# T H A M E S V A L L E Y

# ARCHAEOLOGICAL

# SERVICES

South Lees Farm, Minster-on-Sea, Sheppey, Kent

**Archaeological Watching Brief** 

by Daniel Bray

Site Code: SMS14/18

(TQ 9520 7076)

# South Lees Farm, Minster, Isle of Sheppey, Kent

# An Archaeological Watching Brief For Solar Century

by Daniel Bray

Thames Valley Archaeological Services

Ltd

Site Code SMS 14/18

# **Summary**

Site name: South Lees Farm, Minster-on-Sea, Sheppey, Kent

**Grid reference:** TQ 9520 7076

Site activity: Watching Brief

**Date and duration of project:** 31st January – 26th February 2014

Project manager: Steve Ford

**Site supervisor:** Daniel Bray

Site code: SMS 14/18

Area of site: 19.10ha

**Summary of results:** Four Late Iron Age urned cremations, damaged by ploughing, were recovered representing the burial of 5 individuals (4 adults and 1 infant). These are most likely part of a larger cemetery in the south-western part of the site. In addition an undated ditch containing oyster shell and three possible pits were observed.

Monuments Identified: Late Iron Age cremation cemetery.

**Location and reference of archive:** The archive is presently held at Thames Valley Archaeological Services, Reading and will be deposited at a suitable museum in due course.

This report may be copied for bona fide research or planning purposes without the explicit permission of the copyright holder. All TVAS unpublished fieldwork reports are available on our website: www.tvas.co.uk/reports/reports.asp.

Report edited/checked by: Steve Ford ✓ 25.03.14

Steve Preston ✓ 25.03.14

# South Lees Farm, Minster, Isle of Sheppey, Kent An Archaeological Watching Brief

by Daniel Bray

**Report 14/18** 

## Introduction

This report documents the results of an archaeological watching brief carried out at on land at South Lees Farm, Lower Road, Minster, on the Isle of Sheppey, Kent (TQ 9520 7076) (Fig. 1). The work was commissioned by Dr Isabel Lisboa of Archaeologica Ltd, 7 Fosters Lane, Bradwell, Milton Keynes, MK13 9HD on behalf of Solar Century, 91-94 Lower Marsh, City of London, SE1 7AB.

Planning permission (SW/13/1202) has been granted by Swale Borough Council for the construction of a solar array park. The consent is subject to a condition requiring the implementation of a programme of archaeological work, which in this case was to take the form of an archaeological watching brief, in order to record any archaeological deposits affected by the proposed ground works.

This is in accordance with the Department for Communities and Local Government's *National Planning Policy Framework* (NPPF 2012), and the Borough Council's policies on archaeology. The field investigation was carried out to a specification (Lisboa 2013a) approved by Mr Simon Mason, Principal Archaeological Officer at Kent County Council. The fieldwork was undertaken by Daniel Bray and Steven Crabb between 31st January and 26th February 2014 with site code SMS 14/18.

The archive is presently held at Thames Valley Archaeological Services, Reading and will be deposited at a suitable museum in due course.

# Location, topography and geology

The site is located on land to the south of South Lees Farm on the Isle of Sheepey in the north of Kent, 1.5km south of Minster (Fig. 1) in the parish of Queenborough. The former island of Elmely is located on lower ground 300m to the south and separated from the site by a former creek. Southlees marshes are also to the south. The natural geology is mapped as London Clay (BGS 1993). The site which is currently used for arable pasture is on a slope rising northwards from the creek towards Minster. At its highest the site lies at 15m above Ordnance Datum but much of it is below 10m AOD. The ground beyond the site rises steeply to the north with Minster occupying a ridge at over 55m.

## Archaeological background

The archaeological potential of the site has been highlighted in a desk based assessment (Lisboa 2013b). In summary the site lies in an area where archaeological finds and sites from the Bronze Age through to the modern period have been recorded. A ring ditch partially lies within the overall site but is outside the area affected by the ground works and a World War II Spitfire crash site is known to the south of the site. The Isle of Sheppey also saw an extensive network of World War I defences. No evidence of these defences or any archaeological features were identified in a magnetometry survey (Bartlett 2013).

