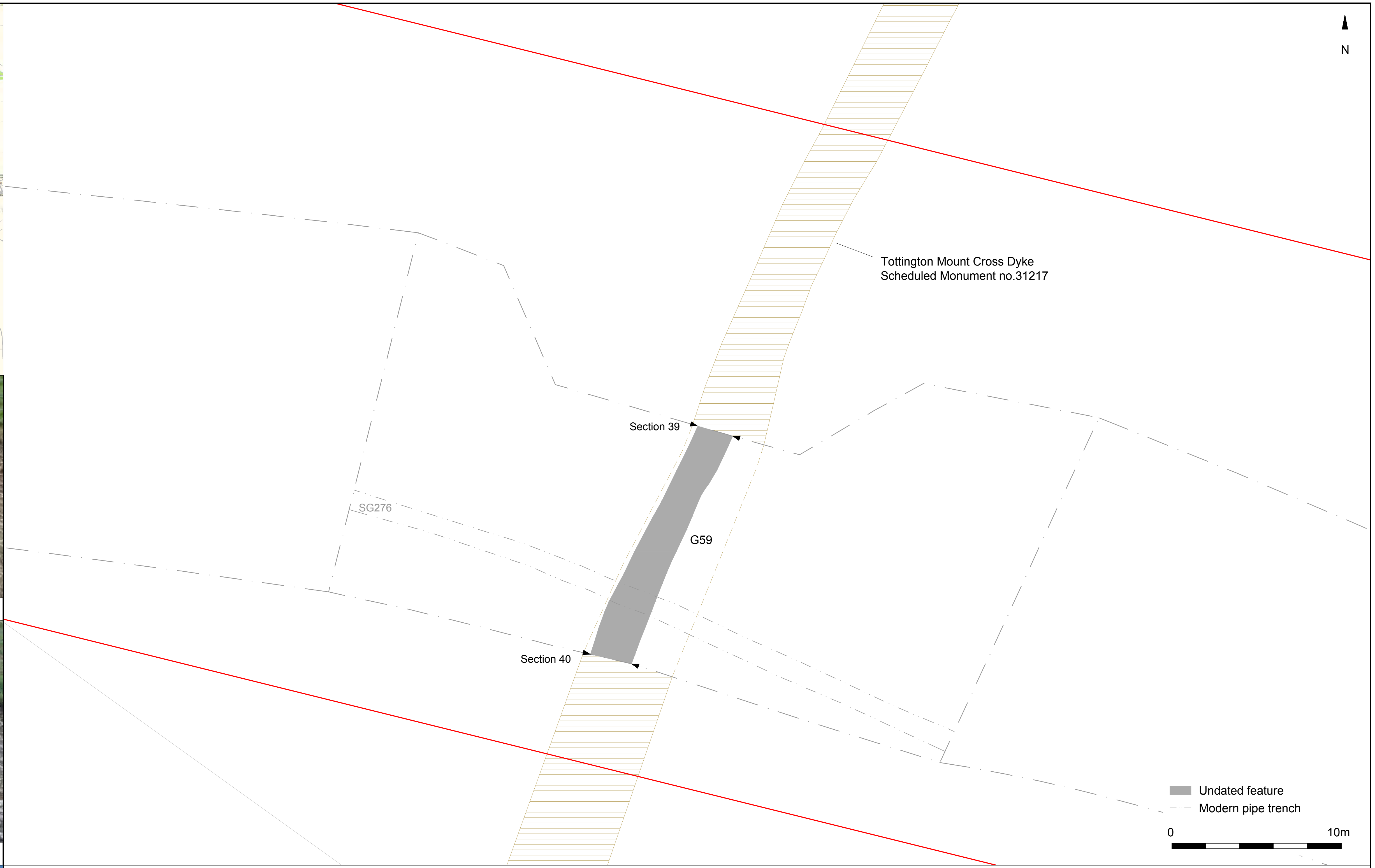
Project Ref: 7547	March 2018	Site I selected sections and photographs	
Report Ref: 170402	Drawn by: LG		

