ASE

ARCHAEOLOGICAL WATCHING BRIEF REPORT

MILITARY ROAD RISING MAIN REPLACEMENT CHALK HILL LANE, RAMSGATE KENT

> NGR: 635932,164733 (TR 35932,64733)

ASE Project No: 160866 Site Code: MRR16 ASE Report No: 2016493 OASIS ID: archaeol6-271871



By Giles Dawkes

FINAL REPORT ARCHAEOLOGICAL WATCHING BRIEF MILITARY ROAD RISING MAIN REPLACEMENT CHALK HILL LANE, RAMSGATE KENT

NGR: 635932,164733 (TR 35932,64733)

ASE Project No: 160866 Site Code: MRR16

ASE Report No: 2016493 OASIS ID: archaeol6-271871

Prepared by:	Giles Dawkes	Senior Archaeologist	Cy Paus
Reviewed and approved by:	Dan Swift	Project Manager	M0109-
Date of Issue:	March 2017		
Revision:			

Archaeology South-East
Units 1 & 2
2 Chapel Place
Portslade
East Sussex
BN41 1DR

Tel: 01273 426830 Fax: 01273 420866 email: fau@ucl.ac.uk www.archaeologyse.co.uk

WB: Military Road, Ramsgate ASE Report No: 2016493

Abstract

This report presents the results of the archaeological watching brief carried out by Archaeology South-East on the pipeline between the Military Road Wastewater Pumping Station to the Weatherlees Hill Wastewater Treatment Works, between 27th September and 17th October 2016. The fieldwork was commissioned by Southern Water in advance of the construction of a replacement water rising main pipe.

The excavations identified part of a Middle/Late Iron Age field system, possible barrow ditch and inhumation burial at Chalk Hill. The only later feature found was an Early Anglo-Saxon inhumation. Both of the inhumations were unfurnished and were dated by radiocarbon dating.

It is intended to incorporate these results with those from other sites excavated by Archaeology South-East at Cliffs End and publish them in a monograph, combining the results into a period-based narrative and including thematic landscape discussions.

CONTENTS

1.0	INTRODUCTION
2.0	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND
3.0	ARCHAEOLOGICAL RESULTS
4.0	FINDS AND ENVIRONMENTAL MATERIAL: ASSESSMENT
5.0	DISCUSSION
6.0	FUTURE PUBLICATION

BIBLIOGRAPHY ACKNOWLEDGEMENTS

Appendix 1: Context Register HER Summary OASIS Form

WB: Military Road, Ramsgate ASE Report No: 2016493

TABLES

Table 1: Site archive quantification table

Table 2: Flintwork

Table 3: Quantification of Prehistoric and Roman pottery fabrics

Table 4: The slag assemblage Table 5: Stone assemblage

Table 6: Animal bone fragments recovered

Table 7: Number of identified specimens by period

Table 8: Residue quantification Table 9: Flot quantification

FIGURES

Front Cover: Photograph showing the excavation of a skeleton dating to the Saxon

period

Figure 1: Site location Figure 2: Site plan

Figure 3: Plan and photograph of skeleton [20] Figure 4: Plan and photograph of skeleton [47] Figure 5: Detailed plan of eastern features

1.0 INTRODUCTION

1.1 Site Location

- 1.1.1 The site consists of a linear scheme of *c*. 15m wide corridor, around 6.1 km in length, from The Military Road Wastewater Pumping Station to the Weatherlees Hill Wastewater Treatment Works in Ramsgate (Figure 1). The work involved the replacement of the existing ductile iron rising main.
- 1.1.2 An archaeological watching brief was maintained on the part of the corridor not located along roadways, principally between the Royal Harbour Approach A299 and Sandwich Road, a distance of *c.* 1km.

1.2 Geology and Topography

- 1.2.1 The watching brief was conducted where the corridor crossed the flat top and western slope of Chalk Hill.
- 1.2.2 According to maps of the British Geological Survey (BGS 2016; Sheet 274) the bedrock geology of the site is sedimentary sand, silt and clay of the Thanet formation. These bedrock deposits are preserved on the folded dip slope of the Wantsum syncline. Slightly further north there are outcrops of Upper Chalk of the Margate member. The superficial deposits are recorded as head clay and silts. Several investigations in the vicinity of the site describe the presence of localised head brickearth.
- 1.2.3 The Wantsum Valley (or Wantsum "channel", from the prehistoric to medieval period) is a syncline formed by tectonic folding. Its northern edge forms a chalk ridge that runs east to west across the southern half of the Isle of Thanet. The site is located on the north-eastern side of a dry valley flanking a chalk promontory to the north east, which extends south from the eastern end of Thanet's central chalk ridge toward Pegwell Bay.

1.3 Scope of the Project

- 1.3.1 Underground pipeline works by sewerage companies are generally conducted without planning permission using the development rights afforded by Schedule 2, Part 16 of the Town and Country Planning (General Permitted Development) Order 1995. However, the EMS 252 SWS Environmental Management System Manual states that a Screening Opinion from Local Planning Authority is required for any schemes where the installation of water supply or sewerage pipes where the area of works is greater than one hectare.
- 1.3.2 Accordingly, after a EIA Screening Report was prepared by Atkins on behalf of Southern Water (2013), the scheme was formally given permission under Regulation 5, by the local planning authority, Thanet District Council.
- 1.3.3 On behalf of Southern Water, Simon Mason (KCC) recommended that an archaeological watching brief was appropriate to monitor and record any archaeological remains affected by the groundworks (Atkins 2013).
- 1.3.4 In accordance with this Archaeology South-East (ASE), the contracting division of the Centre for Applied Archaeology (CAA), Institute of Archaeology (IoA),

University College London (UCL) were commissioned by Southern Water to undertake the archaeological watching brief during groundworks.

1.4 Circumstances and Dates of Work

1.4.1 The watching brief was undertaken between the 27th September and the 17th October 2016. The site work was supervised by Giles Dawkes and Garrett Sheehan and the field staff were Steve Price, Sophie Austin and Gemma Ward.

1.5 Archaeological methodology (Figure 2)

- 1.5.1 The pipeline corridor on the north side of Chalk Hill Lane had been machine stripped of overburden prior to the commencement of the watching brief and therefore without archaeological monitoring. After consultation with Simon Mason, it was deemed necessary to re-strip this area by machine under archaeological supervision. The pipeline corridor to the south of Chalk Hill Lane was stripped under archaeological supervision from the start.
- 1.5.2 Additionally, an area to the south of the pipeline was stripped without archaeological monitoring by the local landowner by bulldozer. Access to this area was subsequently granted and the exposed archaeological features were planned by ASE. However, due to the stripping method, and that these features could not be cleaned or excavated by hand, this plan is somewhat tentative.
- 1.5.3 All other excavation areas were machine stripped using a tracked mechanical 360° excavator fitted with both toothed and toothless ditching buckets under archaeological supervision. Overburden deposits (e.g. demolition material, modern made ground) were first removed. Machine excavation was then carried out to the surface of natural geology whereupon archaeological features were exposed. Care was taken not to machine off seemingly homogenous layers that might have been the upper parts of archaeological features. The resultant surfaces were cleaned as necessary and a pre-excavation plan prepared using Global Positioning System (GPS) planning technology in combination with Total Station surveying.
- 1.5.4 This pre-excavation plan was made available in Autocad and PDF format and printed at a suitable scale (1:20 or 1:50) for on-site use. The plan was updated by regular visits to site by ASE surveyors who plotted excavated features and recorded levels in close consultation with the supervisor. Burials were hand planned at a scale of 1:20 and then digitised to the plan.
- 1.5.5 All excavation work was carried out in line with the KCC Standards for Archaeological Fieldwork (2007).
- 1.5.6 All excavated deposits and features were recorded according to current professional standards using standard ASE record sheets.
- 1.5.7 A full digital photographic record of all features was maintained. Black and white, and colour (35mm transparency) photographs were taken of notable features only. This illustrates the principal features and finds both in detail and in a general context. The photographic record also includes working shots to represent more generally the nature of the fieldwork.

- 1.5.8 All finds recovered from excavated deposits were collected and retained in line with the ASE artefacts collection policy.
- 1.5.9 A standard bulk sample size of 40 litres (or 100% of small features) was taken from dated/datable sealed contexts to recover environmental remains such as fish, small mammals, molluscs and botanicals.

2.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 2.0.1 Archaeological investigations have been carried out around western Ramsgate and the wider region since at least the 1840s, but the majority have consisted of small scale rescue excavations or minor research projects. The exception is the excavation in the late 1970s to early 1980's of the Neolithic, Early Bronze Age and Anglo Saxon funerary remains at Ozengell/Lord of the Manor 800m north east of the site. In the past 10 years two significant larger scale archaeological projects have taken place which have greatly added to the archaeological data for the area, and these have recently been published (McKinley et al 2014 and Andrews et al 2015).
- 2.0.2 In 2005, Wessex Archaeology undertook excavations in advance of the construction of a housing development at Cliffs End Farm. The investigation provided extensive evidence for occupation including funerary and ceremonial activity extending from the Beaker or Early Bronze Age periods, through the Iron Age and Anglo Saxon periods, up to the medieval period (McKinley et al 2014).
- 2.0.3 In 2010 Oxford-Wessex Archaeology Joint Venture carried out archaeological excavation in advance of the construction of the A256 East Kent Access Road, Phase II (Andrews et al 2015). The project is referred to as EKAR in the text below. The excavation was divided into 29 working zones; Zones 11-16, 26, 27 and 28 are located to the north-west of the site. The results from these zones demonstrated that the area was the focus of intensive activity dating predominantly from the Iron Age to the Saxon period. Evidence for Early Neolithic occupation was also identified.
- 2.0.4 The archaeological evidence gathered from excavations and cropmarks indicate that there are a number of Late Neolithic to Early Bronze Age ring ditches in the vicinity. A number of Middle Bronze Age pits, urned and unurned cremations have been identified to the north-west. A large number of Iron Age enclosures, pits, trackways, hut circles and ditches have been recorded to the west of the site. Roman pits, ditches and enclosures are also recorded in the vicinity to the west. Anglo-Saxon pits and burial sites have been located to the north.

2.1 Palaeolithic

2.1.1 Little trace for early prehistoric activity is known from Thanet. Evidence is often limited to flint artefacts found residually in later contexts (Moody 2008). No Pleistocene deposits were encountered in the deep trenching undertaken in EKAR zone 26. A possible Late Upper Palaeolithic or Early Mesolithic double burin was found in EKAR zone 13.

2.2 Mesolithic

2.2.1 Mesolithic material is more common than Palaeolithic material, but it is mostly attested by stray finds or small flint scatters, and it is rarely associated with settlement evidence (Moody 2008, 57-61).

2.3 Early Neolithic

- 2.3.1 In the last two decades, Neolithic activity had become increasingly apparent on Thanet. Radiocarbon dates indicate that the area was amongst the first to adopt the characteristics of Neolithic society, early in the fourth millennium BC. Evidence comes mainly from small pits containing material culture. Such pits are often interpreted as evidence of impermanent settlements, and individual pit groups could represent separate visits.
- 2.3.2. A single pit containing six sherds of decorated Early Neolithic pottery was excavated within the EKAR zone 26. A group of nine pits containing early Neolithic pottery possibly associated with 13 further pits in EKAR zone 14 (Andrews et al 2015, 27-8). In addition to the pottery, the pits contained flints, fired clay and charred plant remains. The modelled date from one of the pit is slightly later than those from pits discovered at Westwood Cross. The causewayed enclosure at Chalk Hill, Ramsgate, to the east of the site, is also slightly earlier (Dyson et al 2000). A second causewayed enclosure, at Court Stairs, is also present in the valley.

2.4 Middle Neolithic

2.4.1 In contrast to the Early Neolithic, evidence for Middle Neolithic presence in the search area is more infrequent. Excavations at Cottington Road revealed the presence of pits. And an isolated burial was found in AKAR zone 13 (Andrews et al 2015, 29-31). The C14 dating of this grave is important because other burials from Thanet are not well dated.

