An Archaeological Watching Brief at Sissinghurst Castle, Sissinghurst, Kent.

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With contributions by Lucy Allott and Elke Raemen

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Abstract

Archaeology South East were commissioned by The National Trust Ltd to undertake an archaeological watching brief during groundworks associated with the installation of three LPG storage tanks and associated groundworks. Archaeological features were discovered which included walls and brick structures interpreted as probable late post medieval greenhouses and a possible boiler house, within a pipe trench located within the gardener's nursery dated to the 19th century. The confidence rating is high the best results were achieved.

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1.0 INTRODUCTION

1.1 Site Background

1.1.1 Archaeology South-East, a division of University College London Centre for Applied Archaeology (UCLCAA), were commissioned by the National Trust to undertake a watching brief at Sissinghurst Castle, Sissinghurst, Kent (NGR 580702 138296), henceforth called the site (Figure 1).

1.2 Geology and Topography

1.2.1 The site lies 1.5km to the east of the village of Sissinghurst, 600m north of the A262 and 3.5km north-east of Cranbrook, Kent. The property is situated on a spur of land at c. 55m AOD. The underlying geology according to the Ordnance Survey geological survey of Great Britain, scale 1;50 000 (Sheet 304- Tenterden), is Tunbridge Wells Sand.

1.3 Planning Background

1.3.1 An application for the installation of three underground LPG storage tanks and associated pipelines on the site had been granted by Tunbridge Wells Borough Council. Two of the tanks are located to the north of the gardener's workshops and the castle farmhouse and one to the west of the warden's cottage (Fig 2). The open trenched pipelines associated with the works ran along the driveway of the gardener's cultivation area.

1.3.2 An archaeological evaluation was undertaken on the site in advance of the works (ASE 2008a). Due to The National Trust's commitment to maintain a high regard for the protection of its heritage sites, it was agreed by Caroline Thackray (National Trust Territory Archaeologist) that a watching brief be maintained during all groundworks associated with the new development works.

1.3.3 It was considered likely that any archaeological deposits or features encountered during the works would be destroyed, it was therefore considered necessary to preserve the features by record.

1.4 Aims and Objectives

1.4.1 The general aim of the archaeological work was to ensure that any features, artefacts or ecofacts of archaeological interest that would be affected by the proposed groundworks were recorded and interpreted to appropriate standards.

1.4.2 A specific aim was to ascertain whether there was any evidence of structural remains associated with the structures depicted on 18th century illustrations in front of the west entrance range of Sissinghurst Castle.

1.5 Scope of Report

1.5.1 This report represents the findings of the archaeological watching brief undertaken by Sarah Porteus (archaeologist) on 22nd, 23rd & 29th September

and 20th of October 2008, Paul Riccoboni (senior archaeologist) on the16th September 2008, 6th and 7th October 2008. The project was managed by Giles Dawkes (Fieldwork) and Louise Rayner (Post Excavation).

2.0 ARCHAEOLOGICAL BACKGROUND

2.1 The archaeological background of the site is detailed in the Written Scheme of investigation (ASE 2008b) that information is reproduced below with additions.

2.2 The architectural history of Sissinghurst Castle and Gardens has been researched by Nigel Nicholson (Nicholson 1990). The present buildings and garden were restored and developed by Vita Sackville-West and Harold Nicholson during the 20th century around the remains of buildings of broadly 16th- century date. It is thought that the west range is a survival of an earlier Tudor mansion that in turn replaced a moated manor house that may have existed here since the 12th century and was demolished in 1490. Two arms of the moat still survive as water features, enclosing an area today called the Orchard, with a filled-in arm of the moat to the south.

2.3 The site changed in ownership and use during the post-medieval period and is detailed by The National Trust (2008) and summarized below. Following a downturn in the fortunes of the Baker family, who had owned and built the Elizabethan buildings and occupied the site from 1480AD, the site was turned over to the government in 1756 for use as a prisoner of war camp. Following the end of the war the buildings were greatly damaged and were occupied by the poor, many of whom worked at the neighboring brickworks. The site was then purchased in 1855 by the Cornwallis family who built the Castle Farmhouse as the castle itself was considered uninhabitable. It was from the Cornwallis family that Vita Sackville-West purchased the property in 1930.