Deposits of Bronze Age, Iron Age and Saxon date, including two Bronze Age cremation cemeteries, were identified on a site prior to land fill, 2km north-east, close to Brambledown (Coles *et al.* 2003; Taylor 2004) with an extensive Neolithic complex further to the north-east (Allen 2008).

## Objectives and methodology

The purpose of the watching brief was to excavate and record any archaeological deposits affected by the works.

This would involve examination of areas of ground reduction and the excavation of cable trenches.

The areas observed were to be those containing the substations and adjoining internal access roads as well as the trenches for the direct current and high voltage cables. The topsoil and subsoil would be stripped using a 360° type machine to reveal the archaeological horizon. If archaeological deposits were encountered, these were to be excavated by hand. Cremation burials were whole-earth sampled in 20mm spits, other features were fully excavated within the limits of the trenches. A summary of the excavated features forms Appendix 1.

#### **Results**

# Cable Trenches

Three high voltage cables were initially excavated 0.80m wide and 1.00m deep (Fig. 2 and Pl. 1). HV trench 1 and 2 were roughly 220m in length and aligned north-south. HV cable trench 3 was roughly 360m long and aligned east-west with a 25m north-south section at the western end turning east-west again for a short length.

Ditch 1 was recorded on roughly an east-west alignment towards the southern end of HV cable trench 1 (Fig. 4). This ditch was 1.50m wide and 0.54m deep and was fully excavated within the trench. The single fill (51) was mid brown grey silty clay and contained a large amount of oyster shell but no dateable finds were recovered. It was not seen in the parallel DC cable trench, 15m to the west. Two other features (2 and 3) were recorded as possible pits (Fig. 4). These were both shallow (0.22m and 0.30m deep respectively) and irregular

and might represent natural patches within the clay geology or treeboles. Pit 4 seen in HV cable trench 2 was very similar in character to these features and may also be natural, rather than archaeological in origin. No finds came from any of these possible features.

No features were observed in HV cable trench 3.

Two direct current cable trenches were excavated on a north-south alignment (Fig. 2) each to the west of an HV trench. These were both roughly 330m long and 1.80m wide although for the first 30m at the southern end both were 0.80m wide and 0.60m deep. No archaeological features were recorded and no finds were recovered from these trenches.

## Internal Access Roads

It had been intended to reduce the ground level and use hardcore to make the internal access roads but due to poor weather conditions and a very high water table it was decided to build the road up and therefore no excavation was needed.

#### Substation Bases

A total of six square areas measuring approximately 10m by 10m were excavated prior to a base being cemented for the substations (Fig. 2). These were positioned on the western side, at either end and in the middle of HV cable trenches 1 and 2.

Substation base 2 in the south-west corner of the site revealed four late Iron Age cremations (5–8) which had been damaged by later ploughing (Fig. 3). All four cremations appear to have been buried within urns of which only fragments survive; all four had very similar fills of dark grey silty clay (55) with frequent bone and charcoal and some fired clay. Cremation pit 5 was irregular, 0.60m by 0.20m and just 0.04m deep with a single fill (55) which was sampled as two spits. Cremation pit 6 (Pl. 2) was better preserved, oval, 0.80m by 0.60m but still only 0.08m deep. Its very similar fill (56) was sampled in 4 spits. Cremation pit 7 was an irregular oval, 0.40m by 0.22m and 0.09m deep (3 spits) and finally pit 8 was almost square, 0.30m by 0.25m, with clear plough damage, and survived to 0.10m deep (5 spits).

An unidentified iron object was found within cremation 6 and cremations 7 and 8 produced copper alloy objects which had been on the pyre, one of which was identified as a brooch.

No features or finds were recording from any of the other substation bases (Pl. 3).

#### **Finds**

# Pottery by Malcolm Lyne

A small assemblage of 123 pottery sherds of Late Iron Age date was recovered as detailed in Appendix 2, along with numerous tiny fragments of unfeatured fired clay. The fabric codings are those created by the Canterbury Archaeological Trust for Late Iron Age 'Belgic' pottery from East Kent:

- B1. Polished fine-grog-tempered ware
- B3. Grog and fine calcined-flint tempered ware

## Metalwork by Steven Crabb

Small fragments of copper alloy and iron were recovered from three of the cremations. Iron fragments were recovered from spits 1 and 2 of cremation 6. They are fragments of the same elongated iron object, unfortunately the whole object has not survived therefore it is not possible to determine what they originally formed part of.