2.5 Late Neolithic/Early Bronze Age

- 2.5.1 Evidence for Late Neolithic/Early Bronze Age archaeology is extensive on Thanet. This comes in the form of funerary and other monuments, often crop marks of ring ditches known to represent ploughed out barrows or in some cases hengiform monuments (Moody 2008, 72). Beaker burials without associated monuments are also increasingly common in Thanet, for example Beaker burials within flat graves (i.e. containing beaker pots but without surrounding ring-ditch). In contrast settlement and agricultural features remain sparse.
- 2.5.2 To the north of the site, the A299 follows in part the ancient prehistoric trackway of Dunstrete, which follows the chalk ridge. This routeway was possibly established as early as the Bronze Age possibly for ceremonial use but was certainly an established transit route from the Iron Age onwards. Also in the prehistoric period, dry valleys were running from Pegwell Bay towards the west, north-west and north. These seem to have also been the focus of prehistoric transit routes, with settlement sites ceremonial enclosures and funerary monuments.
- 2.5.3 Late Neolithic/Early Bronze Age archaeology is well represented within the search area. Evidence consist of ring ditches, barrows with burials and other features. Cropmarks of Bronze Age ring ditches and barrows have been identified to the north, east and west, predominantly along the chalk ridge and on the rounded terminals of promontories extending from the ridge.

- 2.5.4 Excavated Late Neolithic/Early Bronze Age and Bronze Age barrows and ring ditches, have been identified in the fields to the north of the A253 near Lord of the Manor and in fields to the south of Manston Airport Runway. Some barrows, notably the one at the Manston Runway Approach site excavated in 1987, contained burials accompanied by grave goods.
- 2.5.5 Late Neolithic/Early Bronze Age ditches containing Peterborough Ware pottery, a sherd of Beaker and a barbed and tanged arrowhead were excavated at the Oaklands Nursery site in 1998.
- 2.5.6 Six Beaker or Early Bronze Age round barrows were excavated at Cliffs End Farm. The barrows were the earliest dateable activity on the site. Soil conditions precluded the survival of bone although graves could be identified. The central burial of one of the barrows included a collection of flint tools and a corroded bronze object. The second barrow had an internal structure of four post holes in a rectangular arrangement. A similar post built structure was found at the centre of a third barrow. The fourth barrow comprised three ring ditches with a rectangular posthole structure at its centre.
- 2.5.7 Two barrows (referred to as Barrow 1 and Barrow 2) were investigated during the EKAR project in zone 13. Cropmarks of a ring ditch and an enclosure were located north-west of the site. The enclosure was identified as Middle Iron Age. The ring ditch, referred to as Barrow 2 did not contain a central burial or any other feature and comprised a single complete circuit that had been recut at some time during the Bronze Age.
- 2.5.8 Barrow 1, also in EKAR zone 13 and located north-west of the site was partially excavated. It extended under the northern edge of the excavation area where it had been destroyed by the cutting for the railway. It consisted of a pair of concentric circular ditches, the inner ditch being broad and shallow with a flat base with at least one break on the southern side. The outer ditch was steep sided with a narrow steeper slot in the base. A number of burials were found within Barrow 1.
- 2.5.9 While Barrow 1 has much in common with the groups of barrows found at Cliffs End Farm and Lord of the Manor (Andrews et al 2015, 45), Barrow 2 is much larger. The feature may have originated as a Neolithic hengiform monument.

2.6 Middle/Late Bronze Age

- 2.6.1 In the Middle/Late Bronze Age more direct occupation becomes evident on Thanet, with a scatter of agricultural settlements often set within an organised landscape of fields and drove roads (Moody 2008, 98-9).
- 2.6.2 At Cliffs End Farm, although there was no evidence for Middle Bronze activities, Late Bronze Age features were well represented. Features such as two and possibly three enclosures, a large mortuary feature and a midden pit provide evidence for domestic, mortuary and ceremonial activities.
- 2.6.3 A Middle Bronze Age isolated urned cremation has been identified north-west of the site in EKAR zone 11, and three urned cremation have been identified in EKAR zone 12. A series of Middle Bronze Age inhumation burials have been found placed between the ditches of the Early Bronze Age Barrow 1, in EKAR zone 13.

- 2.6.4 In EKAR zone 12, a small number of features are likely to form part of an agricultural settlement spanning the Middle to Late Bronze Age. Zones 13 and 14 to the north revealed a linear feature interpreted as a palisade (of a considerable size), field systems and a D-shaped enclosure.
- 2.6.5 Middle Bronze Age ditches and gullies possibly forming part of an enclosure excavated 5 metres to the east of the site (EKAR zone 26, Figure 5) may extend into the eastern side. Some of the ditches belong to field boundaries. Some of them may be contemporary with the D-shaped enclosure in zone 14.
- 2.6.6 Bronze Age metalwork hoards are a common feature of the period in Thanet, and a copper alloy hoard, comprising 31 fragments of ingots and other objects dated between 1200 BC to 700 BC, was found by metal detecting on farmland over 800 metres to the east of the site in 2009.

2.7 Iron Age

- 2.7.1 Ditches, enclosures and trackways broadly dated to the Late Bronze Age to Early Iron Age are very commonly represented in the local area. However, there is some evidence for a contraction in activity in the earliest Iron Age period (c. 800-600) and most of the more substantial elements of Iron Age settlement recorded in the EKAR project, seem to have been founded anew, well into the Early Iron Age proper (Fitzpatrick 2015, 173-174).
- 2.7.2 Similarly, the main period of later prehistoric mortuary activity at Cliffs End Farm, was in the Late Bronze Age. There also appears to have been a hiatus here, before another substantial phase of burial in the 5th-3rd centuries BC. Of over a hundred radiocarbon-dated skeletal remains from the site, only three samples of disarticulated human bone, from the large mortuary feature in the north-east portion of the site, belonged to the earliest Iron Age (*c.* 800-600BC) (McKinley et al 2014, Table 3.1, 68-70).
- 2.7.3 The Early and Middle Iron Age period is extremely well-represented in the local area. An extensive series of Iron Age enclosures, trackways and associated ditches were uncovered in the EKAR project (Andrews et al 2015). In zones 6-7, a settlement was founded in the 6th-4th century around a substantial metalled trackway. Other notable elements from this area included a series of roundhouses and possible four- or six-post structures.
- 2.7.4 A few hundred metres to the north-west of the current site, in Zone 13, a large trapezoidal enclosure was recorded which contained, in its north-west corner a sunken-featured building. This appears to be without contemporary parallel either within Britain or on the near continent. Both the enclosure and the building appear to have been in use in the transitional Early/Middle Iron Age period. Alongside Early/Middle Iron Age pottery, the fills of the structure contained a curated human skull of Early Bronze Age date. The low-levels of finds deposited within the enclosure contrasted with huge numbers of features outside its ditches, containing large quantities of material culture. This evidence was used to suggest that the enclosure and the building may have had a religious function.
- 2.7.5 In Zones 6-7 activity continued and intensified into the Middle and Late Iron Age and new settlements began in various other zones. Activity in the area of

the trapezoidal enclosure was at a lower level of intensity in this period but features in adjacent zones still appeared to respect it. A Middle Iron Age inhumation cemetery was noted in Zone 12, directly to the west of the current site and other individual Middle Iron Age burials were also noted in other areas of the scheme, including a rare example of cremated bone from the Middle Iron Age. Around the same time, a renewed phase of mortuary activity was occurring at Cliffs End Farm directly to the south of the current site (McKinley et al 2014).

- 2.7.6 One of the most significant elements uncovered in the EKAR excavations was a large but short-lived defensive enclosure from the early part of the Late Iron Age, which it was argued, may have been associated with Julius Caesar's campaigns of 55-54BC. Its construction seemed to coincide with a decrease in activity on the nearby settlement sites and the enclosure could not be readily paralleled in Britain though it had some similarities other Roman siege defences. Weaponry, including examples of possible of Gaulish and Roman Republican origin and disarticulated human remains, some of them having suffered traumatic injury, were also noted.
- 2.7.7 A number of metal detecting finds of Iron Age coins have been made over the years in fields at Little Cliffsend Farm between 720 and 900 metres north east, east and south east of the site. The finds recorded on the PAS database include 19 copper-alloy potin coins, 4 copper-alloy and three silver units and two coins of uncertain denomination. An Iron Age bow brooch and a copper-alloy ring have also been found by metal detecting in the same area.

2.8 Roman

- 2.8.1 The wider landscape around the site is very rich in Roman activity with burials and settlement features lining the central chalk ridge along the ancient route of Dunstrete. The remains of a Roman occupation site, suggestive of a nearby villa, were found in 1977 during work to lay a pipeline to the south-west of the site, although no evidence of this type has been noted since.
- 2.8.2 The site lies to the north of the Roman Fort and town at Richborough, which was located at an eastern entrance to the Wantsum Channel, shielded by the Stonar spit. Richborough is traditionally interpreted as the landing point for the Claudian invasion and was certainly established as a major port of entry into Britain from the time of the Roman conquest. From the late 3rd century Richborough was the site of a Saxon Shore Fort
- 2.8.3 The EKAR project (Andrews et al 2015) uncovered widespread evidence of Roman enclosures and trackways but it was noted that it was difficult to identify specific intensive foci of settlement activity. Although some examples of Late Iron Age/early Roman roundhouses were recorded, typical Roman domestic structures were lacking, particularly in the mid and later Roman periods. Instead a very regionally-specific Roman building tradition was recorded comprising sunken featured buildings, often contain substantial hearth features. Although these tend to be interpreted as domestic structures, an industrial purpose could not be ruled out. Five small cemeteries were also recorded in Zones 11, 19 and 20, including cremation and inhumation burials.
- 2.8.4 Evidence for Roman activity on the Cliffs End Farm site directly to the south of the current excavation areas is notably lacking (Mckinley et al 2014). A build-

up of colluvium and a possible stabilisation layer may date to the Late Iron Age/early Roman periods and some relatively poorly-dated enclosure ditches also seem to belong to this period.

2.9 Saxon

- 2.9.1 Thanet is well known for its rich Saxon cemeteries. The Saxon cemetery south of Ozengell Grange is located *c* 400m to the north of the site, the unexcavated portion of the cemetery is a scheduled Ancient Monument. A Saxon inhumation was discovered at Chalk Hill itself during pipeline work in 1995. A cemetery comprising mostly of unaccompanied burials was found in EKAR zone 14. And excavations at Cliffs End Farm revealed small grave groups of early 6th to late 7th century AD. In fact, small Saxon cemeteries appear to spread down the valley side from Lord of the Manor to Cliffsend. Burials are located to the north west and south of the site and further small group of burials of this date could exist on the site.
- 2.9.2 In comparison to the funerary evidence, overall Saxon settlements are less well represented in Thanet. Saying that, the area to the south of Pegwell Bay has traditionally been associated with the landing place of the brothers Hengest and Horsa, the legendary Saxon leaders, as well as the Christian missionary St Augustine. There may have been a village or hamlet, possibly formed from a cluster of farms located at Cliffsend. Settlement in this period is attested by a small cemeteries and archaeological features including huts and structural features, as well as sites for processing marine shellfish, which have been found in several places within the study area, suggesting that there may have been intensive occupation utilizing the coastal resources.
- 2.9.3 A single Saxon Sunken-Featured Building (SFB) was excavated during the construction of a Southern Water pipeline to the west at Cottington Road and two Saxon Sunken featured buildings were excavated to the north-west within EKAR zone 11. A group of 17 rubbish pits dated to the Middle Saxon period were also excavated within EKAR zone 14 to the north west of the site. Pits with occupation debris were found at Cliffsend Farm suggesting a settlement in the vicinity of the cemetery.

2.10 Medieval

2.10.1 Medieval archaeology is less well defined within the area. The nearest evidence of medieval archaeology is located approximately to the south of the site where a medieval ditch, pit and possible tree throw were identified at Cliffsend Farm in 2005. A number of west north west to east southeast aligned ditches were identified to the north west of the site, within the northern part of EKAR zone 11. A medieval pit was identified to the north of the site within EKAR zone 14.

3.0 ARCHAEOLOGICAL RESULTS

3.0.1 Individual contexts, referred to thus [***] not (***), have been sub-grouped and grouped together during post-excavation analysis 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).