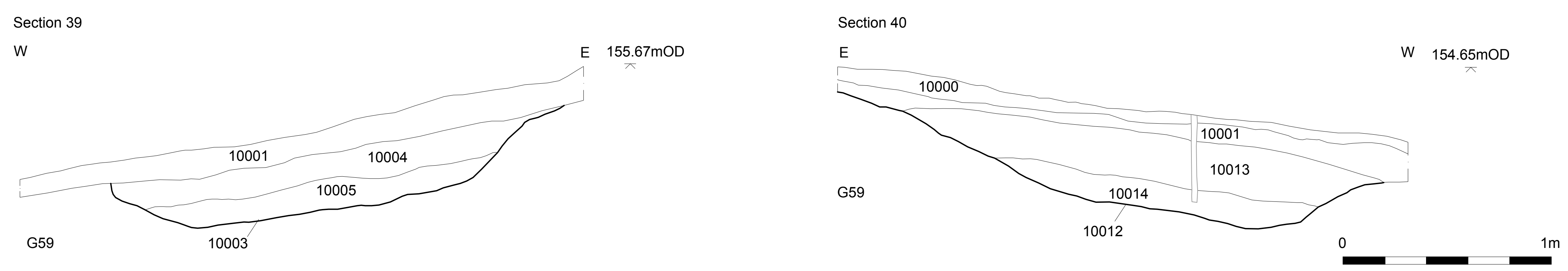


G59 Cross Dyke looking north

G59 Cross Dyke showing modern cable looking south

G59 section through Cross Dyke looking north



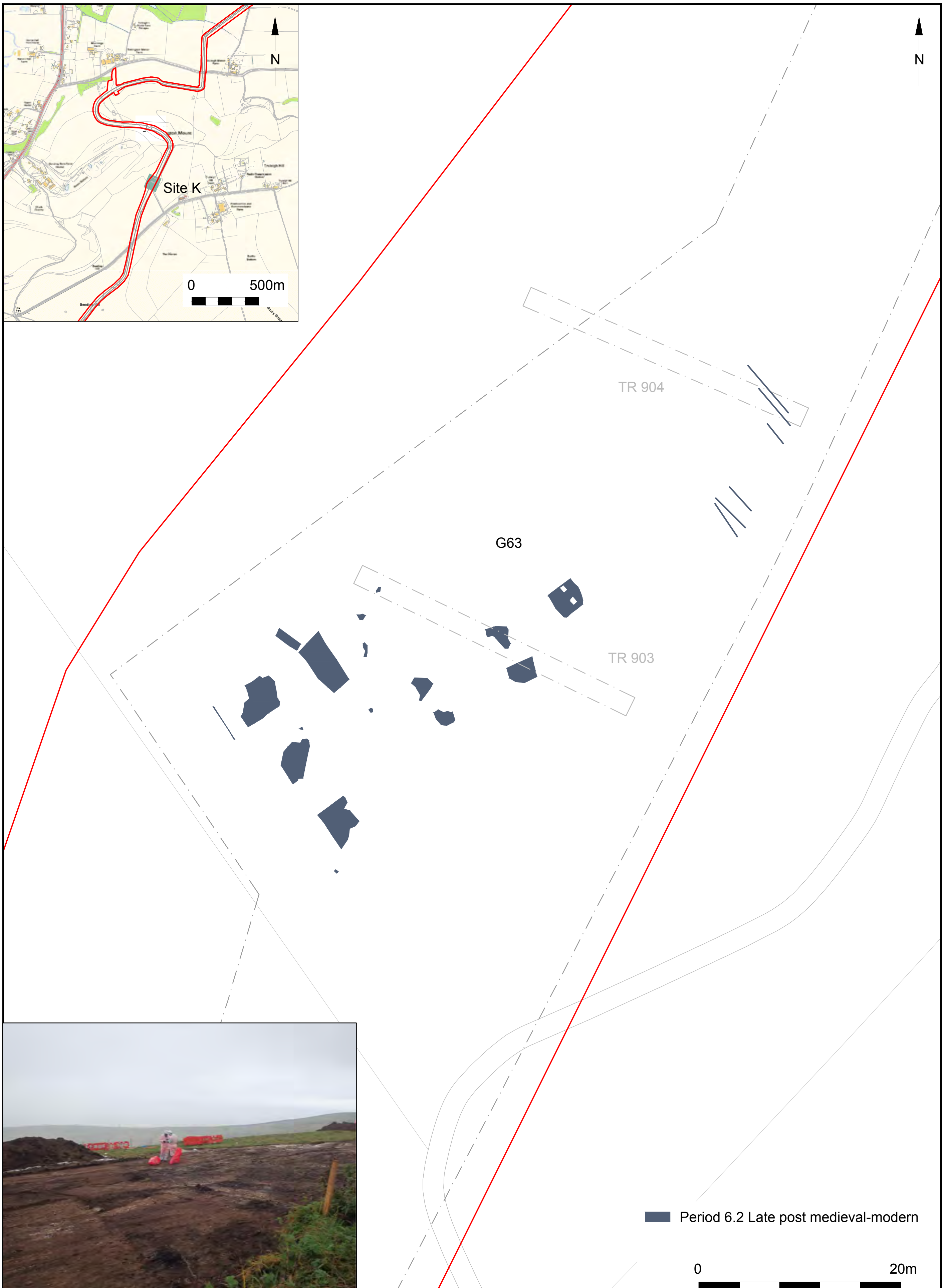


Project Ref: 7547 | March 2018
Report Ref: 2017402 | Drawn by: LG

Rampion Offshore Wind Farm Onshore Cable Route

Site J phased plan, selected sections and photographs

Fig.15



Asbestos removal at site K

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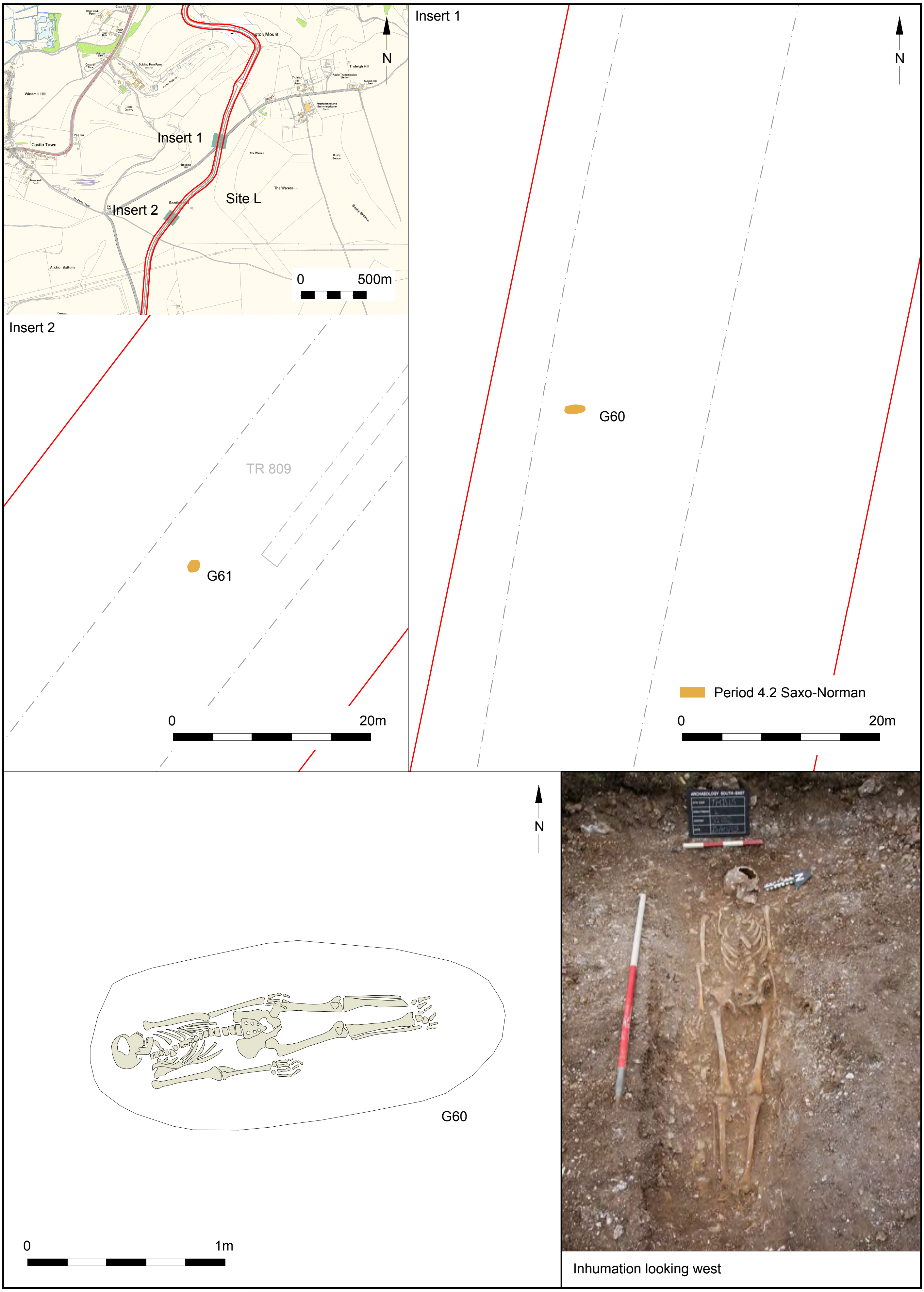
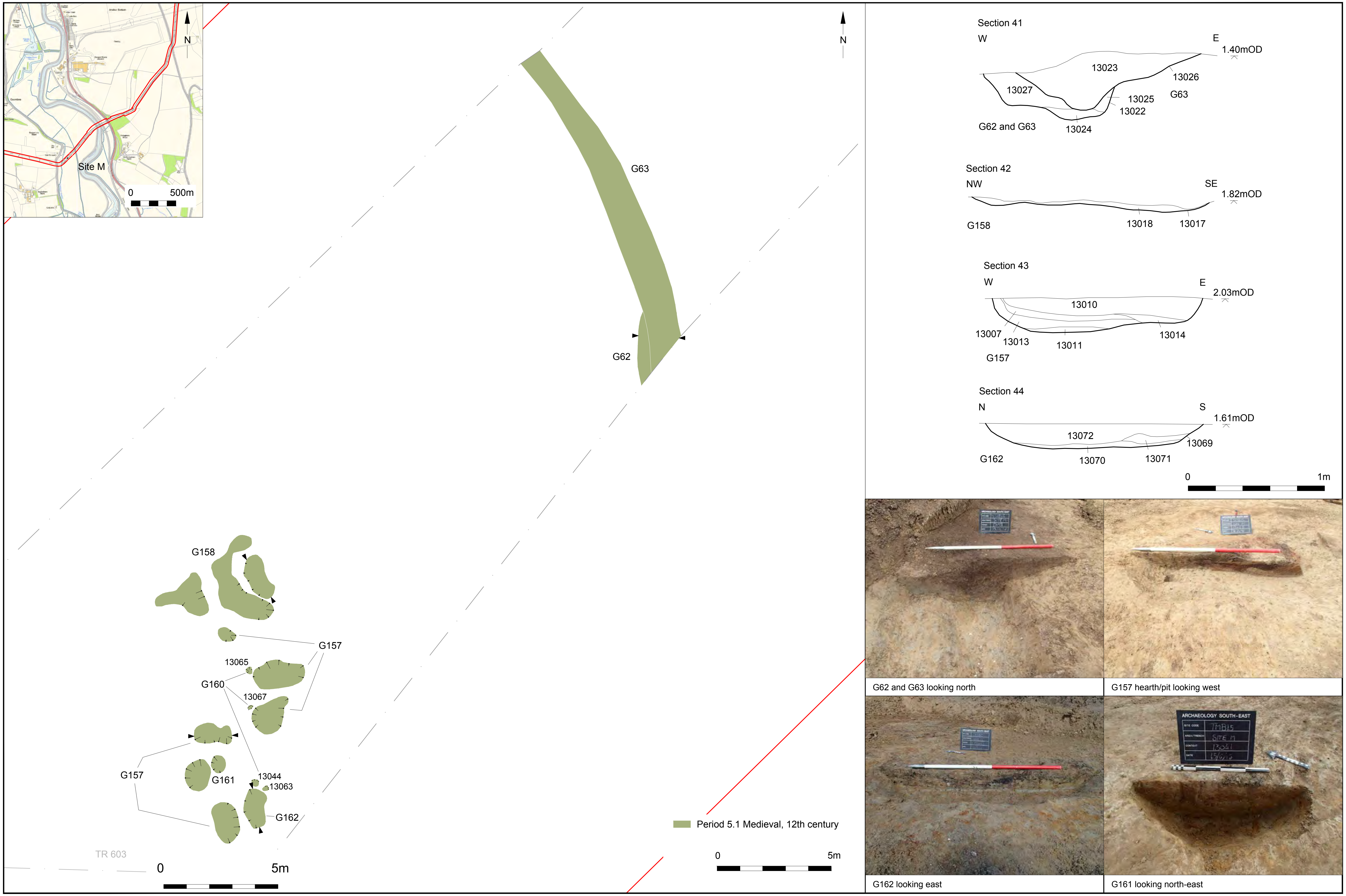
Report Ref: 170402	Drawn by: LG	Site K phased plan

Fig.16



Project Ref: 7547	March 2018	Rampion Offshore Wind Farm Onshore Cable Route	Fig.17
Report Ref: 170402	Drawn by: LG	Site L phased plan and photograph	