Copper alloy fragments were recovered from multiple spits of cremations 7 and 8. Unfortunately the heat of the cremation led to the metal being damaged and distorted to such an extent that identification is not possible. Two small fragments from spit 4 of cremation 8 are however identifiable as fragments of a brooch spring. However the damage means that further identification is not possible. It is also not possible to determine whether they were from the same artefact.

# Cremation burials by Ceri Falys

Four deposits of burnt human bone were recovered within the excavated area (catalogued in Appendix 3 and summarized in Appendix 4, Table 1). The badly disturbed urned cremation burials were each whole-earth recovered on site, in a series of 0.02m thick spits. During the post-excavation processing, the samples containing the bone were floated and wet-sieved to a 1mm mesh size, with all burnt bone and other associated residues separated for further analysis (i.e., copper alloy flakes, corroded pieces of iron, pottery fragments and fired clay).

The bone from each context was sorted using a sieve stack of 10mm, 5mm, and 2mm mesh sizes, and weighed. The relative weights from each of the sieves were recorded, along with information regarding the colour(s) of the burnt bone for each deposit, and the maximum fragment size (Appendix 4, Tables 1 and 2). The degree of bone fragmentation can be inferred by the weight of bone in each category when compared to the fragment size (Appendix 4, Table 2). Although the maximum fragment sizes ranged between 34.3mm and 40.9mm, the majority of bone was smaller than 10mm, making identification specific element or side of the body

impossible in most instances. The small fragment size ultimately decreased the amount of retrievable demographic and pathological data from the remains.

As demonstrated by Table 1, the deposits of human bone varied in quantity, ranging from 71g to 695g. When skeletal remains were investigated from modern crematoria, the amount of burnt bone expected from the cremation of complete adult was found to range between 1001.5g to 2442.5g, with an average of 1625.9g (McKinley, 1993). While the quantity of bone recovered from the four contexts on this site are significantly less than this expected weight range, it is still suggested that all of the deposits do in fact represent cremation burials. The spreads of human bone were found in close association with highly fragmented pottery (pedestal urns), suggesting the bone was deposited into the ground within the urns, and later disturbed by ploughing, destroying the vessel and dispersing the bone.

All pieces of bone were subjected to osteological analysis following the procedures suggested by Brickley and McKinley (2004) and Buikstra and Ubelaker (1994). The purpose of osteological analysis is to determine the demographic profile of skeletal assemblages based on the assessment of age, sex, pathological conditions and non-metric traits that can be extracted from the bones. In addition, the minimum number of individuals (MNI) represented within each context was determined through the identification of duplication of the same skeletal element, or by the presence of age-related development of teeth and/or skeletal element. All but one deposit were found to suggest the presence of one individual (i.e., 55, 56, and 57). Differences in skeletal development of skeletal remains in (58) indicated two individuals were present. A detailed catalogue of all deposits of burnt bone is located in Appendix 3.

The bone was highly fragmented, generally poorly preserved (with a worn and chalky appearance), and uniformly white in colour. This colour indicates the bone was subjected to an efficient cremation process, meaning that adequate time, temperature and oxygen supply was applied to the skeleton to allow for the organic components of the bone to be oxidized.

Initial osteological analysis divided fragments into five main areas of the body: cranial, axial, upper limb, lower limb and long bone (unidentifiable to specific limb). A more detailed identification of fragments to specific skeletal element and side was also attempted, where possible. The most frequently preserved fragments were portions of the cranial vault, tooth roots, and phalanges of the fingers and toes. Small non-descript fragments of tooth crowns and long bone shafts were also exceptionally common.