3.1 Summary

3.1.1 The excavations identified part of a Middle/Late Iron Age field system and inhumation burial at Chalk Hill. The only later feature was an Early Anglo-Saxon inhumation. Both of the inhumations were unfurnished and have therefore been dated by radiocarbon.

Туре	Description	Quantity
Context sheets	Individual context sheets	59
Section sheets	A1 Multi-context permatrace sheets 1:10	2
Plans	Multi-context DWG plans	2
	A1 permatrace sheets 1:20 or 1:50	
Photos	Black and white transparency films	68
	Colour slide films	
	Digital images	
Environmental sample sheets	Individual sample sheets	7
Context register	Context register sheets	2
Environmental sample register	Environmental sample register sheets	1
Photographic register	Photograph register sheets	3
Drawing register	Section register sheets	1

Table 1: Site archive quantification table

3.2 Natural Deposits

- 3.2.1 Excavations in all parts of the site revealed a typical stratigraphic sequence of 0.20m 0.50m of top and subsoil overlying banded Head clay and chalk natural.
- 3.2.2 In the south-west part of the watching brief, on the downslope of Chalk Hill, a colluvial deposit ([56]) up to 0.6m thick overlying chalk natural was recorded (Figure 2).

3.3 Period 1 Middle/Late Iron Age (c. 200-100/80)

3.3.1 The majority of identified archaeological features are Middle/Late Iron Age. Three individual phases (1.1-1.3) within the period have been identified through stratigraphic analysis, although the finds from all the phases are broadly similar in date. There was also a small amount of Early Roman pottery and ceramic building material (CBM) recovered from some upper fills of the ditches, suggesting that elements of this field system (FS1) survived as landscape features.

Period 1.1 Field System 1

- 3.3.2 Part of a field system (FS1) was exposed sporadically and is represented by small, shallow ditches (G1, G4 and G5), mostly aligned north-west to southeast and north-east to south-west and containing relatively few finds (Figures 2-5).
- 3.3.3 A curvilinear ditch, G3, was also recorded (Figure 4). This was noticeably larger than the other ditches (*c.* 2.5m wide and 0.65m deep), and is thought to possibly correspond to one of the proximate barrows shown on the Kent HER website.

Period 1.2 Field System 1 continues

3.3.3 This phase is solely represented by ditch G2, which was apparently a re-cut / direct replacement of ditch G1 (Figure 5) and suggests that the field system underwent occasional modification and maintenance.

Period 1.3 Open Area 1

- 3.3.4 This phase witnessed the apparent demise of Field System 1, with a grave and a pit dug into silted-up ditches G1 and G2, and G5 respectively.
- 3.3.5 Grave [21] contained a supine, extended inhumation with the legs flexed [20] with head facing to the south-east (see Figure 3). The individual is possibly male aged 30-44 years old There were no grave goods and only a single sherd of Middle/Late Iron Age pottery was recovered from grave fill [19]. A C14 radiocarbon sample from the skull produced a date of 2092±33 BP (SUERC-70631; cal 200-39 BC).
- 3.3.6 Close to the grave to the south was sub-circular pit [42] (Figure 5). The pit was filled with brown clay silts containing a small assemblage of Middle/Late Iron Age pottery sherds. Other pits were seen in the area to the south of the pipeline, and these may have been contemporary features. However, as these could not be excavated, their date remains uncertain.

3.4 Period 2 Early Anglo-Saxon (c. 410-650/700)

- 3.4.1 Adjacent to curved ditch G3 was grave [45] containing skeleton [47] (Figure 4). The skeleton was supine extended with arms placed by the sides. The orientation of the body was north-south and the head in the south. Assessment suggests that the remains of this individual are those of a female of 30-44 years. There were no finds or grave goods with the burial. A C14 radiocarbon sample from the skull produced a date of 1511±33 BP (SUERC-70630; cal AD 428-630).
- 3.4.2 In addition to the skeleton [47] were 5 disarticulated teeth of a child of 3 or 4 and a small amount of burnt bone of indeterminate origin (human or animal).

4.0 FINDS AND ENVIRONMENTAL ASSESSMENTS

4.1 The Flintwork by Karine Le Hégarat

- 4.1.1 A total of 82 pieces of flint weighing 603g were recovered during the strip, map and sample exercise (Table 1). They were found through hand collection and from environmental samples. This total includes 51 chips (less 10mm²), that represents 61.44% of the total assemblage of struck flint. A small amount of burnt unworked flint fragments (661g) were also found from four numbered contexts. No diagnostic tools were found, but based on morphological and technological grounds, the bulk of the assemblage indicates a late prehistoric date (Late Neolithic to Late Bronze Age). Flint knapping carried on during the Iron Age period, and it is possible that some of the pieces are contemporary with the main phase of occupation of the site. A retouched blade appears to be the product of an earlier technology, and it indicates an earlier date (Upper Palaeolithic to Early Neolithic).
- 4.1.2 The pieces of struck flint were individually examined and classified using standard set of codes and morphological descriptions (Butler 2005, Ford 1987 and 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, and where possible dating was attempted. The assemblage was catalogued directly onto a Microsoft Excel spreadsheet, and it is summarised by provisional period in Table 2. The burnt unworked flint was quantified but not examined in details.

Category	Flakes	Irregular waste	Chips	Multiplatform flake cores	Retouched blade	Total
Middle / Late Iron						
Age (periods 1.1, 1.2 and 1.3)	15	6	11	1	1	34
Saxon (period 2)	8	-	40	-	-	48
Total	23	6	51	1	1	82

Table 2: Flintwork

- 4.1.3 The condition of the flint varies from slight to moderate indicating that the bulk of the material has undergone negligible post-depositional disturbance. The raw material used for the manufacture of the flint consists of a dark grey flint with a stained abraded cortex. In total 33 pieces were recorticated light bluish white or white.
- 4.1.4 The flint assemblage is small comprising 83 pieces (including 51 chips). The pieces were recovered from nine features. A total of 34 pieces came from Middle/Late Iron Age contexts including five ditch interventions through four ditches (15 pieces), a grave (six pieces) and a pit (13 pieces). The remaining 48 pieces came from a Saxon grave. The overall assemblage is fairly coherent. It is dominated by knapping débitage. Flakes are numerous, and with the absence of blades and bladelets, the assemblage clearly reflects a flake-orientated industry. The pieces can't be dated with any certainty, but based on technological grounds they are likely to belong to a broad Late Neolithic to Late Bronze Age period. A multiplatform flake core (390g) was found in pit [42]. It was only minimally used to remove some flakes. This is again typical of late prehistoric assemblage.

- 4.1.5 The presence of chips and small thin flakes in Saxon grave [45] suggests that the feature could have disturbed part of an earlier knapping site. Comprising mainly of chips, the assemblage from grave [45] is difficult to date; however, the surface condition of the flints varies from the condition of the flints from the other Middle Late Iron Age feature. The majority of the pieces are recorticated light bluish white. This could indicate an early prehistoric date.
- 4.1.6 A single modified piece was recovered (III. 1). It came from Middle/Late Iron Age ditch [52], fill [55]. The tool, which is entirely recorticated white, is likely to be residual. It is manufactured on a blade, and measures 84mm in length and 19mm in width. It is 15mm thick and weights 33g. Although the platform is plain, it displays blade scar removals on the dorsal face that suggests a blade-orientated industry. The tool exhibits direct abrupt retouch on the lateral edges and partial direct semi abrupt retouch on the distal end. The straight lateral retouch consists of heavily pronounced stepped retouch. The function of this tool is unclear, but it may represents an unfinished end scraper with blunted edges. It can be assigned to a broad Upper Palaeolithic/Early Neolithic date.
- 4.1.7 The small flint assemblage from Military Road has revealed limited evidence for human activity during the prehistoric period. No diagnostic tools were recovered. The earliest piece consists of a possible scraper (III. 1). Based on morphological and technological grounds this piece is likely to belong to a broad Upper Palaeolithic/Early Neolithic period. It could have been curated. Chips and small flakes from context [45] could also indicate an early presence at the site. Otherwise the remaining material suggests a late prehistoric date. Some of these pieces may be contemporary with the Iron Age use of the site.
- 4.1.8 The assemblage has no potential for further analysis and no additional work is proposed.

4.2 Prehistoric and Roman Pottery by Anna Doherty

- 4.2.1 A small assemblage of prehistoric and Roman pottery was recovered during the archaeological strip, map and sample, totalling 131 sherds, weighing 612g. A single bodysherd was stratified with the Phase 1.3 burial [20], which produced a radiocarbon determination placing it in the later Middle Iron Age or very early part of the Late Iron Age. Most of the other pottery, which was assigned to earlier stratigraphic phases within the same broad later Iron Age period, was of similar character; however, it occurred in relatively small and undiagnostic groups, making close dating difficult. In addition, some apparently intrusive Late Iron Age/early Roman material was noted in stratigraphically Middle/Late Iron Age features.
- 4.2.2 The pottery was examined using a x 20 binocular microscope and quantified by sherd count, weight and estimated vessel number (ENV) on *pro forma* records and in an Excel spreadsheet. Fabrics were recorded according to a site-specific fabric type-series in accordance with the guidelines of the Prehistoric Ceramics Research Group (PCRG 2010).
- 4.2.3 Site specific fabric type-series

FLIN1 Sparse, moderately to ill-sorted flint of 0.5-3mm in a very silty matrix

FLIN2 Sparse/moderate, well-sorted flint of 0.5-1mm in a very silty matrix

FLIN3 Sparse/moderate, moderately-sorted flint of 0.5-2mm in a very silty matrix

FLGR1 As FLIN3 with sparse rounded grog of 1-2mm QUAR1 Common quartz of silt-sized to 0.1mm and rare larger grains to 0.4mm SHEL1 Abundant plate-like shell of c.0.2-4mm, possibly from a fresh shell rather than fossil source

Phase 1.1

Most of the assemblage (116 sherds, weighing 531g) was assigned to 4.2.4 stratigraphic Phase 1.1 - from the fills of ditches G3 and G5, within field system FS1 (Table 3). This material is mostly made up by flint tempered wares (FLIN1, FLIN2 and FLIN3) with a few quartz-rich (QUAR1) and shelly fabrics (SHEL1). Notably, ditch cut [48] produced two sherds in mixed flint-and-grog-tempered wares (FLGR1). The forms associated with this phase comprise two partial rims in hand-made beaded to simple short everted rim jars which are fairly typical of the Middle/Late Iron Age transition. Overall then, this assemblage appears similar to material assigned to a ceramic phase dating approximately to 200-100/80BC at the East Kent Access Road project. This was characterised predominantly by flint-tempered wares; however, it was noted that very small quantities of grog-tempering, often in combination with flint or other inclusions, had started to emerge by this point but these wares were nowhere near as common as in slightly later groups dated to c. 100/80BC+ when Aylesford-Swarling style forms – absent from the current assemblage – had also started to emerge (Seager Smith 2015, 198-200).

Fabric		Sherds	Weight (g)	ENV
FLGR1	See site specific fabric description above	3	16	3
FLIN1	See site specific fabric description above	4	51	3
FLIN2	See site specific fabric description above	66	130	17
FLIN3	See site specific fabric description above	28	148	25
QUAR1	See site specific fabric description above	10	42	6
SHEL1	See site specific fabric description above	14	165	1
GROG	Late Iron Age/early Roman grog- tempered wares	4	43	2
OXID	Unsourced Roman coarse oxidised wares	1	2	1
SAND	Unsourced Roman coarse grey wares	1	15	1
Total		131	612	59

Table 3: Quantification of Prehistoric and Roman pottery fabrics, regardless of phase

4.2.5 One intervention through ditch G3, cut [52], contained material which was mostly similar to that described above but it also produced sherds from a well-fired wheel-thrown grog-tempered necked jar and another necked jar in an early Roman sandy grey ware. This material certainly dates to the 1st century AD and therefore appears to be intrusive.

Phase 1.2

4.2.6 Material assigned to Phase 1.2 comprised just 8 sherds, weighing 43g, all from ditch G2, also forming part of field system FS2. The range of fabrics was similar to that recorded in Phase 1.1 features, including flint-tempered wares (fabrics FLIN2 and FLIN3) and a single sherd in a quartz-rich fabric (QUAR1), the latter associated with a partial rim from a hand-made necked jar. A tiny scrap of pottery in a Roman sandy oxidised fabric was also noted in fill [5] of ditch [4] (part of G2); again, this is probably intrusive.