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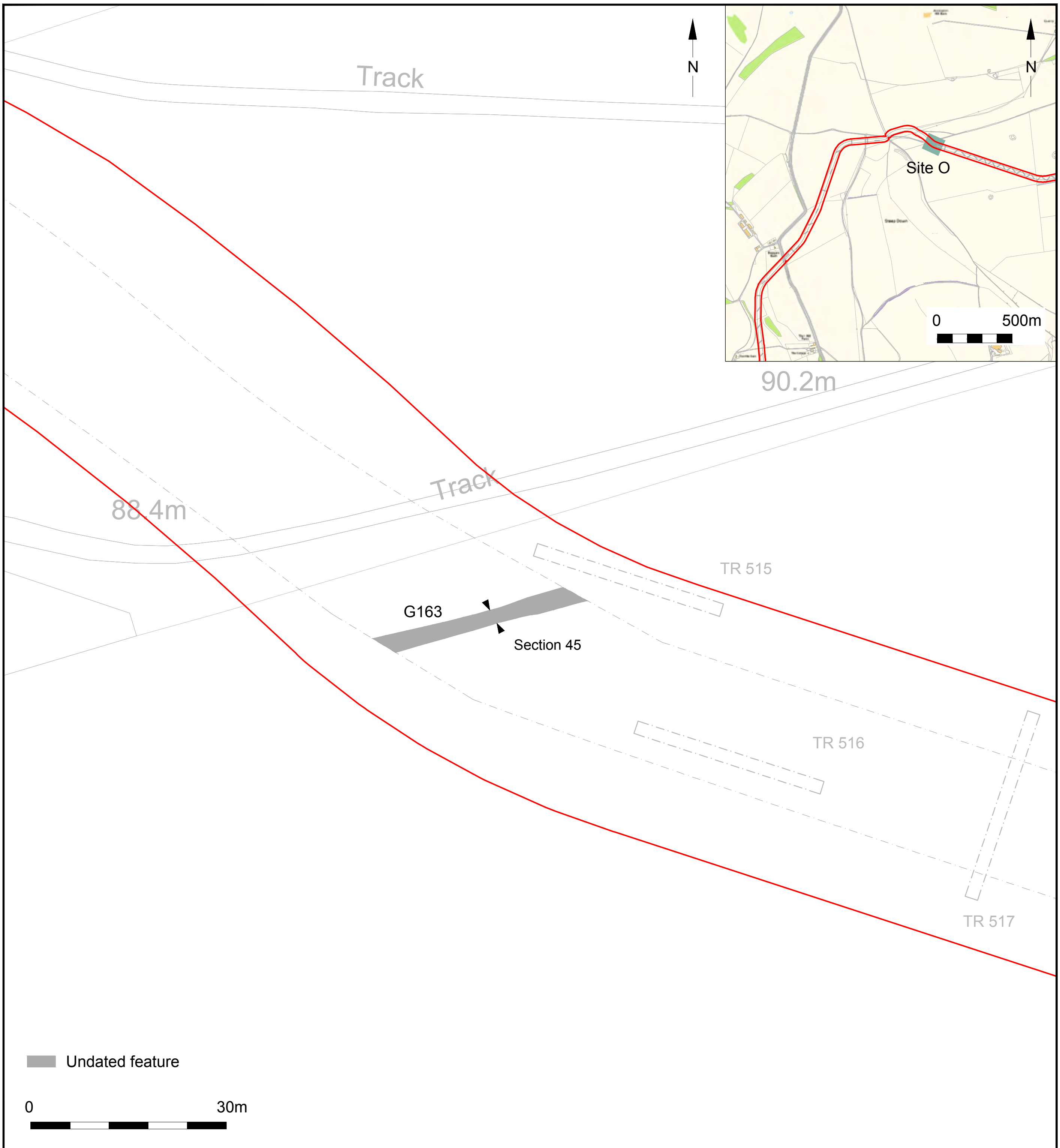
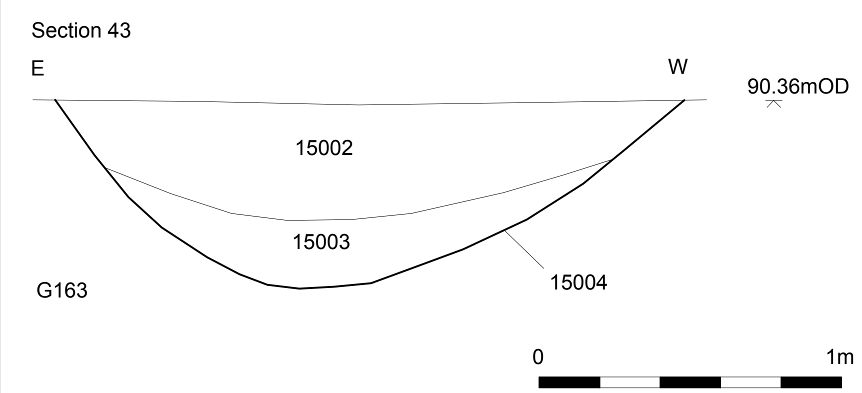
Project Ref: 7547	March 2018	Site M phased plan, selected sections and photographs	
Report Ref: 2017402	Drawn by: LG		



G163 looking south-west



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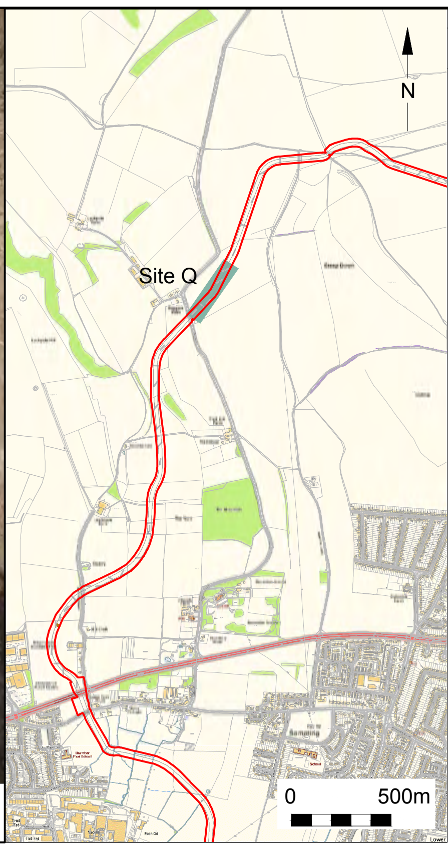
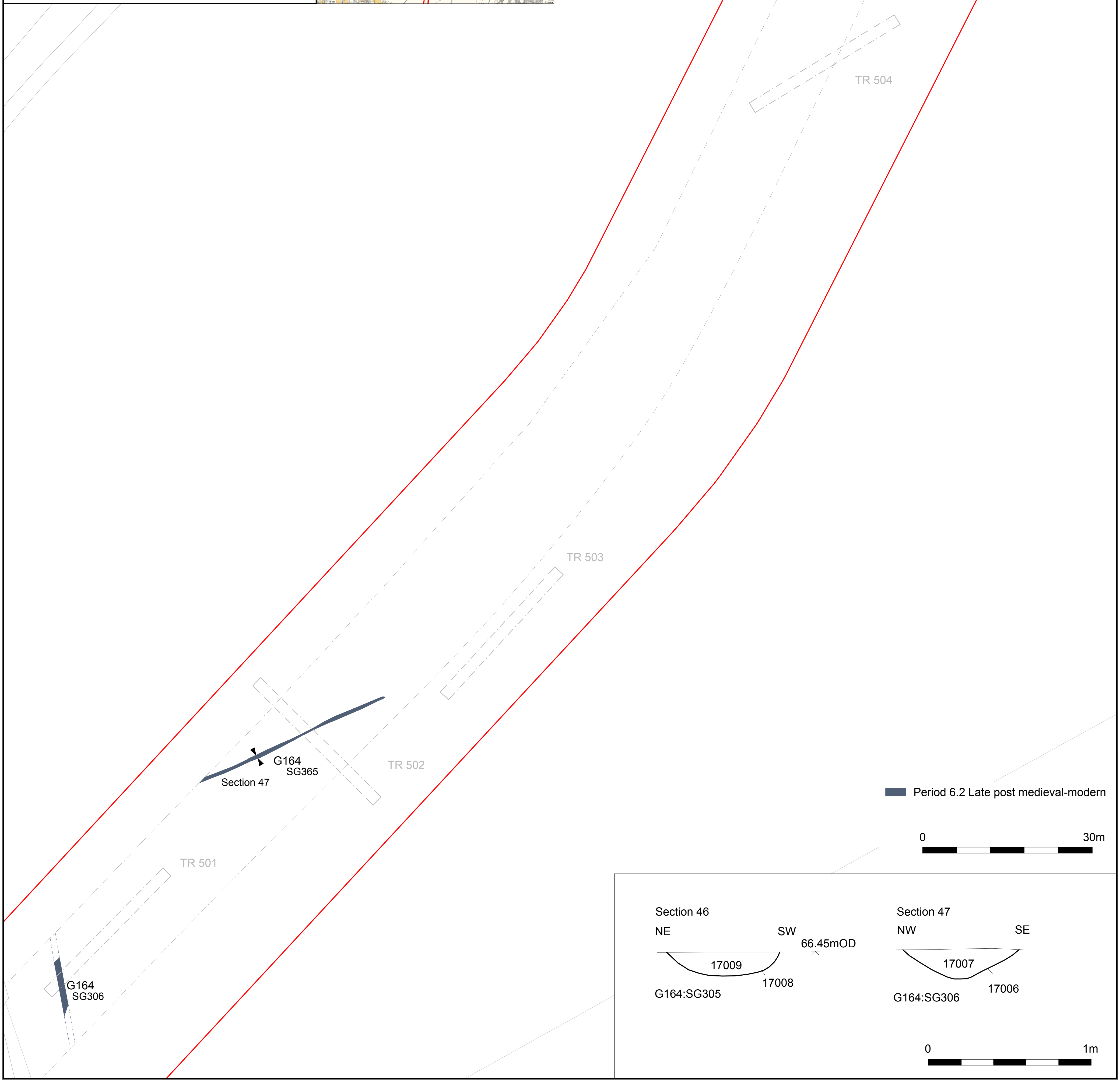
Project Ref: 7547	March 2018	Site O phased plan section and photograph	
Report Ref: 170402	Drawn by: LG		