As the accuracy of skeletal demographic techniques (i.e. age-at-death estimation and sex determination methods) greatly reflect the quantity and quality of observable traits, both the preservation of the remains and the

degree of fragmentation were detrimental to this reliability. Assessments of age were only able to be made based on the degree of fusion of epiphyses of the identified skeletal elements, which only permitted individuals to be allocated into the very general age classifications of non-adult (i.e., < 20 years) and adult (i.e., 20+ years). All four deposits contained the remains of adult individuals, however, a complete small and developing first metacarpal (with unfused epiphyses; Scheuer and Black, 2004) indicated the presence of a perinatal infant (i.e., around the time of birth) in addition to the adult in deposit 58.

The sex of skeletal individuals is commonly determined through the observation of sexually dimorphic aspects of the skull and pelvis of individuals who have passed through puberty. As no diagnostic pelvic or cranial fragments were suitably preserved, it was not possible to assign sex to any individual (i.e., indeterminate sex). While it may be tempting to suggest the adult individual from (58) was female (due to the association with a perinatal baby within the same cremation urn), analysis of the skeletal remains cannot confirm or refute this hypothesis.

Although evidence of pathological conditions and non-metric traits was investigated on all bone fragments, the degree of preservation and fragmentation masked any alterations present. The only other observation of note was green copper staining to a non-descript adult long bone shaft fragment in deposit (58).

To summarize, the four contexts of burnt human skeletal remains were recovered from the investigated area. Each burial was originally deposited into the ground in a pedestal urn, although all were badly disturbed between the time of deposition and excavation. The bone was generally poorly preserved, with a small fragment size, and was uniformly white in colour, indicating the bone was fully oxidized by the cremation process. Each burial contained a single adult individual of indeterminate sex, with the exception of deposit (58), which also contained the remains of a perinatal infant. The preservation of the remains inhibited assessment of pathological alterations or non-metric traits.

## **Conclusion**

The watching brief revealed four late Iron Age urned cremations, damaged by later ploughing. Both the burial rite (cremation followed by burial of the remains and some pyre goods in an urn) and the pottery are typical of the end of the Iron Age. A total of 4 adult individuals and one infant were present although it was not possible from the bones to infer any more about these individuals. Cremation 6 contained an unidentified iron object. A cooper alloy brooch and another unidentified cooper alloy object were recovered from Cremations 7 and 8. It is likely that these cremations form part of a larger cemetery located in the south-western corner of the site,

although small cemeteries, presumed to represent a single family group, are not uncommon in this period. The discovery of a cemetery, even such a small one, of this period is a significant addition to the hitherto somewhat sparse Late Iron Age record for the Isle of Sheppey. Ditches, perhaps droveways, of this period had been recorded at Kingsborough Manor, Eastchurch (WA 2002).

An undated ditch revealed 20m to the north in HV cable trench 1 could be the northern boundary of the cemetery, although as it is around 30m away and no other features were observed in the area between it and the cremations, this can only be speculation.

Three other features recorded as pits revealed no datable material and may be natural rather than archaeological. No other features or artefacts were revealed.

#### References

- Allen, M J, Leivers, M and Ellis, C, 2008, 'Neolithic causewayed enclosures and later prehistoric farming: Duality, imposition and the role of predecessors at Kingsborough, Isle of Sheppey, Kent', *Proc Prehist Soc*, 74, 235–322
- Bartlett, A, 2013, 'Proposed Solar Park at South Lees Farm, Minster on Sea, Kent, Report on Archaeological Geophysical Survey', Bartlett-Clark Consultancy
- BGS, 1993, British Geological Survey, 1:50000, Sheet 252, Drift Edition, Keyworth
- Brickley, M and McKinley, J (eds), 2004, Guidelines to the Standards for Recording Human Remains, IFA Pap 7
- Buikstra, J E and Ubelaker, D H, 1994, *Standards for data collection from human skeletal remains* Arkansas Archaeological Survey Research Series, **44**, Fayetteville, Ark.
- Coles, S, Pine, J and Preston, S, 2003, 'Bronze Age and Saxon landscapes on the Isle of Sheppey: Excavations at Shrubsoles Hill, Brambledown, 1999–2001', in S Coles, S Hammond, J Pine, S Preston and A Taylor, Bronze Age, Roman and Saxon sites on Shrubsoles Hill, Sheppey and at Wises Lane, Borden, Kent, TVAS Monogr 4, Reading, 2–55
- Lisboa, I, 2013a, 'Written Specification for an archaeological watching brief at South Lees Farm, Minster on Sea, Sheppey, Kent', Archaeologica report AC 3211/2, Milton Keynes
- Lisboa, I, 2013b, 'Archaeological Consultancy Report and Desktop at South Lees Farm, Minster on Sea, Sheppey, Kent, TQ 95209 70762' Archaeologica report AC 3211, Milton Keynes
- McKinley, J I, 1993, 'Bone fragment size and weights of bone from modern British cremations and its implications for the interpretation of archaeological cremations', *Int J Osteoarchaeol* **3**, 283–7
- McKinley, J I, 2006, 'Cremation...the cheap option?', in R Gowlands and C Knusel (eds), *Social Archaeology of Funerary Remains*, Oxford, 81–8
- NPPF 2012, National Planning Policy Framework, Dept Communities and Local Govt, London
- Taylor, A, 2004, 'Norwood Landfill phase 5, Shrubsoles Hill, Sheppey, Kent: An archaeological evaluation', Thames Valley Archaeological Services unpubl rep **04/67**, Reading
- Scheuer, L and Black, S, 2004, The Juvenile Skeleton, London
- WA, 2002, 'Kingsborough Manor Development, Eastchurch, Isle of Sheppey, Kent: Watching Briefs, Evaluation and Phase 1, Stage 2 Archaeological Excavation: Assessment Report', Wessex Archaeology unpubl rep 46792.2, Salisbury