Phase 1.3

- 4.2.7 Similarly seven bodysherds, weighing 38g in fabrics FLIN2 and FLIN3, found in grave [21] and pit [42], assigned to Phase 1.3, cannot be closely dated in themselves, although a single sherd from the former is associated with skeleton [20], radiocarbon dated to 200-39 cal BC (SUERC-70631).
- 4.2.8 The assemblage has no potential for further analysis and no additional work is proposed.
- **4.5** The Fired Clay by Isa Benedetti-Whitton
- 4.5.1 Five pieces of fired clay weighing a total of 30g were collected from three contexts: [49], [54] and [55]. All the fired clay has been recorded on standard recording forms and quantified by fabric, form, and weight. Examination of fabrics was conducted macroscopically and the information on the recording sheets has been entered into an Excel database.
- 4.5.2 None of the clay was in any way diagnostic, although three slight variations of fabric were noticed; the clay from [54] included small sherds of flint; the clay from [55] was calcareous even to the naked eye; the crumb from [49] was very small (<1g) but appeared fine and inclusion free. All the clay was oxidised and the flinty fragment appeared vaguely burnt. However, no indication of original utilization was apparent from any of the fired clay and for this reason it has been discarded.
- 4.5.3 The assemblage has no potential for further analysis and no additional work is proposed.

4.6. The Slag by Luke Barber

- 4.6.1 The archaeological work recovered a tiny assemblage of material initially classified as slag. All of this was recovered from one of five environmental residues. The whole assemblage is listed in Table 4. The minimum weight recorded was 1g and, as many deposits produced less than this the total weight of 13g is more than the true figure.
- 4.6.2 All the samples produced magnetic fines. These consist of rounded granules of ferruginous siltstone that have some magnetic properties that may have been enhanced by heating. This heating could be due to any number of activities, including domestic hearths, and is not an indication of metalworking. Proper slag is represented by almost certainly intrusive pieces of clinker from post-medieval coal burning and a little fuel ash slag that is not diagnostic of process or period.

4.6.3 The assemblage has no potential for further analysis and no additional work is proposed. The material has been discarded.

Context	Sample	Fraction	Туре	Weight (g)	Comments
15	1	>4mm	Fuel ash slag	4	x3 pieces. Grey, very lightweight/aerated
15	1	Magnetic	Magnetic fines	1	0
19	2	2-4mm	Fuel ash slag	1	Granules
19	2	Magnetic	Magnetic fines	1	
44	3	2-4mm	Clinker	1	x1. Black aerated
44	3	Magnetic	Magnetic fines	1	
46	4	2-4mm	Clinker	1	x1. Black aerated
46	4	Magnetic	Magnetic fines	1	
57	7	>8mm	Clinker	1	x1. Black aerated
57	7	Magnetic	Magnetic fines	1	

Table 4: The slag assemblage

4.7 The Glass by Luke Barber

4.7.1 The 2-4mm fraction of sample <2> (context [19]) produced a tiny chip of colourless glass (well under 1g). Although the piece is too small to be certain it is considered likely this is an intrusive late post-medieval piece. The glass has no potential for further analysis and no additional work is proposed. The material has been discarded.

4.8 The Geological Material by Luke Barber

4.8.1 A very small assemblage of stone was recovered from the site. With the exception of some flint pebbles, the material was recovered from one of three environmental residues. The assemblage is fully listed in Table 5.

Context	Sample	Fraction	Туре	No	Weight (g)	Comments
19	2	2-4mm	Coal	5	1	Granules
46	4	2-4mm	Coal	6	1	Granules
57	7	>8mm	Fine siltstone	1		Not calcareous. Dark grey
39			Flint pebble	2		x1 grey, x1 pale red
44			Flint pebble	1	12	Grey
50			Flint pebble	3	28	Grey

Table 5: Stone assemblage

4.8.2 The flint pebbles would be naturally occurring in the area and none show modification at the hand of man and the siltstone could be from a Wealden source, though potentially moved naturally from its source. The coal is clearly intrusive post-medieval granules that correlate with the presence of the clinker.

The stone has no potential for further analysis and no additional work is proposed. The material has been discarded.

4.9 Animal Bone by Hayley Forsyth-Magee

- 4.9.1 Excavations produced a small assemblage of animal bones containing 256 fragments weighing 970g recovered from twelve contexts. The assemblage was retrieved through hand-collection and whole earth samples and is dominated by mammal bones. The faunal remains are in a poor state of preservation with signs of surface erosion evident. Provisional dating indicates that the majority of the assemblage derives from the Middle/Late Iron Age period, predominantly from ditch and pit features.
- 4.9.2 The assemblage has been recorded onto an Excel spreadsheet in accordance with the zoning system outlined by Serjeantson (1996). Wherever possible the fragments have been identified to species and the skeletal element represented. Elements that could not be confidently identified to species, such as long-bone and vertebrae fragments, have been recorded according to their size and categorised as large, medium or small mammal. The assemblage does not contain any measurable bones or ageable mandibles. In order to distinguish between the teeth of sheep and goats, Halstead et al was referenced. 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. Dental wear and ageing horse teeth has been recorded according to Levine (1982). Mammalian metrical data has been taken in accordance with Von den Driesch (1976). Specimens have then been studied for signs of butchery, burning, gnawing and pathology.
- 4.9.3 The faunal remains are in a poor state of preservation with signs of surface weathering (Table 6) and all of the bones were fragmented. The assemblage consists of 256 fragments, of which only 153 fragments have been identified to taxa (Table 7) deriving from the Middle/Late Iron Age period). The majority of the assemblage has been hand-collected with a small quantity of bone retrieved from the whole earth samples <1>, <2>, <3>, <5> weighing 64g, of which 6g contained burnt bone fragments. No evidence of gnawing, pathology or non-metric traits have been observed.

Period	No. Fragments	NISP	Preservat	ion	
			Good	Moderate	Poor
1-Mid-Late Iron Age	255	153	1%	-	99%
2-Early Saxon	1	0	-	-	-
Total	256	153			

Table 6: The total number of fragments recovered, NISP (Number of Identifiable Specimens) counts and percentage preservation based on the NISP.

4.9.4 A limited range of domesticated taxa have been identified (Table 7). Cattle teeth and bones dominate the assemblage, followed by pig, sheep, sheep/goat and horse. Wild taxa are represented by two rodent bones retrieved from whole earth sample <2>. No bird or fish remains are present within the assemblage, this is likely due to the poor levels of preservation and taphonomic processes

affecting survivability. Large and medium mammal bones are present in high quantities also due to poor preservation levels.

	Mid-Late Iro	n Age Periods	;
Taxa	1.1	1.2	1.3
Cattle	14		3
Sheep/goat		1	
Sheep	1		
Pig	3		1
Horse	1		
Large Mammal	82	1	17
Medium Mammal	20		7
Small Mammal (Rodent)			2
Total	121	2	30

Table 7: NISP (Number of Identified Specimens) by Period

Middle/Late Iron Age (Phases 1.1, 1.2, 1.3)

- 4.9.5 The assemblage from the Middle/Late Iron Age phase produced a small assemblage consisting of 255 fragments, of which 153 could be identified to taxa.
- 4.9.6 The Middle/Late Iron Age (Phase 1.1) contained the largest quantity of faunal remains consisting of 121 identifiable fragments from seven ditch fills [37], [39], [49], [51], [53], [54] and [55]. The assemblage contains non-meat bearing bones and teeth from the three main domesticates; cattle, pig, sheep as well as horse. Large and medium mammals are also represented within the assemblage, the majority of which are meat-bearing bones. Poor preservation levels have made the identification of these remains difficult, whereas enamel and the more robust-shaped non-meat bearing bones have survived better, enabling them to be identified further. A single horse tooth from ditch fill [49] has produced an age-estimate of 2-3 years (Levine, 1982). Fusion data is limited and where observable only adult bones have been noted, although both adult and juvenile dentition is present within the assemblage. This suggests that poor conditions have affected the preservation of juvenile bones. No butchery, burning, gnawing, pathology or non-metric traits were observed within this assemblage.
- 4.9.7 The Middle/Late Iron Age (Phase 1.2) produced just two bones from ditch fill [15] sample <1> including a sheep/goat incisor and a large mammal rib fragment. A small quantity of unidentifiable charred and calcined faunal fragments were also recovered from sample <1>.
- 4.9.8 The Middle/Late Iron Age (Phase 1.3) contained a small assemblage consisting of thirty identifiable faunal remains from three contexts; pits [43], [44] and grave fill [19]. Taxa that have been identified include cattle and pig, as well as large, medium and small mammal (rodent) bones. Analysis of element representation indicates that cattle and pig non-meat bearing bones are present, the majority of meat-bearing bones are represented by large and medium mammal bone fragments. Bulk samples <2> and <3> contained a small quantity of unidentifiable charred and calcined faunal remains. Two small rodent bones in very good condition were retrieved from sample <2> which may suggest they were intrusive. Large mammal long bone and dentition fragments, as well as a

male pig canine were also recovered from samples <2> and <3>. Evidence of butchery was observed in one cattle skull horn core fragment from grave fill [19]. The horn core is relatively small and incomplete, signs of chop marks have been recorded to the horn core base and skull. This suggests horn core removal, possibly for horn working. No gnawing, pathology or non-metric traits were observed, no ageable mandibles or measureable long bones were present. Fusion data is too limited to determine whether adults and or juvenile remains are present within this assemblage.

Early Saxon (Period 2)

4.9.9 This period did not produce any identifiable faunal remains. One unidentifiable faunal tooth fragment was recovered from sample <5>. No evidence of butchery, burning, gnawing, pathology or non-metric traits have been noted, and no measureable bones have been recorded.

4.10 Human bone by Dr Paola Ponce

- 4.10.1 Two inhumations were found during the watching brief at Military Road, Ramsgate, Kent. Skeleton [20] was found buried in a grave that cut ditches G1 and G2. It was buried in a supine extended position with the legs flexed and the orientation of the body was east-west with the head facing south-east. Skeleton [47] was buried in a solitary feature, supine extended with the arms placed by the sides. The orientation of the body was north-south and the head was facing south. The degree of completeness in both cases ranged between 75-85% and no grave goods were associated with both of the inhumations. In addition to the above, skeleton [47] was found with 5 disarticulated teeth of a child.
- 4.10.2 Samples from the skull were taken from both skeletons to be radiocarbon dated at SUERC, Radiocarbon Dating Laboratory in Glasgow University (SUERC Ref: 70630, 70631). Burial [20] was dated to the middle/Late Iron Age, 2092±33 BP (SUERC-70631; cal 200-39 BC). Burial [47] was dated to the Early Anglo-Saxon period, 1511±33 BP (SUERC-70630; cal AD 428-630). Environmental samples were taken from the grave fill of skeleton [20] <2> and skeleton [47] <4>, <5>, <6> and the results of this analysis are also included here.
- 4.10.3 The method of analysis consisted of preparing an inventory of all bones present, assessing sex, age, stature and diagnosing any evidence of pathological conditions present. The excavated fills 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.
- 4.10.4 The methods used to estimate sex included the observation of dimorphic traits of the pelvis, sacrum and skull following the standards proposed by Buikstra and Ubelaker (1994). Osteometric analysis was also carried out on the humeral, radial and femoral heads, the bicondylar width, the maximum length of the clavicle and the width of the glenoid cavity of the scapula in order to complement or clarify results obtained with the above-mentioned traits of the skeleton when they provided ambiguous results. These were estimated following Stewart (1979). The age was assessed by observing the degenerative changes of the auricular surface of the pelvis (Lovejoy et al 1985) and the dental attrition (Brothwell 1981).

WB: Military Road, Ramsgate ASE Report No: 2016493

4.10.5 The stature estimation was calculated using preferentially the left femur with an osteometric board following the standards proposed by Buikstra and Ubelaker (1994) and the maximum stature was calculated using the equations of Bennett (1993). 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).