17005 looking north





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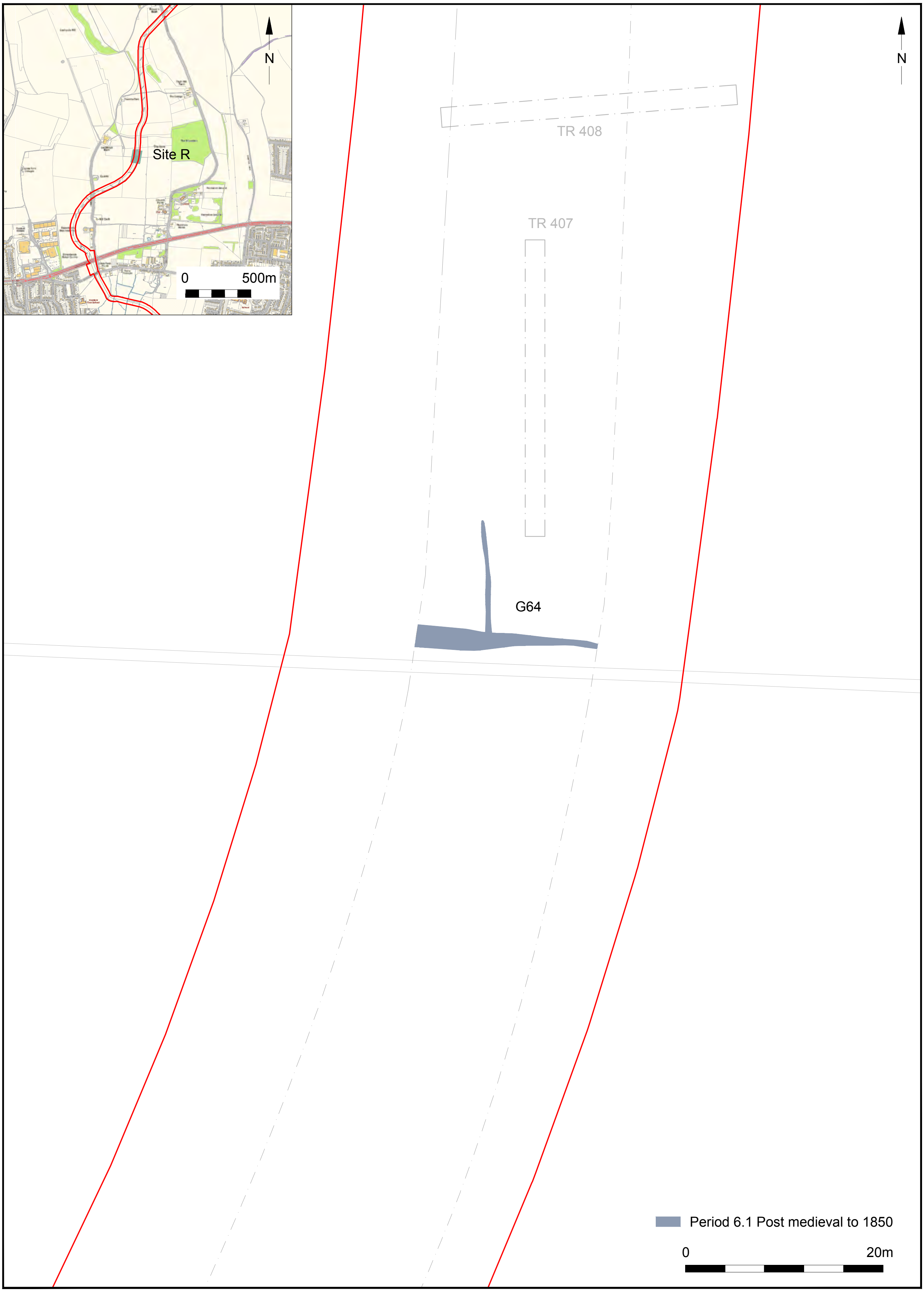
Project Ref: 7547	March 2018	Site Q plan, selected sections and photograph	
Report Ref: 170402	Drawn by: LG		



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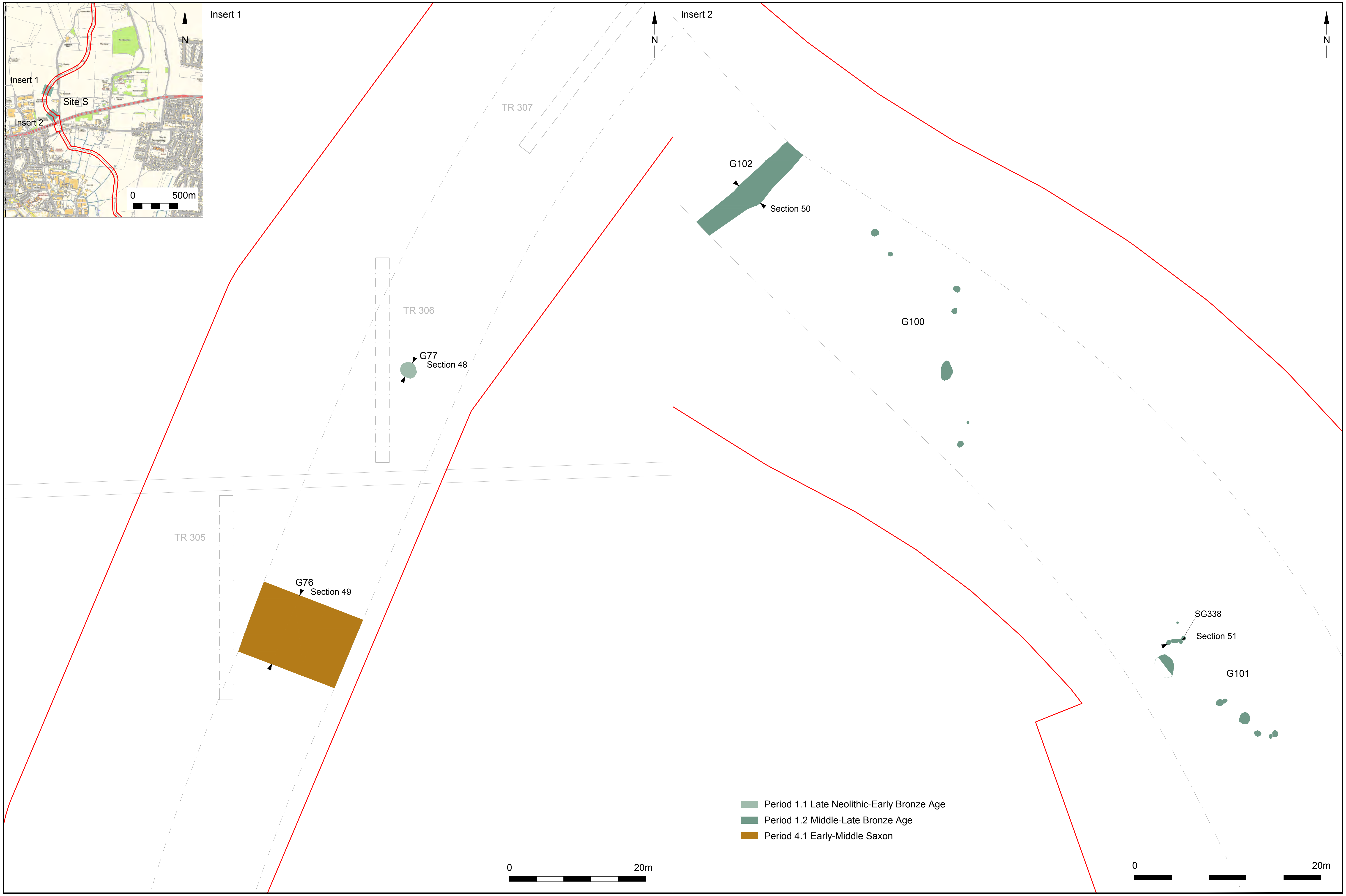
Project Ref: 7547 / March 2018	Site R phased plan	
Report Ref: 170402 / Drawn by: LG		