# **Appendix 1:** Feature details

Trench	Cut	Fill (s)	Type	Date	Dating evidence
	1	51	Ditch		
	2	52	Pit?		
	3	53	Pit?		
	4	54	Pit?		
	5	55	Cremation	Late Iron Age	Pottery
	6	56	Cremation	Late Iron Age	Pottery
	7	57	Cremation	Late Iron Age	Pottery
	8	58	Cremation	Late Iron Age	Potterv

Appendix 2: Pottery Catalogue

Cut	Deposit	Sample/spit	Fabric	Form	Date-range	No sherds	Wt (g)	Comments
5	55		B1 ox	A1 pedestal urn	c.25BC-AD50	17	138	v. truncated
5	55	<1> spit 1 0m-0.02m	B1 ox Fired clay	As above	c.25BC-AD50	9 20	60 2	
5	55	<1> spit 2 0.02-0.04m	B1 ox	As above	c.25BC-AD50	6	11	
6	56	<2> spit 1 0m-0.02m	B3 bl Fired clay	Pedestal urn	c.25BC-AD1	1 50	3 6	Fresh
6	56	<2> spit 4 0.06-0.08	B3 bl. Fired clay	A1 pedestal urn	c.25BC-AD1	1 10	269 7	v. truncated
7	57	<3> spit 1 0-0.02 m	B1 bl	Neck cordon fragment and bodysherds from vessel below	c.25BC-AD50	30	79	
7	57	<3> spit 2 0.02-0.06	B1 bl	Pedestal urn	c.25BC-AD50	17	45	v. truncated
7	57	<3> spit 3 0.04-0.06	B1 bl	As above	c.25BC-AD50	27	18	
8	58	<4> spit 1 0-0.02 m	B1 bl Fired clay	A3 pedestal urn	c.25BC-AD50	14 50	262 13	Truncated
8	58	<4>spit 2 0.02-0.04	B1 bl Fired clay	A3 urn as above	c.25BC-AD50	4 50	14 20	
8	58	<4>spit 3 0.04-0.06	Fired clay			2	6	
8	58	<4> spit 4 0.06-0.08	B1 bl Fired clay	A3 urn as above	c.25BC-AD50	2 30	42 9	
8	58	<4> spit 5 0.08-0.10	Fired clay			20	3	

# **Appendix 3:** Catalogue of Cremation Burials

#### 5 (55)

Type of deposit: badly disturbed, urned burial

Number of spits: 2 Total weight: 254g

Maximum fragment size: 40.9mm

Age: adult (20+ years, based on dental development)

Sex: indeterminate

<u>Skeletal elements represented:</u> cranium (unfused sutures), teeth (fragmentary crowns, tooth roots have completed development), and a large quantity of non-descript long bone shaft fragments.