Skeleton [20]

- 4.10.6 The assessment of the biological sex suggested that the remains of this individual were those of a possible male aged 30-44 years old. The stature was estimated to be 170cm.
- 4.10.7 With regards to pathologies, skeleton [20] exhibited signs of having suffered from dental disease, activity-related pathology, metabolic disease and congenital anomalies. Dental disease included the formation of calculus or dental plaque which is a form of hardened accumulation of micro-organisms on the teeth surfaces and the most common dental condition affecting teeth (Hillson 1996). This formation was observed on the lingual aspect of the lower right 2nd molar and lower left 2nd and 3rd molars.
- 4.10.8 Activity-related pathology was represented by the formation of tori mandibularis. These bony protuberances found bilaterally on the lingual aspect of all three molars are believed to result from mechanical stress as a result of chewing pressures (Brothwell 1981).
- 4.10.9 The evidence of metabolic disease was represented by dental enamel hypoplasia (DEH) in a set of mandibular teeth. This 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 and other systemic related conditions (Hillson 1996). In skeleton [20] DEH was observed in the form of linear grooves affecting the lower right and left lateral incisors and canines. In addition to this, marked porosity was found on the right hard palate which has been interpreted as vitamin C deficiency. Although this pattern is also common to infectious diseases (Ortner 2003), in the absence of infected teeth, the most likely likely explanation is metabolic disease.
- 4.10.10The congenital anomaly observed in skeleton [20] was a complete lumbarisation. This condition consists of a caudal shift in which the first sacral segment takes on lumbar characteristics (Barnes 2012).

Skeleton [47]

- 4.10.11Assessment suggests that the remains of this individual were those of a female aged 30-44 years old. The stature was estimated to be 160cm.
- 4.10.12With regards to pathologies, the conditions observed in skeleton [47] were dental disease, infection, degenerative joint disease, and congenital disease. An example of miscellaneous condition in the form of septal aperture was observed in the right humerus. Dental disease consisted in ante-mortem tooth loss (AMTL), periodontal disease, caries and abscess. The only tooth recorded as lost prior to death was the lower right 1st molar. AMTL can result from a number of factors which include trauma, decay, infection, and periodontal

disease; however dental calculus is to be blamed for the majority of tooth loss (Hillson 1996). Although the dentition of skeleton [47] did not appear to be affected by calculus, periodontal disease (PD) appeared to have played a role. Defined as the loss of bone mass around the alveoli or tooth socket due to inflammation of the gingiva (gums) (Hillson, 1996; Roberts and Manchester 2005) this condition was observed affecting the lower right 3rd, 2nd molar and both right premolars.

- 4.10.13Dental caries are destructive lesions that damage the enamel, dentine or cement of the teeth producing the formation of a cavity in the crown or root surface and it is the acid production of bacteria living in dental plaque that is responsible for these lesions (Hillson 1996). A small caries was present on the occlusal surface of the crown of the upper left 2nd molar located on its distal side. Infection was represented by a peri-apical abscess located at the root of the upper left 1st molar. The draining cloaca did not seem to be connected to the maxillary sinus.
- 4.10.14Degenerative joint disease was represented by early signs of joint marginal changes and osteophytes in the neck, at the atlas-odontoid joint. The congenital anomaly observed in skeleton [47] was an incomplete lumbarisation as the union of the 1st sacral segment with the 5th lumbar vertebra took place on the left side.
- 4.10.15Finally, the left humerus displayed a septal aperture, this is a miscellaneous condition characterised by the absence of a septum in the coronoid-olecranon fossae of the distal humerus. It is considered to be a relatively common anatomic variant although gracility has been mentioned as a plausible causative variable (Myszka 2015).
- 4.10.16In addition to these observations, five deciduous teeth of a 3-4 years old child were found with the skeletal remains of skeleton [47]. These were comprised of three maxillary and two mandibular teeth. The former were the left central incisor, canine and cusp of 1st molar. The mandibular teeth were both central incisors. As these teeth were not recorded in situ, the precise information about their place or context of find cannot be explained.
- 4.10.17The results obtained with the environmental samples revealed that in total there were recovered 2113.4grams of human bone. Some of it was identifiable and therefore possible to amalgamate with the corresponding skeleton. The remainder of the bone was assessed as human although it was not possible to identify from which part of the skeleton belonged to.

Discussion

4.10.18The results of this preliminary analysis on these two isolated skeletons are significant because they complement the corpus of knowledge on funerary practices, health and disease that have been reported for Ramsgate and its surrounding during the Middle-Late Iron age and the Early Saxon period. Indeed, as observed during the Iron Age period, the disposal of the dead included a number of varied funerary practices such as burying the person within a grave or cist grave, a small burrow surrounded by ditched enclosures and being part of formal cemeteries (Roberts and Cox 2003).

- 4.10.19With regards to the stature, according to the *Health and Disease in Britain:* From Prehistory to Present Day (Roberts and Cox 2003), the average stature for males during this period ranged from 164 to 174cm with a mean of 168cm. The stature of skeleton [20] was estimated to be 170cm, 2cm above the average for this period.
- 4.10.20In relation to dental health of this individual, the most common pathological conditions present among all teeth present were calculus (mineralised plaque) and dental enamel hypoplasia. Dental disease is a reflection of the subsistence economy maintained during the Iron Age period. According to Roberts and Cox (2003) 7.5% (44/591) of studied individuals from this period exhibit some kind of dental disease. Intensification in agriculture during this period and the consequent reliance on terrestrial foods might have contributed to the poor oral health. However, when these results are compared with those obtained for the Bronze Age period, a notable decline in dental disease and stress is observed, which has been interpreted as reflecting the intensification of agriculture, a better diet or it may reflect a lower disease load in the population (Roberts and Cox 2003).
- 4.10.21With regards to the health and disease, stature is considered a reflection of a combination of factors including environment (nutrition, exposure to hazardous materials, quality of air, water supply) and genetics (Roberts and Cox 2003). The stature of burial [47] was estimated to be 160cm which is slightly below the average height for females during the Early Saxon period. This ranged from 152-170 cm with a mean of 161cm (5ft 3½in) according to Roberts and Cox (2003).
- 4.10.22Skeletal manifestations of disease observed in this individual included dental disease, spinal joint disease and congenital anomalies. In line with the results obtained with skeleton [47] dental conditions such as ante-mortem tooth loss were also reported among the Saxon skeletons from Lord of the Manor, Ozengell (Millard et al 1969). Caries are a reflection of dietary quality of this period (Roberts and Cox 2003). As the only source of sweetening agent at this time was honey, the frequency of caries appears to have declined slightly along with dental abscesses when compared with the Roman period (Roberts and Cox 2003).
- 4.10.23Spinal osteaoarthritis, although common during the early Saxon period as observed in the 1st and 2nd cervical vertebrae of skeleton [47], this condition sees a decline from the Roman period (Roberts and Cox 2003). With agriculture came manual work, mechanical stress and strains on the body. In line with this, the evidence of congenital disease as seen in skeleton [47] in the form of lumbarisation is considered indicative of a more urban and crowded environment with potential for pollution and its side effects (Roberts and Cox 2003).

4.11 Burnt bone by Dr Paola Ponce

4.11.1 A small amount of burnt bone was recovered from the grave fill where skeleton [47] was buried. Carbon dating analysis placed this individual on the Early Anglo Saxon period. Two samples <5>, <6> were taken from this fill (46) and the following sections will deal with the osteoarchaeological analysis of their content.

4.11.2 The excavated fill of the cremation deposit underwent flotation and was processed as an environmental sample. Bone fragments were collected and subjected to careful recording and separated in sieve fractions of 2-4mm, 4-8mm and >8mm. The total of weight of the cremation deposit was established and the assemblage then examined to record the degree of fragmentation and fragment colour.

Results

- 4.11.3 The total amount of bone recovered from both samples was 0.7 grams
- 4.11.4 The only fragment size represented was the 2-4mm and no identifiable fragments were found that could indicate whether these belonged to humans or animals. As sex and age assessments were not possible to be determined no demographic data was yielded. It is for this reason that the interpretation of the function of this bone as to whether they were accidental, incidental or deliberate deposits remains unclear. Finally, no evident pathology was observed in the whole assemblage of burnt bone.
- 4.11.5 With regards to the degree of oxidation of the organic component of bone, it was noted that 100% of the assemblage exhibited a combination of grey and blue hues, thus suggesting an incomplete oxidised process (up to c. 600° C) (Holden et al 1995 a, b).

Discussion

4.11.6 The small assemblage of burnt bone is only of local significance due to its size, degree of fragmentation and the lack of demographic information derided from the material. As it is, it holds no potential for further analysis and no further work is required.

4.11 Environmental Samples by Stacey Adams

- 4.11.1 Seven bulk soil samples were taken during excavations at Ramsgate, Military Road for the recovery of environmental remains such as plant macrofossils, wood charcoal, faunal remains and mollusca, as well as to assist finds recovery. Samples were taken from pit and ditch features as well as from grave fills. The samples largely derive from Middle/Late Iron Age features, part from grave fill [46] which dated to the Early Saxon period.
- 4.11.2 The bulk samples, ranging from 2 to 40 litres in volume, were processed by flotation, in their entirety, using a 500µm mesh for the heavy residue and a 250µm mesh for the retention of the flot before being air dried. The residues were passed through 8, 4 and 2mm sieves and each fraction sorted for environmental and artefactual remains (Table 1). Artefacts recovered from the samples 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 were scanned under a stereozoom microscope at 7-45x magnifications and their contents recorded (Table 2). Where necessary, flots were subsampled and 100ml of the volume scanned. Provisional identification of the charred remains was based on observations of gross morphology and surface structure and quantification was based on approximate number of individuals. Nomenclature follows Stace (1997) for wild plants and Zohary and Hopf (1994) for cereals. No further analysis or identification work was

recommended for the charred plant macrofossils as they were poorly preserved and were only occasional within the flots. Data within this report is solely based on the initial assessment of the flots. Charcoal fragments from the samples were not submitted for identification as they were not present in sufficient quantities (>3g from the >4mm fraction of the heavy residue) to inform on the local environment or fuel selection and use.

4.11.3 Period 1 Middle/Late Iron Age

Samples <1> [15], <2> [19], <3> [44] and <7> [57]

- 4.11.4 Four samples were taken from Middle/Late Iron Age features including ditches [16] and [58], pit [42] and grave cut [21]. The residues contained flint, fire-cracked flint, pottery, glass, stone and industrial material, including slag and magnetic material. Environmental material included animal bone and teeth, burnt bone, marine molluscs and land snail shells. Charred plant remains were recovered from all features, although charcoal fragments were only present in pit [58].
- 4.11.5 The flots consisted of 99% uncharred material, mostly of modern plant material including roots, bread wheat (*Triticum aestivum*) rachis, cereal culm nodes and seeds of goosefoots (Chenopodiaceae). Insect remains and land snail shells were frequent within the flots. Small charcoal fragments (<4mm) were present in all flots, albeit in small numbers. A pig (*Sus* sp.) metatarsal was recovered from pit fill [44] along with smaller fragments of degraded bone.

Charred Plant Macrofossils

- 4.11.5 Charred plant macrofossils were mostly rare within the Middle/Late Iron Age flots and preservation of the material ranged from poor to moderate with many individuals indeterminate or identifiable to genus-level only. Wheat (*Triticum* sp.) caryopses were present in all of the flots, excluding that of ditch [58] which contained only an indeterminate grain. Hulled wheat was noted in ditch [16] and the presence of spelt wheat (*Triticum spelta*) glume bases from the feature make it likely that the grain also derives from this variety. A rounded wheat grain from pit [42] was indicative of the free-threshing variety. However, distortions during the charring process and morphological similarities between wheat species make it difficult to make such distinctions based on the grains alone.
- 4.11.6 Potential arable weeds of small wild grasses (Poaceae) and stitchwort/ campion (Stellaria/ Silene) were identified in ditch [16]. Further identification was not possible thereby omitting any potential ecological data regarding crop husbandry at Military Road. Two large cultivated legumes (Fabaceae) were recorded from ditch [16]. One of the legumes still possessed the fragile testa; the short hilum and distinctive chalaza identified it as garden pea (Pisum sativum).