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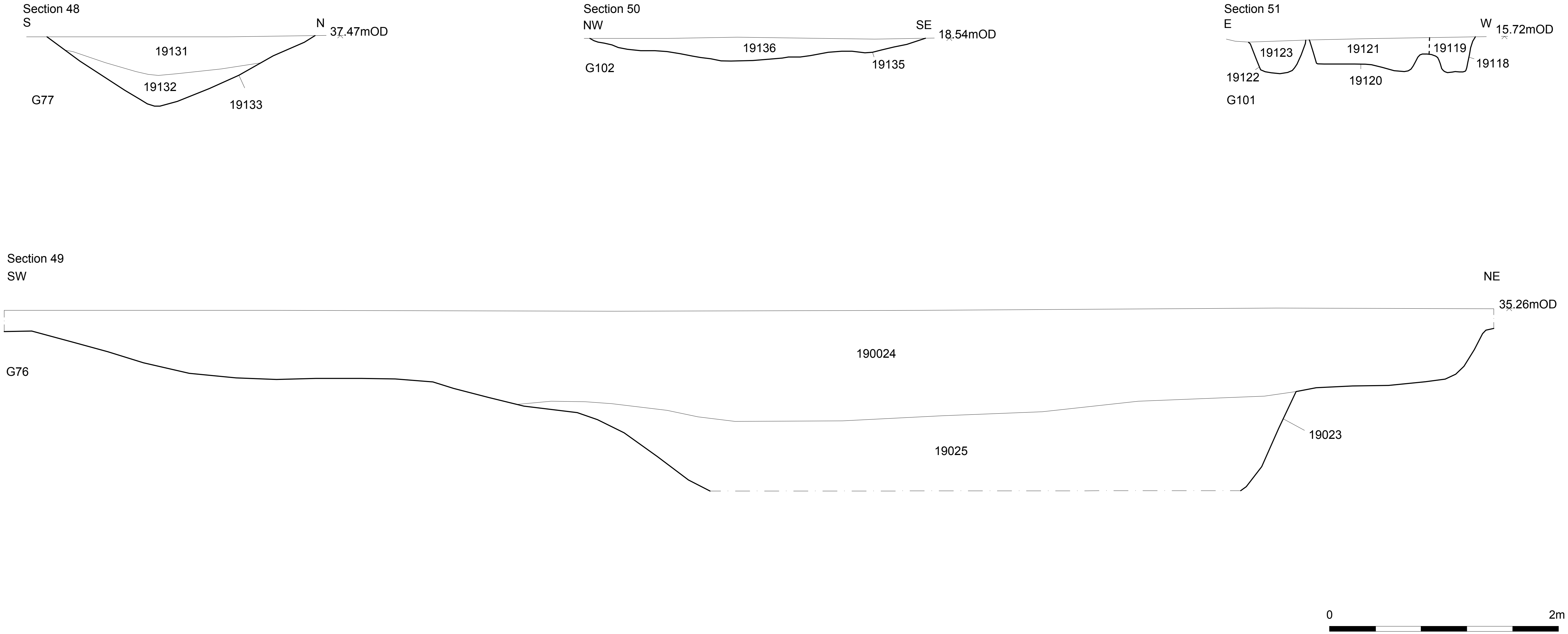
Project Ref: 7547	March 2018	Site S phased plans	
Report Ref: 2017402	Drawn by: LG		




G77 looking west


G76 exposed in cable trench looking south-west


G102 looking north-east

In situ pottery vessel in pit/posthole. G100:SG340


G101 posthole cluster looking north-west

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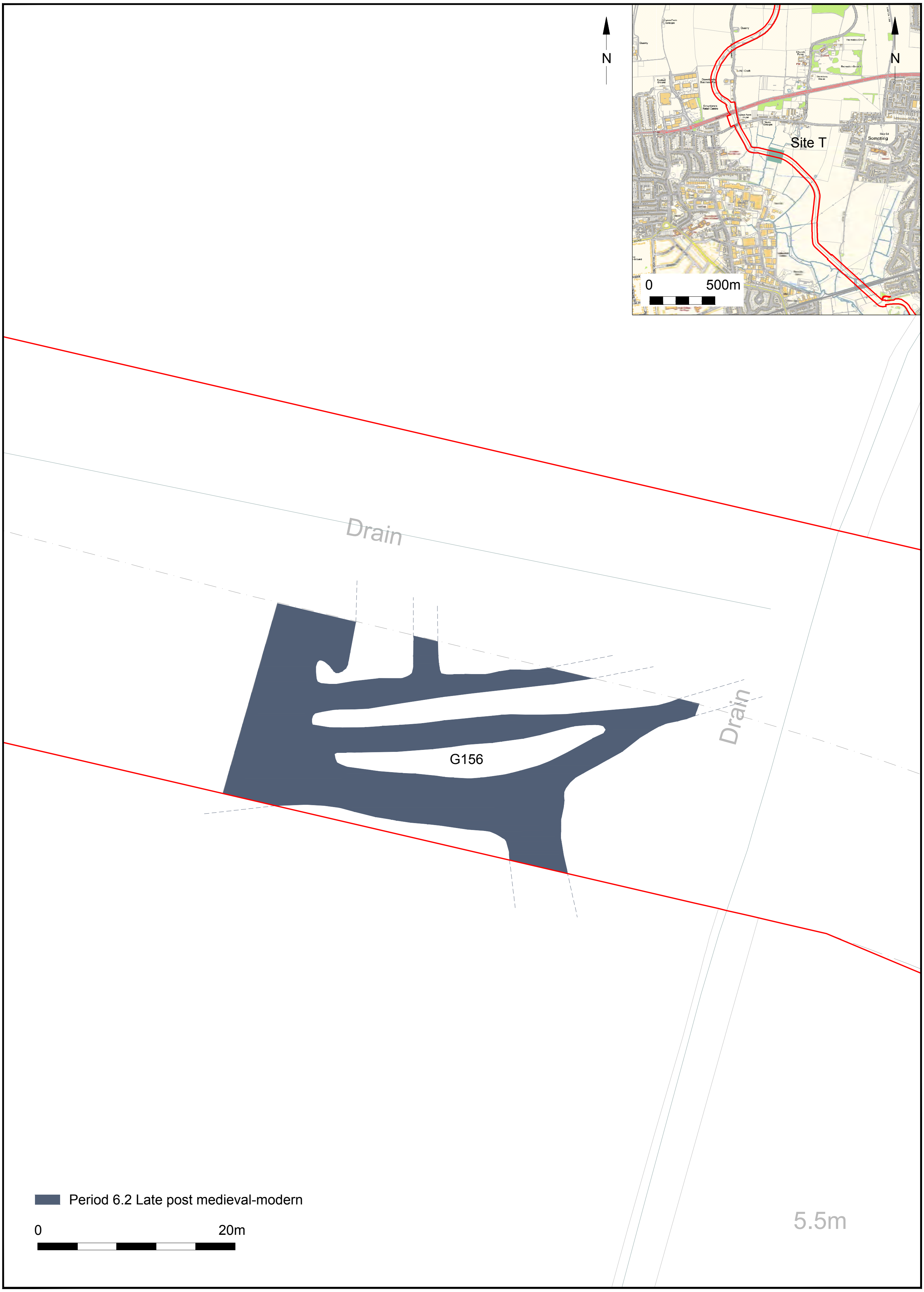
Project Ref: 7547	March 2018	Site S selected sections and photographs	
Report Ref: 2017402	Drawn by: LG		