Urn and/or grave goods: A1 pedestal urn (suggested pot date: c.25BC-AD50).

### 6 (56)

Type of deposit: badly disturbed, urned burial

Number of spits: 4 Total weight: 695g

Maximum fragment size: 39.5mm

Age: adult (20+ years, based on dental development)

Sex: indeterminate

<u>Skeletal elements represented:</u> cranium (unfused sutures), portion of a humeral head, and a large quantity of non-descript long bone shaft fragments.

Urn and/or grave goods: A1 pedestal urn (suggested pot date: c.25BC-AD50), iron objects.

### 7 (57)

Type of deposit: badly disturbed, urned burial

Number of spits: 3 Total weight: 71g

Maximum fragment size: 35.7mm

Age: adult (20+ years, based on dental development)

Sex: indeterminate

<u>Skeletal elements represented:</u> cranium (unfused sutures), tooth roots (completed development), hands (proximal and distal phalanges, proximal end of right 4th metacarpal), thoracic vertebra (superior articular facet), toes (proximal pedal phalanges), and few non-descript long bone shaft fragments.

<u>Urn and/or grave goods:</u> pedestal urn (suggested pot date: c.25BC-AD50), copper alloy flecks recovered with burnt bone.

### 8 (58)

Type of deposit: badly disturbed, urned burial

Number of spits: 5 Total weight: 332g

Maximum fragment size: 34.3mm

Age: minimum of two individuals: one perinatal infant (around the time of birth), and one adult (20+ years)

Sex: indeterminate

Skeletal elements represented:

Adult: fragments of cranium, mandible, tooth roots (including the completed roots of a mandibular third molar), vertebrae (cervical body, thoracic superior articular facets), manal and pedal proximal phalanges, and a large quantity of non-descript long bone shaft fragments.

Infant: first metacarpal.

<u>Urn and/or grave goods:</u> A3 pedestal urn (suggested pot date: c.25BC-AD50), copper staining on a non-descript long bone shaft fragment.

# Appendix 4: Catalogue of Burnt Human Bone

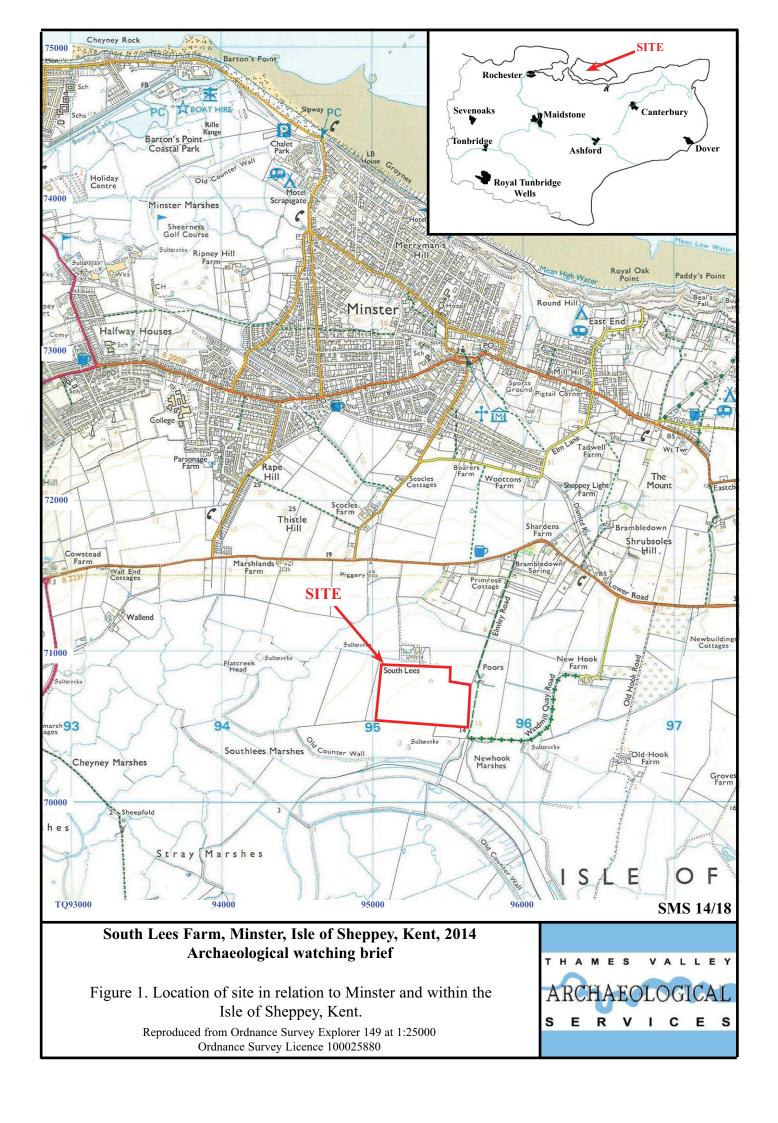
Table 1: Inventory of burnt bone.