4.11.7 Period 2 Early Saxon

Samples <4> [46], <5> [46] and <6> [46]

4.11.8 Three samples were taken from the Early Saxon inhumation burial in grave cut [45]. The residues contained small amounts of flint, fire-cracked flint and industrial and magnetic material. Charcoal fragments were absent from the

residue of sample <5> and rare from samples <4> and <6>. Small amounts of bone and teeth as well as burnt bone were recorded from samples <5> and <6> as well as frequent land snail shells.

4.11.9 The flot from sample <4> contained no charred material and solely consisted of modern roots and occasional land snail shells. Samples <5> and <6> contained 99% uncharred material of modern roots and recent seeds of goosefoots (Chenopodiaceae). Land snail shells, including intrusive burrowing molluscs (*Ceciloides*), were abundant and sample <6> contained a small amount of highly fragmented bone. Charcoal fragments from samples <5> and <6> were rare.

Charred Plant Macrofossils

4.11.10 Charred cereal caryopses were present in both samples <5> and <6>. Preservation of the grains was poor, although it was evident that the grain within sample <5> belonged to that of wheat. Chaff was not present to allow further identification. No other charred plant remains were present within the Early Saxon flots.

4.11.11 Discussion

4.11.12 Period 1 Middle/ Late Iron Age

4.11.13 Spelt wheat was the most common cereal cultivated in the south of England in the Iron Age (Greig 1991) and has been recorded from contemporary sites in Kent such as East Hall Farm (Boardman 2007). Spelt is often considered as an autumn-sown crop whilst garden pea is regarded as spring-sown (van der Veen & Jones 2007; Pelling 2004). The presence of both crops at Military Road may indicate the possible employment of a crop rotation scheme throughout the year. Ecological data from arable weed seeds can often confirm such activities, although their paucity prevents this at the site. The positive identification of cultivated legumes from archaeological sites is difficult due to the fragile nature of the diagnostic testa; making it difficult to ascertain the importance of such crops in the Iron Age. Although garden pea has been positively identified at Military Road its presence has only been tentatively identified at other contemporary sites in northwest Kent (Smith 2011).

4.11.14 Period 2 Early Saxon

4.11.15 The poorly preserved cereal grains identified in the grave fill are likely to be intrusive. Similar Saxon burials at Peacehaven, East Sussex (Allott 2015) did not yield any charred plant remains, suggesting that the grains from Military Road do not represent the ritual deposit of food stuffs within funerary context

	-	Table 8: Residue	quar	ntifica	tion (* = 1	-10, *	* = 1	1-50,	*** =	51-2	250) a	and w	eight/	s in g	grams.			_	1		•	_	
Sample Number	Context	Context / Deposit Type	Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charred Botanicals	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Fishbone & Microfauna	Weight (g)	Marine Molluscs	Weight (g)	Land Snail shells	Weight (g)	Other (eg, pot, cbm) (presence/ weight)
1	15	Ditch [16]	40					**	<1	**	8	*	2			*	<1					**	<1	Slag (*/4g) Pot (*/15g) Ind.Mat. (*/<1g) Mag.Mat. (**/<1g) FCF (**/336g)
2	19	Grave Cut [21]	40					*	<1	*	13			*	1			*	<1	*	7			FCF (*/32g) Glass (*/<1g) Mag.Mat. (**/1g) Flint (*/12g) Ind.Mat (*/<1g)
3	44	Pit [42]	40							**	21					*	<1							Pot (*/2g) Ind.Mat. (*/<1g) Flint (***/648g) FCF (*/4g) Mag.Mat. (*/<1g)
4	46	Grave Cut [45]	2			*	<1																	FCF (*/<1g) Ind.Mat. (*/<1g)

Flint (**/12g) (**/1g)

Mag.Mat. (*/<1g) (**/13g)

**

3

Flint

"Ind.Mat. (**/<1g)

Mag.Mat. Ind.Mat. (**/<1g)

<1

<1

5

6

46

Grave Cut [45]

Grave Cut [45]

10

20

<1

Archaeology South-East WB: Military Road, Ramsgate ASE Report No: 2016493

Sample Number	Context		Context / Deposit Ty	Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charred Botanicals	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone >8mm	Weight (g)	Burnt bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Fishbone & Microfau	Weight (g)	Marine Molluscs	Weight (g)	Land Snail shells	Weight (g)	
	57	Ditch [58]		40			**	<1	*	<1													**	<1	Stone (*/10g) FCF (*/2g) Ind.M (*/1g) Mag.Mat. (*/ <1g)

Table 9: Flot quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) (+ = poor, ++ = moderate, +++ = good).

Sample Number	Context	Weight (g)	Flot Volume (ml)	Volume Scanned (ml)	Uncharred (%)	Seeds Uncharred	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications (GB = glume base)	Preservation	Weed Seeds Charred	Identifications	Preservation	Other Charred Botanicals	Identifications	Preservation	Insects, Fly Pupae etc.	Large Mammal Bone	Land Snail Shells	notes
1	15	7	100	100	99	Chenopodiaceae*	*	*	**	Triticum grain, hulled Triticum sp. GB T.spelta GB Cereal grain indet.	++	*	Poaceae (small) Stellaria/ Silene sp.	++	*	P.sativum Fabaceae (large)	++	**		**	Ceciloides ****
2	19	22	150	100	99	T.aestivum rachis* Cereal culm node*	*	*	*	<i>Triticum</i> sp. grain <i>Triticum</i> sp. GB	+								*	**	Pig metatarsal Ceciloides **** Bone = v.frag
3	44	6	50	50	99			**	*	Triticum sp. grain, rounded Triticum sp. GB T.spelta GB	++							*		**	Ceciloides ***
4	46	<1	<5	<5	100															**	
5	46	8	45	45	99	Chenopodiaceae*	*	*	*	Triticum sp. grain	+									***	Ceciloides **
6	46	21	110	100	99	Chenopodiaceae*			*	Cereal grain indet.	+								*	****	Ceciloides ** Bone= v.frag
7	57	4	30	30	99	Chenopodiaceae*	*	**	*	Cereal grain ndet.	+										

5.0 DISCUSSION AND CONCLUSION

Middle/Late Iron Age

- 5.1 Field System 1 can be considered as part of the peripheral fields adjacent to the series of settlements scattered around the north and west sides of Pegwell Bay, c. 1-5kms from Chalk Hill. These settlements are known from the EKAR excavations, and are mainly represented by enclosures, roundhouses, fourpost structures and abundant finds of domestic refuse. This narrow low-lying area, known as the Ebbsfleet peninsular extended into the Wantsum Channel, until it had completely silted-up by the medieval period.
- 5.2 Other ditches, more than likely associated with Field System 1, have previously been excavated in the field to the immediate south of the pipeline easement in the easement for the original water main (Hearne et al 1995, 261-265). Elements of another field system were also identified to the east in the Ramsgate Harbour Approach Road excavations, although this was dated as Late Bronze Age/Early Iron Age (Dyson et al 2000, 470-472). In addition, there is other evidence to suggesting its extent to both the north and south, with some of the adjacent cropmarks visible possibly associated with Field System 1 (for example, TR36SE734; TR36SE17 and TR36SE735).
- 5.3 Any further significance of the grave that was buried at the nexus of two largely filled-up ditches that would still have been visible as landscape features at the time of burial, remains to be explored.

Saxon burials

- Thanet is one of the most abundant areas of Saxon burials in the country and the presence of a grave of this date is of no surprise. In particular, the burial is only *c.* 400m south of the notable Saxon cemetery of Ozengell (Millard et al 1969, 9-30). Unlike the other burials, which were interred with numerous grave goods, including weaponry, burial [46] itself was unremarkable, with no finds recovered. In the 150 years since the initial identification of graves at Ozengell, over 250 inhumations have been exhumed in the wider area (Moody 2008, 162; Andrews et al 2015). Burial [46] can be considered part of this widely-dispersed cemetery that appears to have been attracted to, and deliberately interred with reference to, the still visible Bronze Age barrows at the Lord of the Manor (Moody 2008, 166).
- 5.4 Another possible Saxon burial (TR36SE686), also lacking grave goods, was excavated close to burial [46], c. 20m to the south in the easement for the previous water pipeline (Hearne et al 1995, 266-267). The date of this burial is somewhat uncertain: prehistoric flints were recovered from its fill, but its excavator considered it more likely to be Saxon.
- 5.5 Evidence for the settlements associated with these burials have been identified c. 1km to the north scattered along the higher ground, such as at Manston Road (Andrews et al 2009, 199-247; Dawkes forthcoming).

6.0 FURTHER PUBLICATION

6.0.1 It is intended to incorporate these results with those from other sites excavated by Archaeology South-East at Cliffs End and publish them in a monograph, combining the results into a period-based narrative and including thematic landscape discussions.

BIBLIOGRAPHY

Andrews, P, Egging Dinwiddy, K, Ellis, C, Hutcheson, A, Phillpotts, C, Powell, A B & Schuster, J, 2009 *Kentish Sites and Sites of Kent: a Miscellany of Four Archaeological Excavations*, Wessex Archaeology Report 24, Salisbury

Andrews, P, Booth, P, Fitzpatrick, A P & Welsh, K, 2015 Digging at the Gateway, Archaeological landscapes of south Thanet. The Archaeology of East Kent Access (Phase II), Volume 1: The Sites, Oxford Wessex Monogr No 8

Atkins, 2013 Military Road Rising Main Replacement, EIA Screening Report Southern Water

Aufderheide, A C, & Rodríguez-Martín, C, 1998 The Cambridge Encyclopedia of Human Paloeopathology, Cambridge

Barnes, E, 2012 Atlas of Developmental Field Anomalies of the Human Skeleton. A Paleopathology Perspective, New Jersey

Bennett, K, 1993 A Field Guide for Human Skeletal Identification, Springfield

Bennett, P, Clark, P, Hicks, A, Rady, J, and Riddler, I,2008, *At the Great Crossroads: Prehistoric Roman and Medieval Discoveries on the Isle of Thanet, 1994-5,* Canterbury Archaeological Trust Occasional Paper No. 4

Booth, P, 2015, landscape and landuse, in Andrews et al, 327-364

Brothwell, D, 1981 Digging Up Bones: The Excavation, Treatment, and Study of Human Skeletal Remains, Cornell University Press

Butler, C, 2005 Prehistoric Flintwork, Stroud

Dawkes, G, Hart, D, Grant, K & Swift, D, forthcoming *Beyond the Wantsum: Archaeological Investigations in South Thanet, Kent*, Spoilheap Monogr

Donaldson, K, and Sabin, D, 2016 Land north of Cliffend Road, Cliffsend, Ramsgate, Kent, Magnetometer Survey, Archaeological Survey Ltd, Report 654

Dyson, L, Shand, G, Stevens, S, 2000 Causewayed Enclosures, *Current Archaeology* 168, Vol 14 (12), 470-472

Fitzpatrick, A P, 2015, Discussion, in Andrews et al, 172-194

Ford, S, 1987 Chronological and functional aspects of flint assemblages, in A, Brown and M, Edmonds (eds) *Lithic analysis and Later British Prehistory*, BAR Brit Ser 162, 67-81, Oxford

Halstead, P, Collins, P, and Isaakidou, V, 2002 Sorting the sheep from the goats: morphological distinctions between the mandibles and mandibular teeth of adult Ovis and Capra, Journal of Archaeological Science 29, 543-53

Hearne, C M, Perkins, D R J & Andrews, P, 1995 The Sandwich Bay Wastewater Treatment Scheme Archaeological Project, 1992-1994, *Archaeologia Cantiana* 115, 239-354

Hicks, A, 2008, The Roman settlement, in Bennett et al, 101-278

Hillson, S, 1996 Dental Anthropology, Cambridge

Historic England, 2015, Management of Research Projects in the Historic Environment (MoRPHE)

Holden, J, Phakey, P, Clement, J, 1995a Scanning electron microscope observations of incinerated human femoral bone: a case study, *Forensic Science International* 74,17-28

Holden, J, Phakey, P, Clement, J, 1995b Scanning electron microscope observations of heat-treated human bone, *Forensic Science International* 74, 29-45

Inizan, M-L, Reduron-Ballinger, M, Roche, H, & Tixier, J, 1999 *Technology and Terminology of Knapped Stone,* Tome 5, Cercle de Recherches et d'Etudes Préhistoriques (CREP), Nanterre

Kent County Council, 2007 Standard Specification for an Archaeological Watching Brief/evaluation/excavation

Allott, L, 2015 'Charred Plant Remains' in Hart, D, Around the Ancient Track: Archaeological Excavations for the Brighton and Hove Waste Water Treatment Works and Adjacent Housing at Peacehaven, East Sussex, SpoilHeap Monograph 10, 246-261

Levine, A, 1982 The use of crown height measurements and eruption-wear sequences to age horse teeth, in Wilson, B, Grigson, C, and Payne, S, (eds) *Ageing and Sexing Animals from Archaeological Sites*. BAR Brit Series 109, Oxford; 91-108

Lovejoy, C, Meindl, R, Pryzbeck, T, Mensforth, R, 1985 Chronological metamorphosis of the auricular surface of the ilium: a new method for the determination of adult skeletal age at death, *American Journal of Physical Anthropology*, 68: 14-28.