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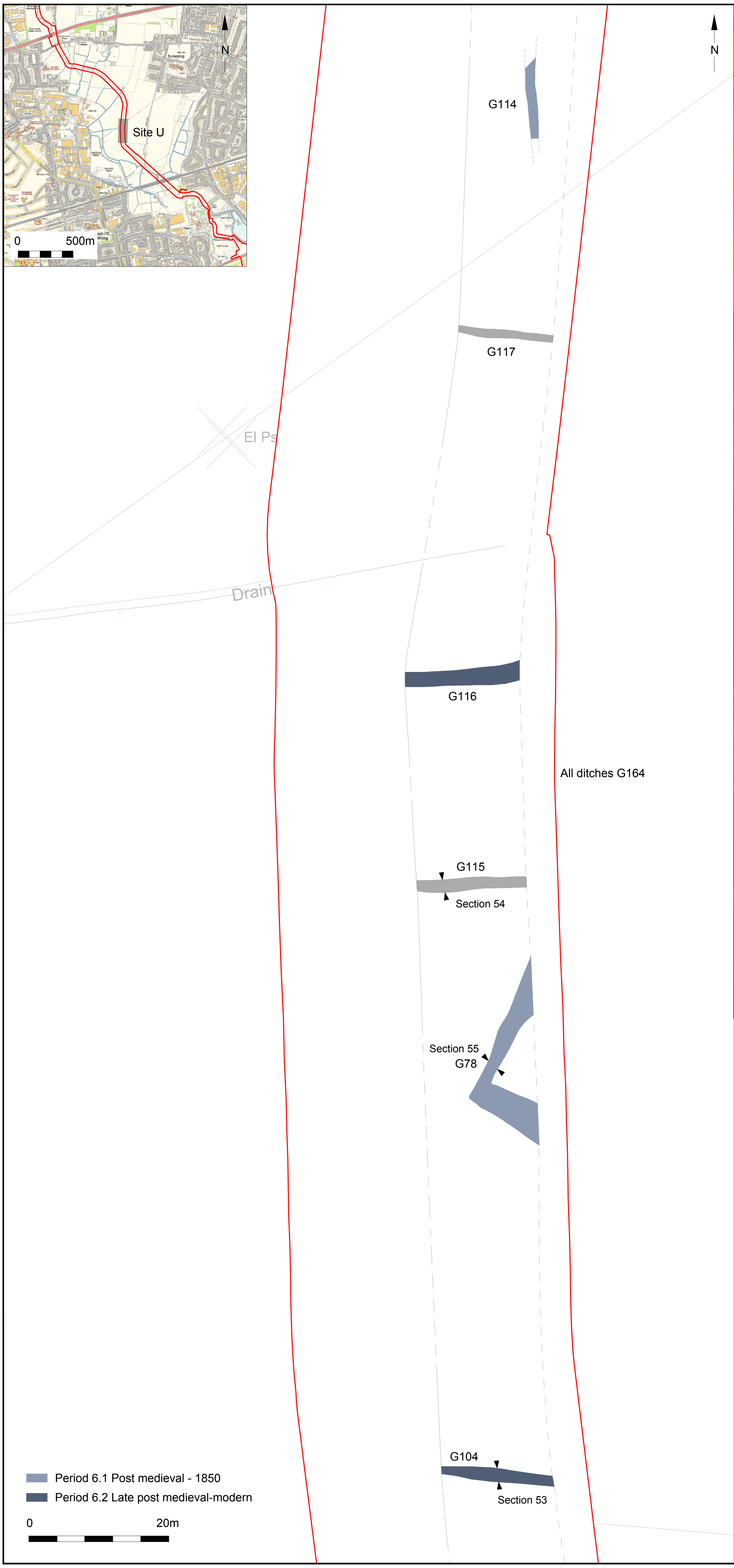
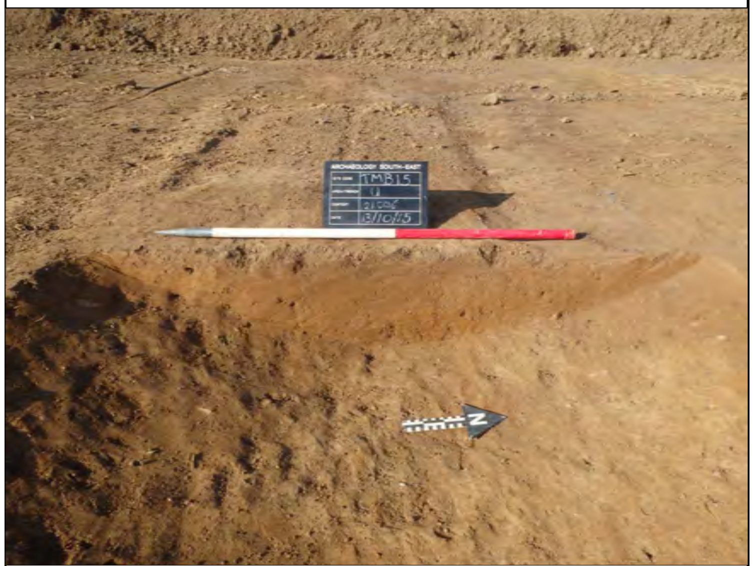
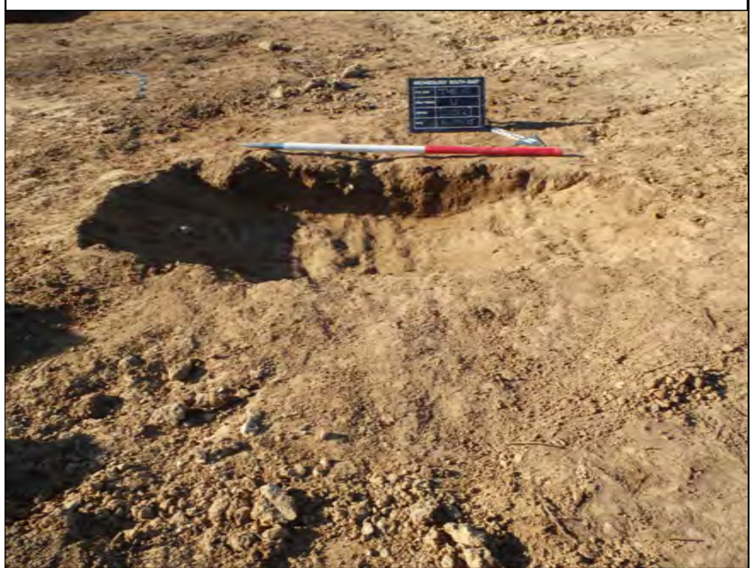
Project Ref: 7547	March 2018	Site T phased plan	
Report Ref: 170402	Drawn by: LG		



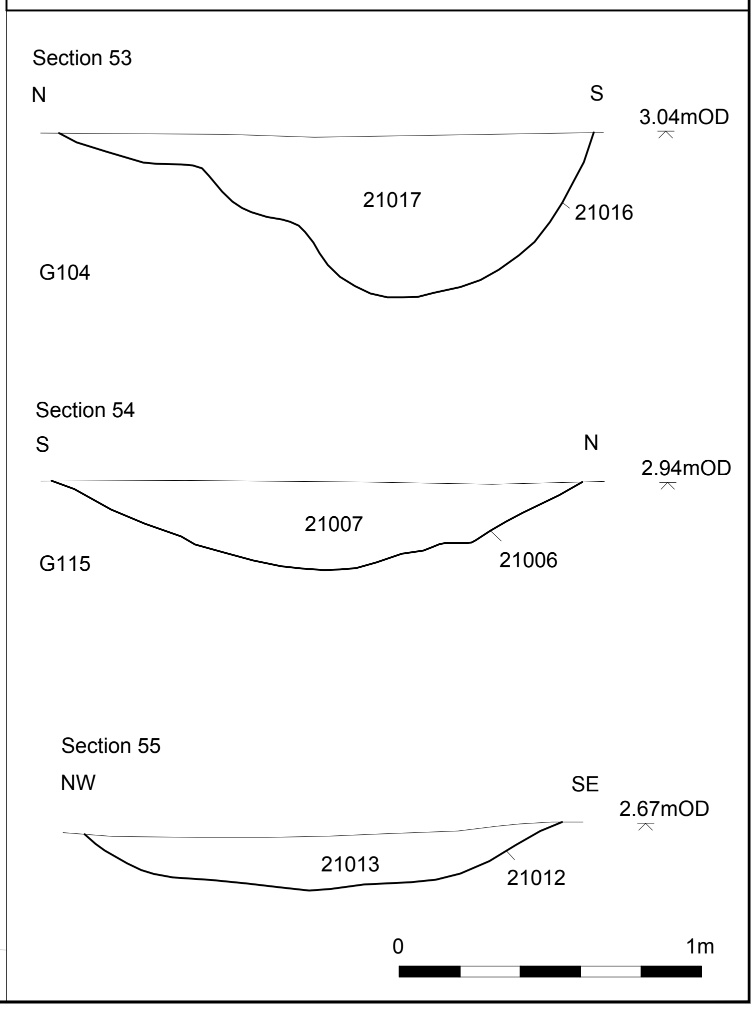
G104 looking east



G115 looking west



G78 looking south-west



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Project Ref: 7547	March 2018	Site U phased plan, selected sections and photographs	
Report Ref: 170402	Drawn by: LG		

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Project Ref: 7547	March 2018	Sample location map	
Report Ref: 2017402	Drawn by: LG		

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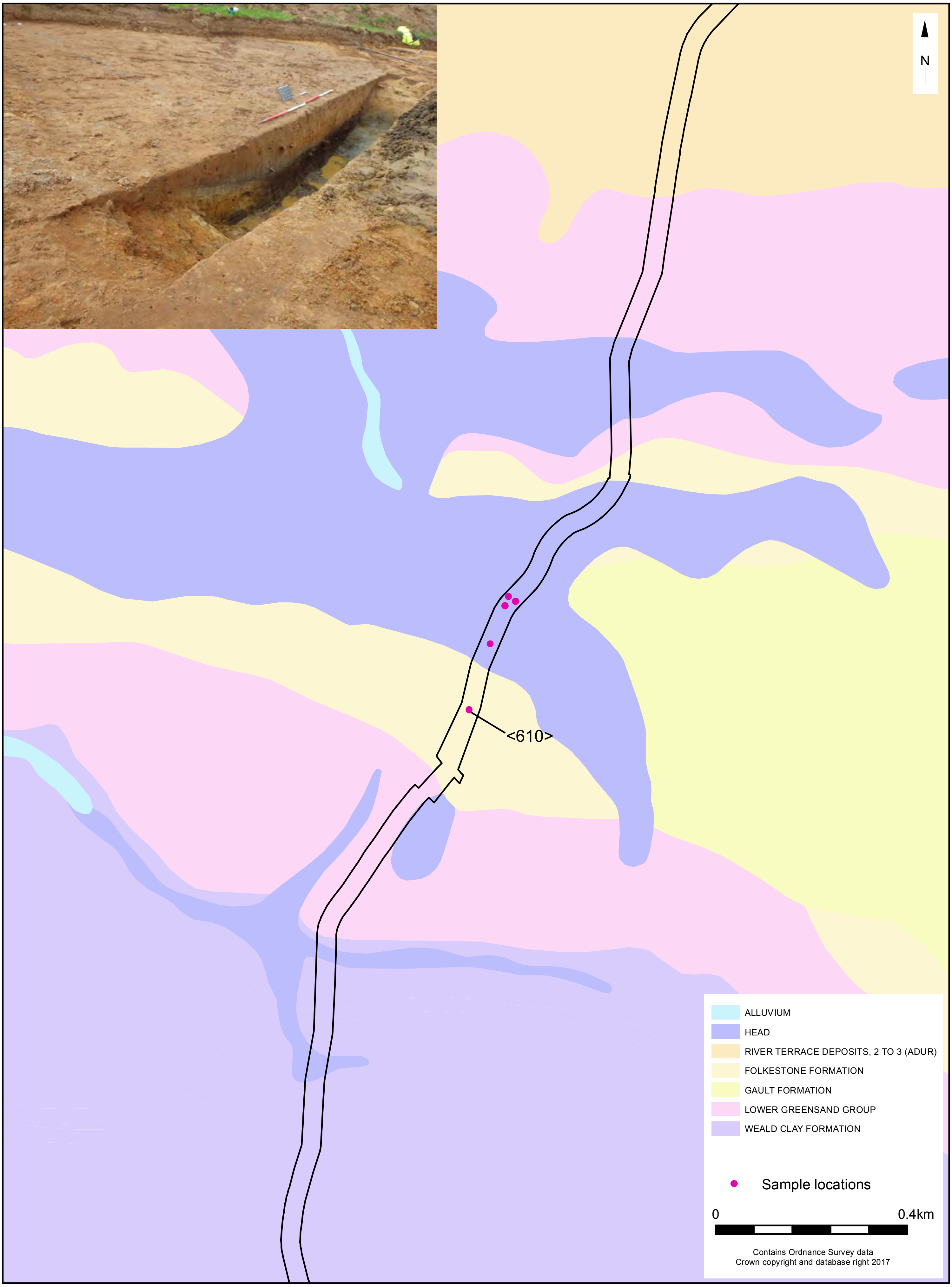
Project Ref: 7547	March 2018	Site F, marshland peat deposit south facing section and geological mapping	
Report Ref: 2017402	Drawn by: LG		