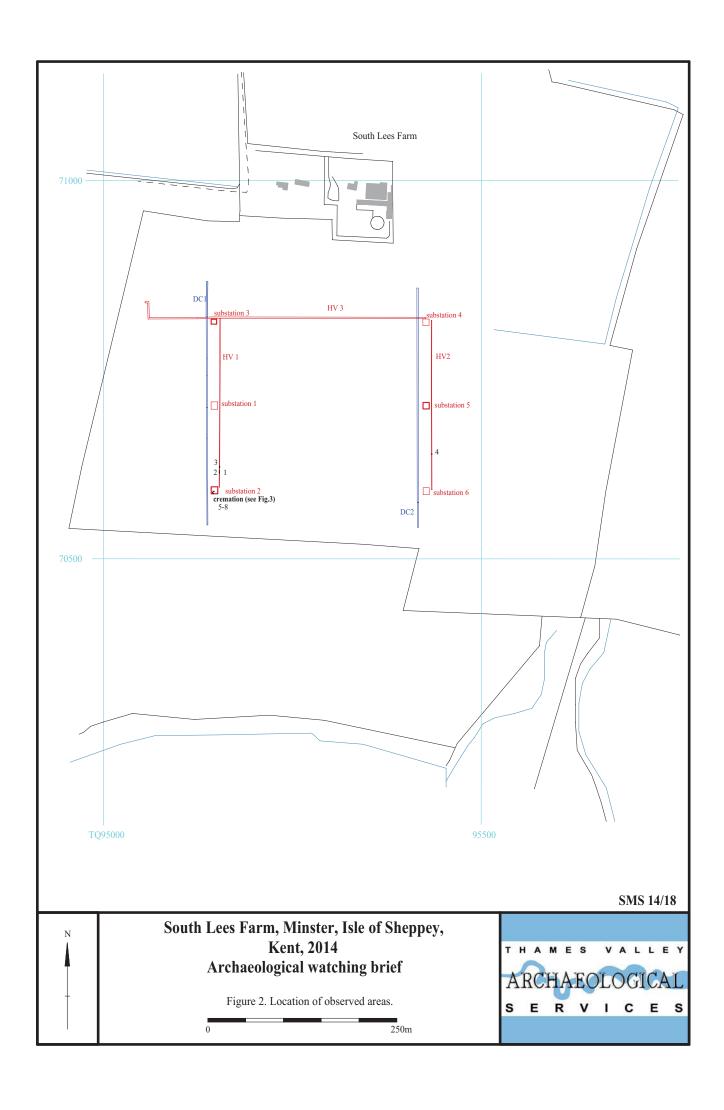
Context		Bone	No. of	Total				Comments
Cut	Deposit	colour	spits	weight MNI (g)		Age	Sex	
5	55	white	2	254	1	adult	I	-
6	56	white	4	695	1	adult	I	iron grave goods
7	57	white	3	71	1	adult	I	copper alloy grave good(s)
8	58	white	5	332	2	perinatal infant, adult	I	copper alloy grave good(s)

Key: I = indeterminate sex, adult = 20+ years

Table 2: Summary of burnt human bone fragmentation.