McKinley, J I, Leivers, M, Schuster, J, Marshall, P, Barclay, A J, and Stoodley, N, 2014 Cliff Ends Farm, Isle of Thanet, Kent: A mortuary and ritual site of the Bronze Age, Iron Age and Anglo-Saxon period with evidence for long-distance maritime mobility, Wessex Archaeology Report 31

Millard, L, Jarman, S, & Hawkes, S C, 1969 Anglo-Saxon burials near the Lord of the Manor, Ramsgate, New Light on the site of Ozgenell?, *Archaeologia Cantiana* 84, 9-30

Miszka, A, 2015 Septal aperture aetiology: still more questions than answers. *Folia Morphologica*, 74(2), 219-24

Moody, G, 2008 The Isle of Thanet from Prehistory to the Norman Conquest, Tempus

Ortner, D, 2003 Identification of Pathological Conditions in Human Remains, Amsterdam

ASE Report No: 2016493

Pelling, R, 2004 'Charred Plant Remains' in Booth, P, and Howard-Davis, C, Prehistoric and Romano-British Settlement at Queen Elizabeth Square, Maidstone Oxford Archaeology Occasional Paper Number 11, 21-24

Robert, C, & Cox, M, 2003 Health and Disease in Britain: from prehistory to the present day, Gloucester

Seager-Smith, R, 2015, Later prehistoric and Roman pottery, in P, Andrews, P, Booth, A P, Fitzpatrick and K, Walsh, *Digging at the Gateway: archaeological landscapes of south Thanet. The archaeology of East Kent Access Phase II, Volume 2: the finds, environmental and dating reports*, Oxford Wessex Archaeology

Serjeantson, D, 1996 The Animal Bones, in S, Needham, and T, Spence, *Runnymead Bridge Research Excavations, Volume 2: Refuse and Disposal at Area 16 East, Runnymead*, London, 194-223

Schmid, E, 1972 Atlas of Animal Bones- for pre-historians, archaeologists and quaternary geologists, Amsterdam

Smith, W, 2011 'Charred Plant Remains' in Simmonds, A, Wenban-Smith, F, Bates, M, Powell, K, Sykes, D, Devaney, R, Stansbie, D, and Score, D, Excavations in North-West Kent 2005-2007: One Hundred Thousand Years of Human Activity in and Around the Darent Valley, Oxford Archaeology Monograph 11, 155-170.

Stace, C, 1997 New Flora of the British Isles (2nd ed), Cambridge

Stewart, T, 1979 Essentials of Forensic Anthropology: especially as developed in the United States, Springfield

Trust for Thanet Archaeology, 2014, Land north of Cliffsend road, Cliffend, Ramsgate, Kent, Archaeological Desk Based Assessment

van der Veen, M, & Jones, G, 2007 'The Production and Consumption of Cereals: A Question of Scale' in Haselgrove, C, and Moore, T, (eds) *The Late Iron Age in Britain and Beyond*, Oxford, 419-429.

Von den Driesch, A, 1976 A Guide to the Measurement of Animal Bones from Archaeological Sites, Peabody Museum Bulletin Harvard University

Zohary, D, & Hopf, M, 1994 Domestication of Plants in the Old World (2nd ed), Oxford

Websites

BGS (British Geological Survey), 2016 http://mapapps.bgs.ac.uk/geologyofbritain/home.html?location=ramsgate&gobBtn=go (Accessed online 21/10/2016)

Boardman, S, 2007 'The Charred Plant Remains and Wood Charcoal' in Stansbie, D, Hayden, C, Foreman, S, and Martin, W, Excavations of a Ring Ditch, Middle to Late Bronze Age and Late Iron Age Field Systems and Medieval Brick Earth Pits at East Hall Farm, Sittingbourne 2005 and 2007. Oxford Archaeology. Available at: http://www.kentarchaeology.org.uk/10/00.htm >

PCRG, 2010, The study of later prehistoric pottery: general policies and guidelines for analysis and publication. Prehistoric Ceramic Research Group Occasional Papers 1&2, 3rd edition,

http://www.pcrg.org.uk/News_pages/PCRG%20Gudielines%203rd%20Edition%20% 282010%29.pdf

ACKNOWLEDGEMENTS

ASE would like to thank Southern Water for commissioning the work and for their assistance throughout the project, and Simon Mason (Archaeologist KCC) for his guidance and monitoring. The excavation was directed by Giles Dawkes with Garrett Sheehan providing secondary supervisory cover. The author would like to thank all archaeologists who worked on the excavations; Justin Russell who produced the figures for this report; Neil Griffin who project managed the excavations and Jim Stephenson who project managed the post-excavation process.

Appendix 1: Context Register

Context	Туре	Interpretation	Parent	Subgroup	Group	Period
1	Deposit	Topsoil	1	1	9	
2	Deposit	Subsoil	2	2	9	
3	Deposit	Natural	3	3	8	
4	Cut	Ditch	4	4	2	1.2
5	Fill	Ditch	4	4	2	1.2
6	Fill	Ditch	4	4	2	1.2
7	Cut	Ditch	7	5	2	1.2
8	Fill	Ditch	7	5	2	1.2
9	Fill	Ditch	7	5	2	1.2
10	Cut	Ditch	10	6	2	1.2
11	Fill	Ditch	10	6	2	1.2
12	Fill	Ditch	10	6	2	1.2
13	Cut	Ditch	13	7	1	1.1
14	Fill	Ditch	13	7	1	1.1
15	Fill	Ditch	16	8	2	1.2
16	Cut	Ditch	16	8	2	1.2
17	Fill	Ditch	18	9	1	1.1
18	Cut	Ditch	18	9	1	1.1
19	Fill	Grave fill	21	10	7	1.3
20	Skeleton	Skeleton	20	10	7	1.3
21	Cut	Grave cut	21	10	7	1.3
22	Fill	Ditch	23	11	1	1.1
23	Cut	Ditch	23	11	1	1.1
24	Fill	Ditch	25	12	2	1.2
25	Cut	Ditch	25	12	2	1.2
26	Fill	Ditch	27	13	1	1.1
27	Cut	Ditch	27	13	1	1.1
28	Fill	Ditch	29	14	2	1.2
29	Cut	Ditch	29	14	2	1.2
30	Fill	Ditch	31	15	2	1.2
31	Cut	Ditch	31	15	2	1.2
32	Fill	Ditch	33	16	1	1.1
33	Cut	Ditch	33	16	1	1.1
34	Fill	Ditch	35	17	2	1.2
35	Cut	Ditch	35	17	2	1.2
36	Cut	Ditch	36	18	5	1.1
37	Fill	Ditch	36	18	5	1.1
38	Cut	Ditch	38	19	5	1.1
39	Fill	Ditch	38	19	5	1.1

Context	Туре	Interpretation	Parent	Subgroup	Group	Period
40	Cut	Ditch	40	20	5	1.1
41	Fill	Ditch	40	20	5	1.1
42	Cut	Pit	42	21	6	1.3
43	Fill	Pit	42	21	6	1.3
44	Fill	Pit	42	21	6	1.3
45	Cut	Grave cut	45	22	8	2
46	Fill	Grave fill	45	22	8	2
47	Skeleton	Skeleton	47	22	8	2
48	Cut	Ditch	48	23	3	1.1
49	Fill	Ditch	48	24	3	1.1
50	Fill	Ditch	48	24	3	1.1
51	Fill	Ditch	48	23	3	1.1
52	Cut	Ditch	52	25	3	1.1
53	Fill	Ditch	52	25	3	1.1
54	Fill	Ditch	52	26	3	1.1
55	Fill	Ditch	52	26	3	1.1
56	Deposit	Colluvium	56	27	9	
57	Fill	Ditch	58	28	4	1.1
58	Cut	Ditch	58	28	4	1.1
59	Deposit	'brickearth' natural	59	3	8	

HER Summary

Site Code	MRR16					
Identification Name and Address	Military Ro	ad, Rams	sgate, Kent			
County, District &/or Borough	Kent					
OS Grid Refs.	TR 35932,	64733				
Geology	Head depo	sits				
Arch. South-East Project Number	160866					
Type of Fieldwork			Watching Brief			
Type of Site	Green Field					
Dates of Fieldwork			27/9/16 – 17/10/16			
Sponsor/Client	Southern V	Vater				
Project Manager	Neil Griffin			 		
Project Supervisor	Giles Dawl	kes			•	
Period Summary				IA		
	AS					

Summary

This report presents the results of the archaeological watching brief carried out by Archaeology South-East on the pipeline between the Military Road Wastewater Pumping Station to the Weatherlees Hill Wastewater Treatment Works, between 27th September and 17th October 2016. The fieldwork was commissioned by Southern Water in advance of the construction of a replacement water rising main pipe.

The excavations identified part of a Middle/Late Iron Age field system and inhumation burial at Chalk Hill. The only later feature founded was an Early Anglo-Saxon inhumation. Both of the inhumations were unfurnished with grave goods and were dated by radiocarbon.

OASIS Form

OASIS ID: archaeol6-271871

Project details

Project name Military Road Ramsgate

> This report presents the results of the archaeological watching brief carried out by Archaeology South-East on the pipeline between the Military Road Wastewater Pumping Station to the Weatherlees Hill Wastewater Treatment Works, between 27th

September and 17th October 2016. The fieldwork was

Short description of the project

commissioned by Southern Water in advance of the construction of a replacement water rising main pipe. The excavations identified part of a Middle/Late Iron Age field system and inhumation burial at Chalk Hill. The only later feature founded was an Early Anglo-Saxon inhumation. Both of

the inhumations were unfurnished with grave goods and were

dated by radiocarbon.