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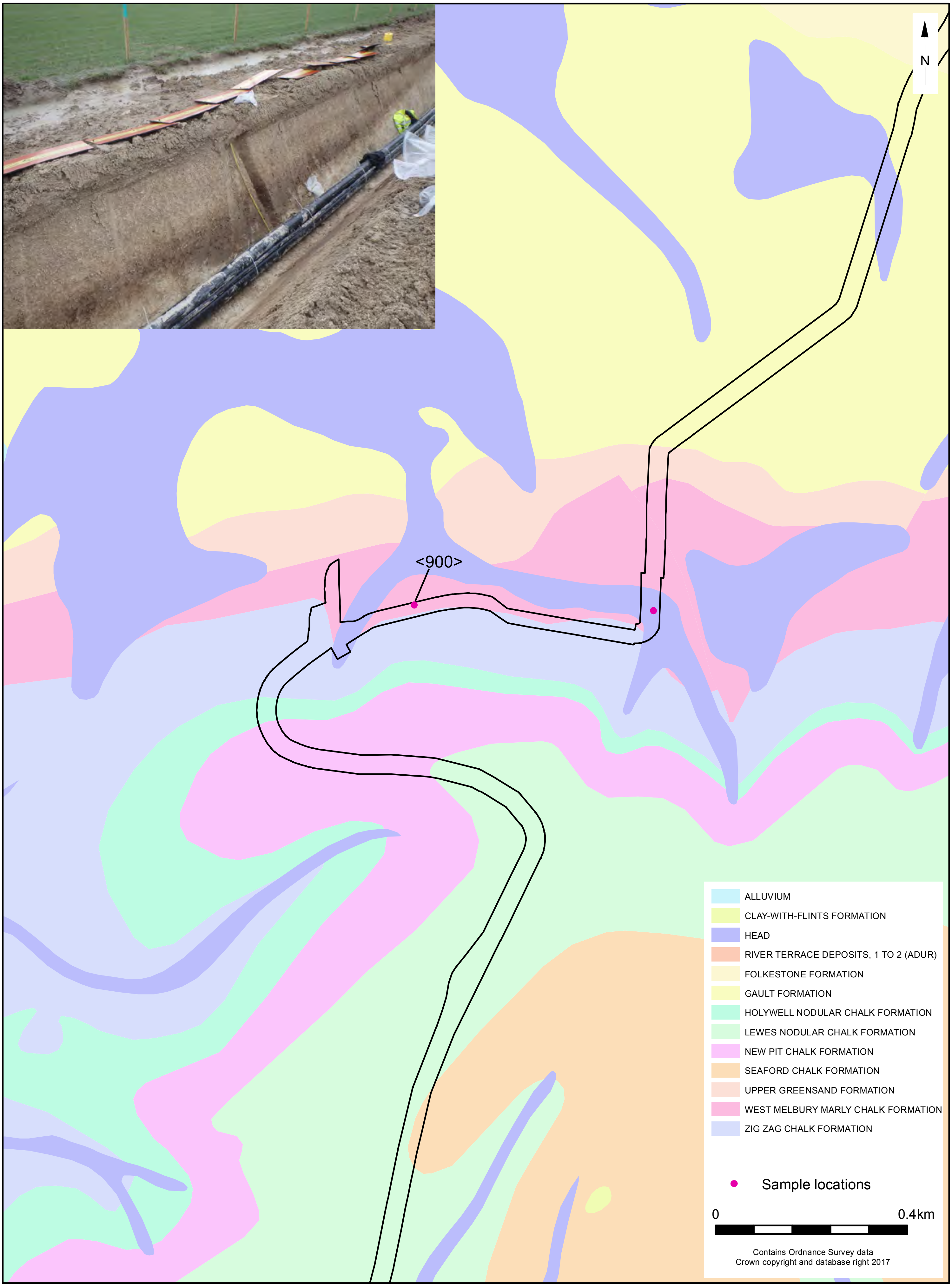
Project Ref: 7547	March 2018	West facing section of 6101, location of sample <610> with geological mapping	
Report Ref: 2017402	Drawn by: LG		



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Project Ref: 7547	March 2018	Dry valley general shot at Edburton, sample location <900> and geological mapping	
Report Ref: 2017402	Drawn by: LG		

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Project Ref: 7547	March 2018	Dry valley general shot at Coombes road, sample location <1502> and Cow Bottom valley, sample location <1501> with geological mapping	
Report Ref: 2017402	Drawn by: LG		

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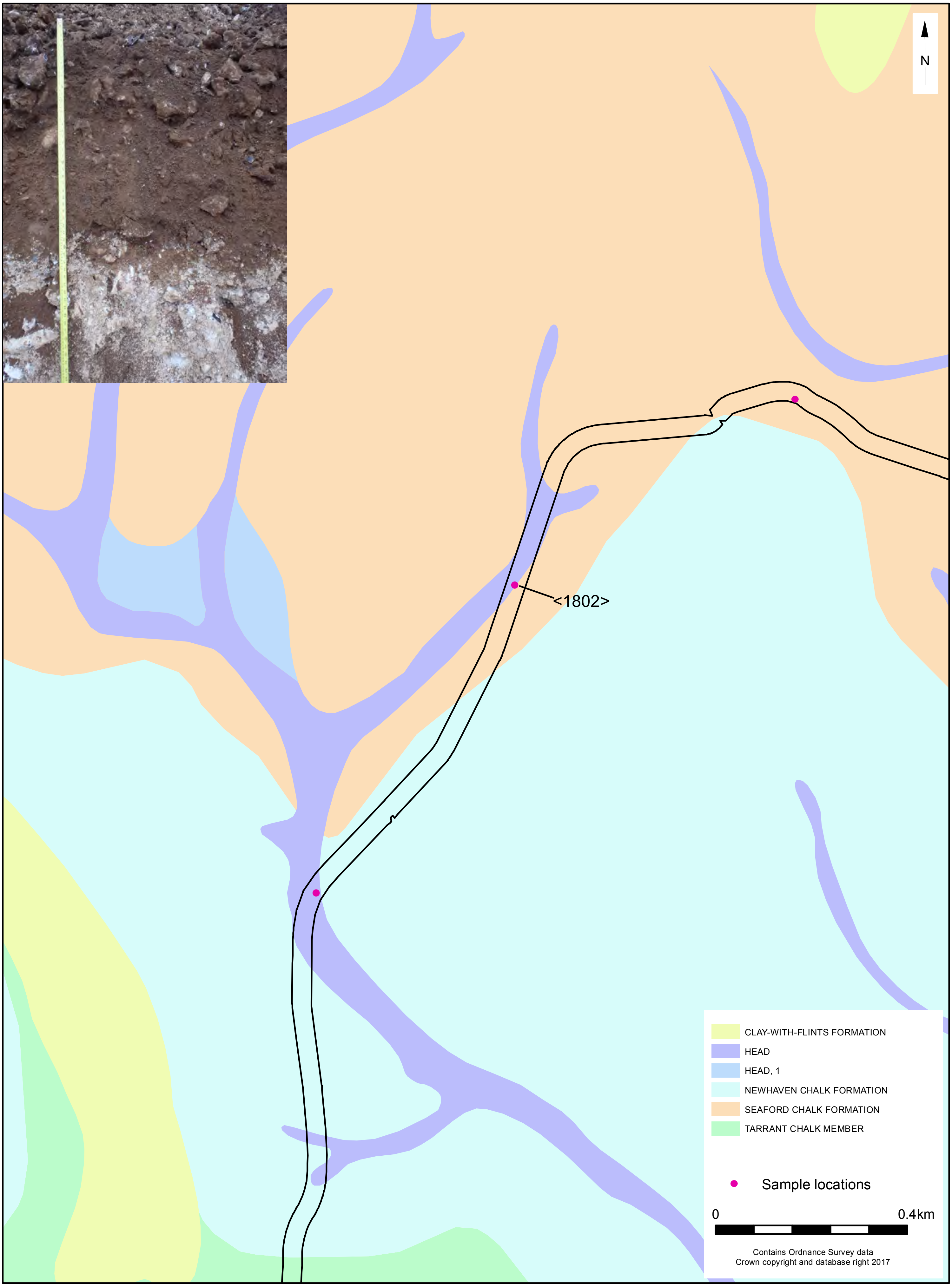
Project Ref: 7547	March 2018	Colluvium at the base of Steep Down Hill and geological mapping	
Report Ref: 2017402	Drawn by: LG		