Context		Max	10mm		5mm		2mm		Total
Cut	Deposit	frag size	(g)	(%)	(g)	(%)	(g)	(%)	Human (g)
5	55	40.9mm	94	37.0	69	27.2	91	35.8	254
6	56	39.5mm	283	40.7	198	28.5	214	30.8	695
7	57	35.7mm	15	21.1	22	31.0	34	47.9	71
8	58	34.3mm	102	30.7	96	28.9	134	40.4	332







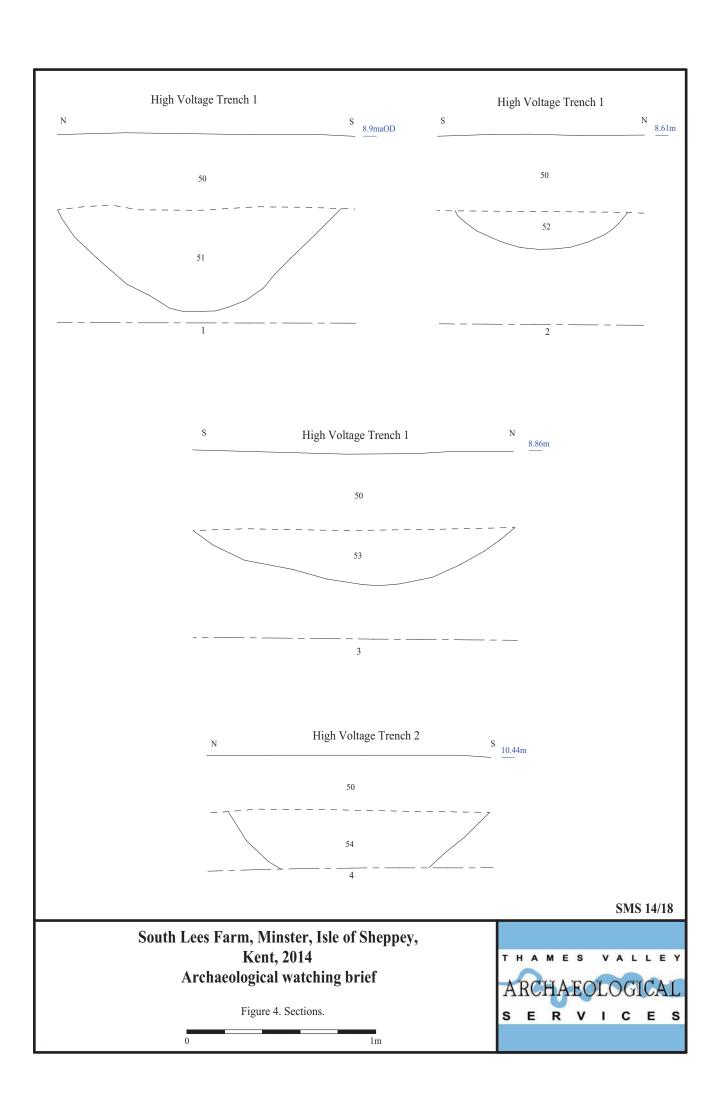




Plate 1. High voltage cable treench 2, looking north, Scales: 2m and 1m.



Plate 2. Substation 2, cremation 6, looking west, Scales: 0.5m and 0.3m.



Plate 3. Substation strip, looking west, Scales: 2m and 1m.

SMS 14/18

Solar Farm, South Lees Fram, Minster, Isle of Sheppey, Kent, 2014, Archaeological watching brief

Plates 1 - 3.



# **TIME CHART**

# **Calendar Years**

Modern	AD 1901
Victorian	AD 1837
Post Medieval	AD 1500
Medieval	AD 1066
Saxon	AD 410
Roman Iron Age	BC/AD
Bronze Age: Late	1300 BC
Bronze Age: Middle	1700 BC
Bronze Age: Early	2100 BC
Neolithic: Late	3300 BC
Neolithic: Early	4300 BC
Mesolithic: Late	6000 BC
Mesolithic: Early	10000 BC
Palaeolithic: Upper	30000 BC
Palaeolithic: Middle	70000 BC
Palaeolithic: Lower	2,000,000 BC
<b>↓</b>	<b>\</b>



Thames Valley Archaeological Services Ltd, 47-49 De Beauvoir Road, Reading, Berkshire, RG1 5NR

> Tel: 0118 9260552 Fax: 0118 9260553 Email: tvas@tvas.co.uk Web: www.tvas.co.uk