Project dates Start: 27-09-2016 End: 17-10-2016

Previous/future

work

No / No

Any associated

project reference

160866 - Contracting Unit No.

codes

Any associated

project reference

codes

MRR16 - Sitecode

Type of project Recording project

Site status None

Current Land use Cultivated Land 2 - Operations to a depth less than 0.25m

Significant Finds POTTERY Iron Age Investigation type "Watching Brief"

Environmental Assessment regulations Schedule 2 projects **Prompt**

(Discretionary)

Project location

Country **England**

Site location KENT THANET CLIFFSEND Military Road

Postcode **CT11 0LB**

Study area 0.5 Kilometres

TR 35932 64733 51.331999082351 1.387307578154 51 19 55 Site coordinates

N 001 23 14 E Point

Project creators

Name of Organisation

Archaeology South-East

Project brief originator

Kent County Council

Project

Neil Griffin director/manager

Project supervisor Giles Dawkes

Type of

sponsor/funding

Southern Water

body

Project archives

Physical Archive

recipient

Local Museum

Physical Contents "Animal Bones", "Ceramics", "Environmental", "Human Bones"

Digital Archive

recipient

Local Museum

Digital Contents

"Animal Bones", "Ceramics", "Environmental", "Human

Bones", "Stratigraphic", "Survey"

Digital Media available

"Spreadsheets", "Survey", "Text"

Paper Archive

recipient

Local Museum

Paper Contents

"Animal Bones", "Ceramics", "Environmental", "Human

Bones", "Stratigraphic", "Survey"

Paper Media

"Context

available

sheet","Drawing","Photograph","Plan","Report","Section"

Proiect

bibliography 1

Publication type

Grey literature (unpublished document/manuscript)

ARCHAEOLOGICAL WATCHING BRIEF AT MILITARY ROAD

Title

RISING MAIN REPLACEMENT, CHALK HILL LANE,

RAMSGATE, KENT

Author(s)/Editor(s) Dawkes, G

Other

bibliographic

2016493

details

Date 2017

Issuer or publisher Archaeology South-East

Place of issue or

publication

Portslade

Description

grey literature

Entered by

Giles Dawkes (giles.dawkes@ucl.ac.uk)

Entered on

21 December 2016

ASE Report No: 2016493

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)

ARCHAEOLOGICAL WATCHING BRIEF AT MILITARY ROAD

Title RISING MAIN REPLACEMENT, CHALK HILL LANE,

RAMSGATE, KENT

Author(s)/Editor(s) Dawkes, G

Other

bibliographic

details

2016493

Date 2017

Issuer or publisher Archaeology South-East

Place of issue or

publication

Portslade

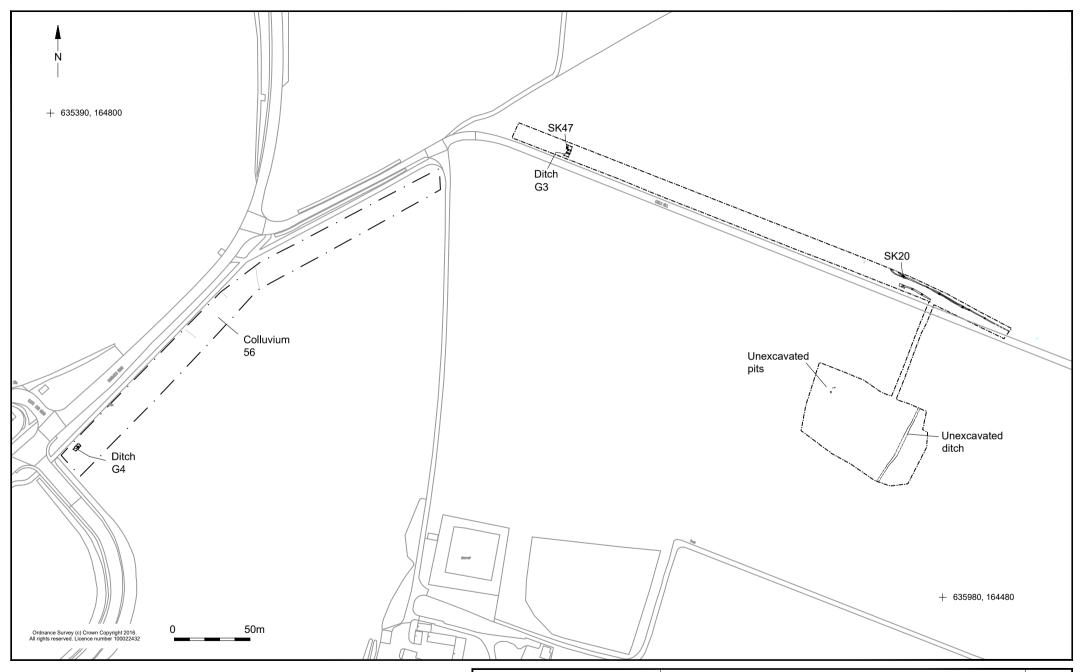
Description grey literature

Entered by Giles Dawkes (giles.dawkes@ucl.ac.uk)

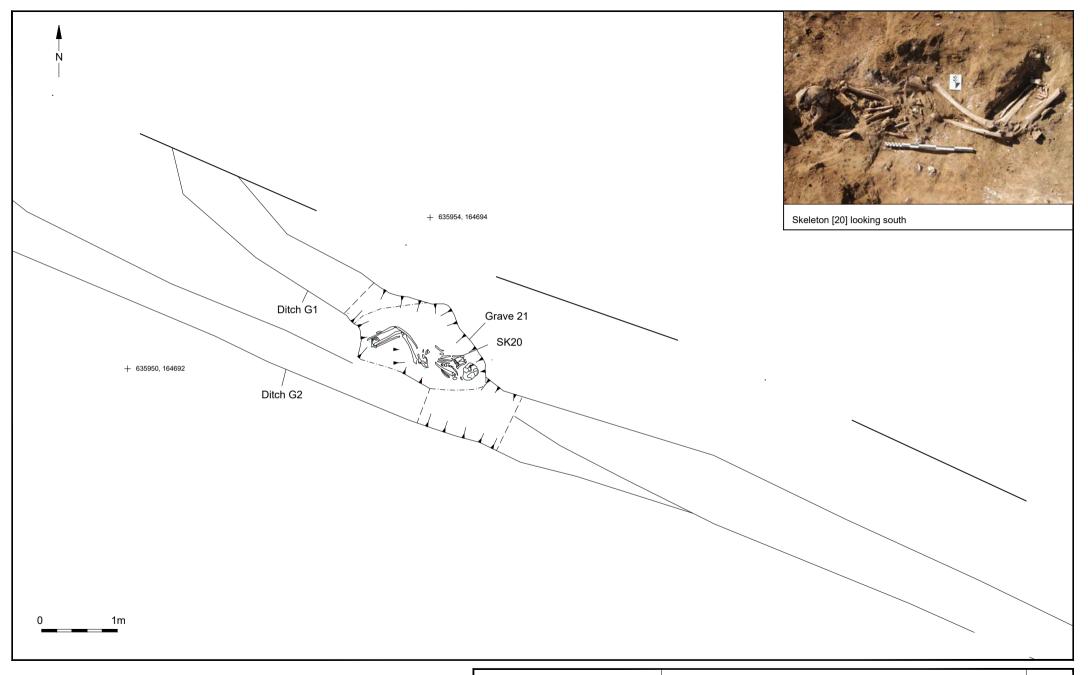
Entered on 21 December 2016



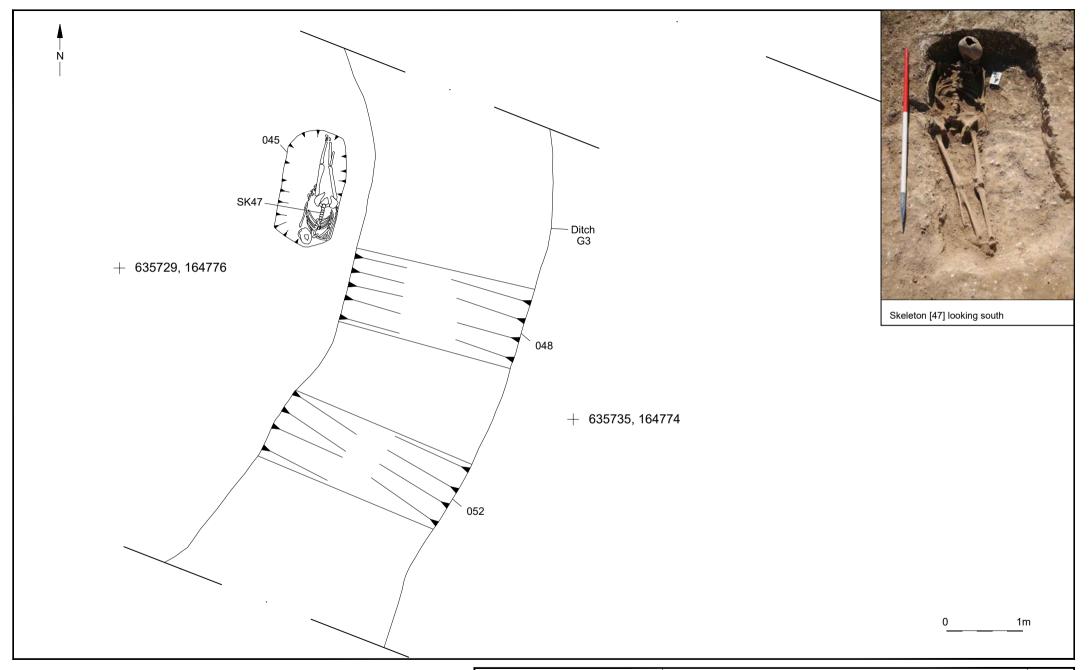
© Archaeology South-East		Military Road Ramsgate	Fia. 1
Project Ref: 160917	February 2017	Site location	i ig. i
Report Ref: 2016493	Drawn by: JC		



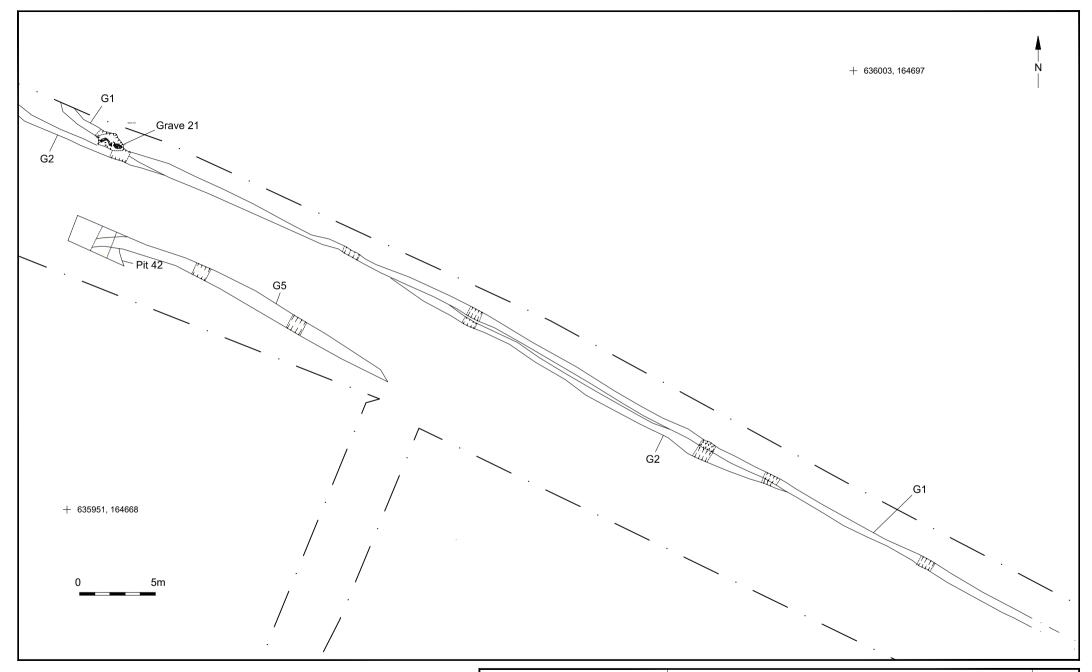
© Archaeology South-East		Military Road Ramsgate	Fig. 2
Project Ref: 160866	February 2017	Site plan	1 lg. 2
Report Ref: 2016493	Drawn by: AR	Site pian	



© Archaeology South-East		Military Road Ramsgate	Fig. 3
Project Ref: 160866	February 2017	Plan and photograph of skeleton [20]	1 19. 5
Report Ref: 2016493	Drawn by: AR	Plan and photograph of skeleton [20]	



© Archaeology South-East		Military Road Ramsgate	Fia. 4	l
Project Ref: 160866	February 2017	Plan and photograph of skeleton [47]	1 lg. 4	l
Report Ref: 2016493	Drawn by: AR			ı



© Archaeology South-East		Military Road Ramsgate	Fig. 5	l
Project Ref: 160866	February 2017	Detail plan for east-end features	1 lg. 5	ı
Report Ref: 2016493	Drawn by: AR			ı

Sussex Office

Units 1 & 2 2 Chapel Place Portslade East Sussex BN41 1DR tel: +44(0)1273 426830 email: fau@ucl.ac.uk

web: www.archaeologyse.co.uk

Essex Office

27 Eastways Witham Essex CM8 3YQ tel: +44(0)1376 331470

tel: +44(0)1376 331470 email: fau@ucl.ac.uk

web: 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

tel: +44(0)20 7679 4778 email: fau@ucl.ac.uk web: www.ucl.ac.uk/caa