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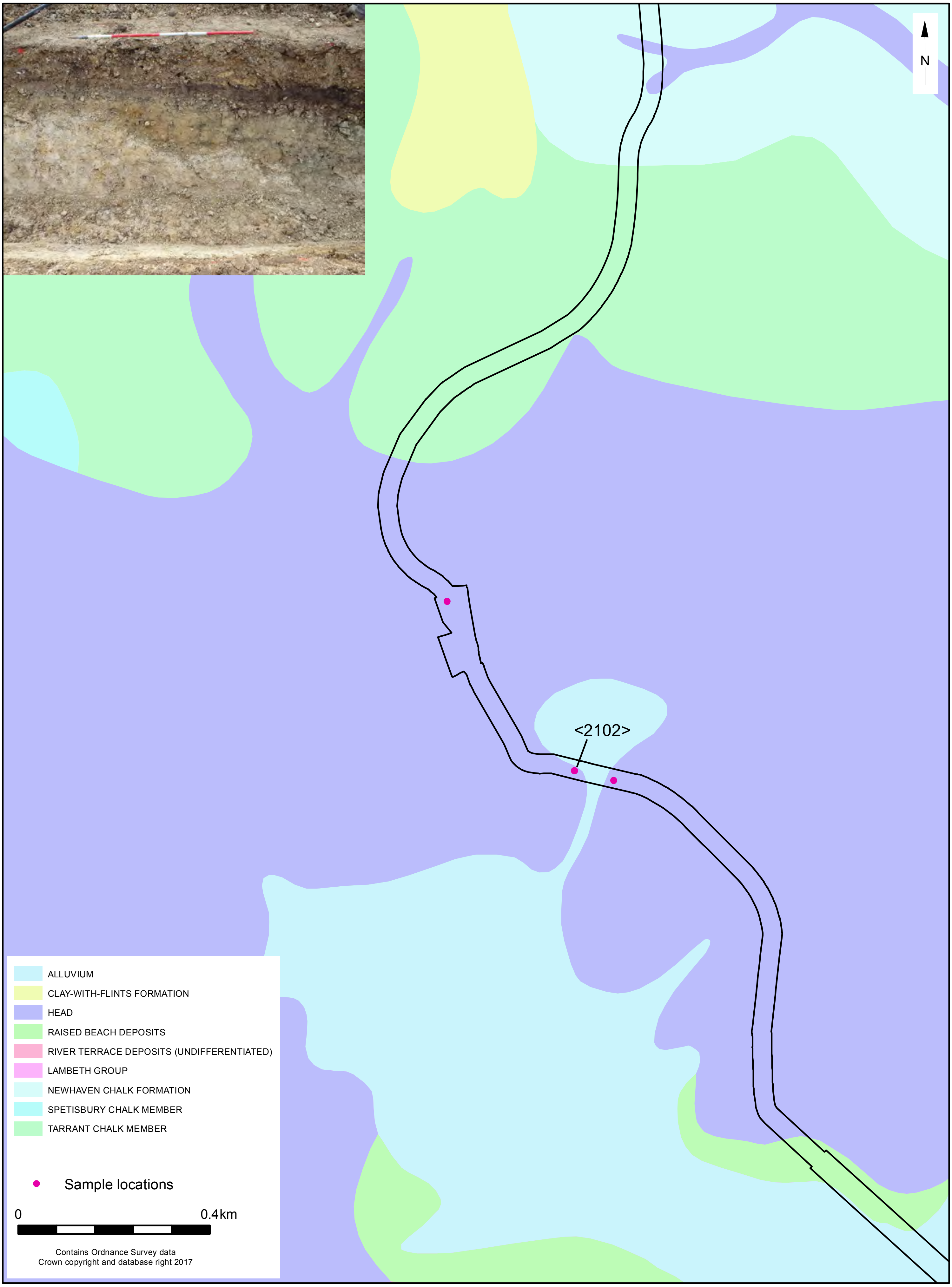
Project Ref: 7547	March 2018	Dry valley sequence <1802> and geological mapping	
Report Ref: 2017402	Drawn by: LG		



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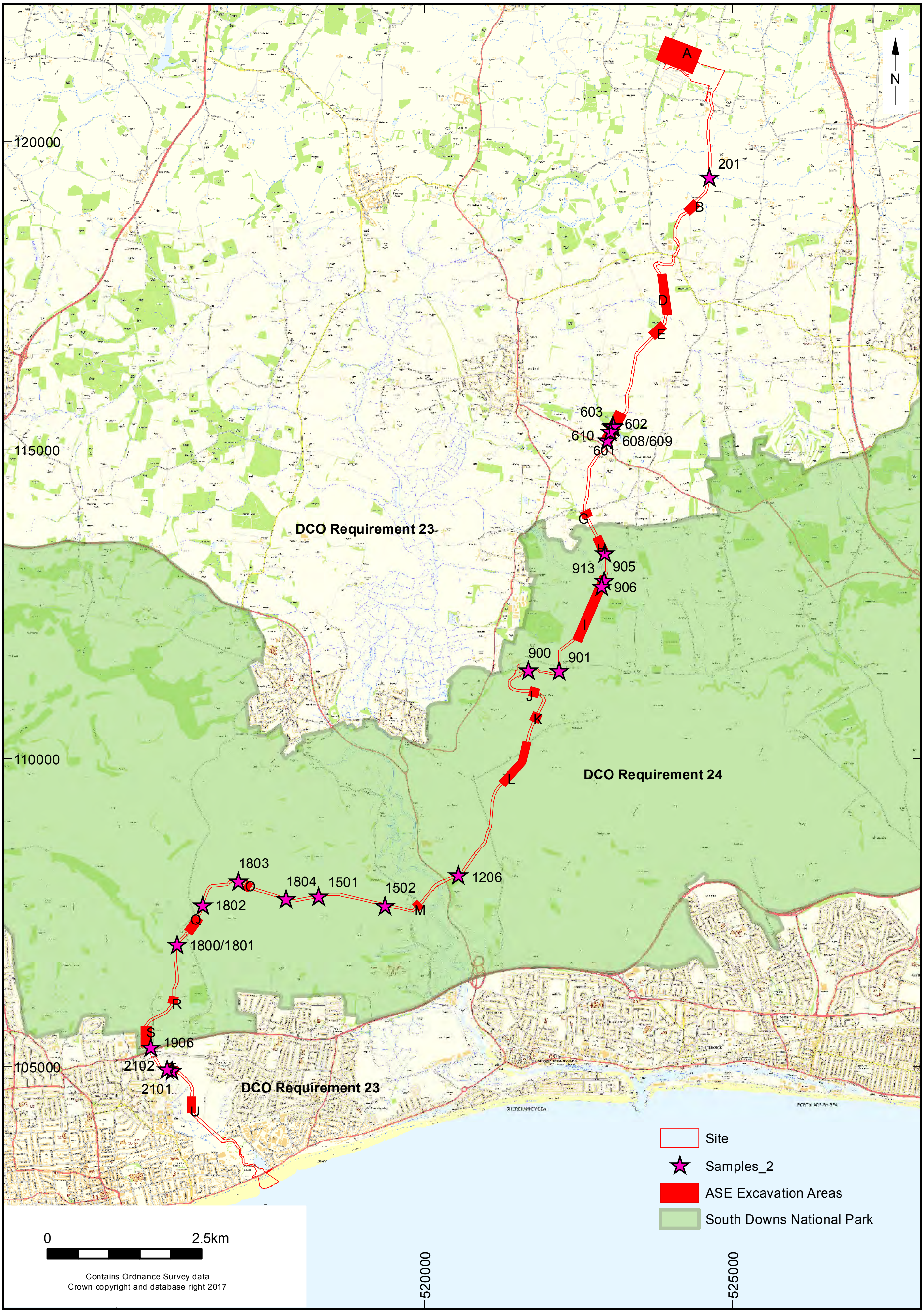
Project Ref: 7547	March 2018	Head and pond deposits at Site T, sample <2102> and geological mapping	
Report Ref: 2017402	Drawn by: LG		



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Project Ref: 7547	April 2018	Site location showing parts of the scheme and archaeological Sites in relation to DCO Requirements	
Report Ref: 2017402	Drawn by: JLR		

Sussex Office
Units 1 & 2
2 Chapel Place
Portslade
East Sussex BN41 1DR
tel: +44(0)1273 426830
email: fau@ucl.ac.uk
www.archaeologyse.co.uk

Essex Office
27 Eastways
Witham
Essex
CM8 3YQ
tel: +44(0)1376 331470
email: fau@ucl.ac.uk
www.archaeologyse.co.uk

London Office
Centre for Applied Archaeology
UCL Institute of Archaeology
31-34 Gordon Square
London WC1H 0PY
tel: +44(0)20 7679 4778
email: fau@ucl.ac.uk
www.ucl.ac.uk/caa