2.4 The site is not scheduled although the buildings themselves are listed.

2.5 A geophysical survey (both Resistivity and Magnetometer) of the Orchard, Tower Lawn and Courtyard was undertaken in 1991 (Bartlett 1991). This survey concluded that although weak resistivity anomalies were produced, the dimensions and distributions of features were interpreted as possible wall footings and robber trenches. However, no clear picture emerges, though some linear features would appear to coincide with the projected Elizabethan house.

2.6 An archaeological watching-brief undertaken by ASE between November 2000 and January 2001 during groundworks associated with the installation of water pipes at Sissinghurst Castle Gardens (ASE 2001) located evidence of probable demolition deposits in close proximity to where the evaluation trenches were located. Broken tile fragments were interpreted as relating to a small building depicted on an engraving of 1760 and 18th century prisoner's drawing. What appears to be a well and other smaller structures were present to the south and west of this building. Further east, evidence

for the survival of stone and brick footings in the area known as the Orchard between the South Cottage and the Priest's House were located. The small size of the observed trenches and their distribution meant that no detailed interpretation of the remains could be made. However, the results do demonstrate the survival of in situ structural remains at the site and, in conjunction with the results of the earlier geophysical survey (Bartlett 1991) it was recommended that the Orchard in particular should be considered an area of high archaeological potential.

2.7 The archaeological evaluation undertaken in advance of the present works was undertaken on the lawn area to the north of the Gardener's workshops and the Castle Farmhouse (ASE 2008a). The two evaluation trenches identified a 20th century demolition deposit and a second possible 18th century deposit, though no significant archaeological features or deposits were identified.

2.8 The table below details the HER data recorded within a 500m radius of the site.

SMR Number	Site name	Site type	Date
TQ83 NW1-MKE2731	Sissinghurst Castle	Listed building	Medieval to post medieval (1066AD-1900AD)
TQ83NW14 – MKE9322	Sissinghurst Castle Gardens	Listed building	Modern (1901AD-2050AD)
MKE36862	Sissinghurst Castle Farmhouse	Listed building	Post Medieval (1833AD-1866AD)
MKE36901	Tower and walls	Listed building	Post Medieval (1550AD-1590AD)
MKE36902	The South Cottage	Listed Building	Post Medieval (1550AD-1940AD)
MKE36903	Oast and Roundels	Listed Building	Post Medieval (1867AD-1932AD)
MKE38157	West Range	Listed Building	Medieval-Post Medieval (1470AD -1940AD)
MKE38158	Priests House	Listed Building	Medieval to Modern (1500AD-1999AD)
MKE38511	Barn	Listed Building	Medieval (1500AD-1532AD)

Table 1: HER data from within a 500metre radius of the site.

3.0 ARCHAEOLOGICAL METHODOLOGY

3.1 Aims and Objectives

3.1.1 The general aim of the work was to ensure that any features, artefacts or ecofacts of archaeological interest to be affected by the current programme of works were recorded and interpreted to appropriate standards.

3.1.2 The specific aim of the work was to ascertain whether there is any evidence of structural remains associated with the structures depicted on 18th century illustrations in front of the west entrance range of Sissinghurst Castle.

3.2 Works monitored (Figure 2)

3.2.1 The watching brief comprised of a total seven visits between the 19th of September and 20th of October 2008. During this time the excavation of trenches to contain the three LPG gas tanks was observed in addition to a service trench, test pit and soakaway (Fig. 2). Further service trenching was undertaken by 'mole' and did not require archaeological monitoring.

3.3 Methodology

3.3.1 All intrusive groundworks were undertaken under constant archaeological supervision until/unless it became clear beyond reasonable doubt that no archaeological remains were present (i.e. once excavation had reached undisturbed natural subsoils, below which there will be no archaeological remains present – after the recording of any significant remains if present at higher levels).

3.3.2 Any machine used for the excavation of material above the undisturbed natural subsoil was fitted with a toothless bucket of appropriate width.

3.3.3 Where archaeological features or deposits were identified excavation by the onsite contractors ceased allowing sufficient time for recording. Features were cleaned by hand, planned and sectioned, at a scale of 1:20 and 1:10 respectively, on plastic drafting film.

3.3.4 All contexts were recorded on standard UCL pro-forma sheets in line with advice given in PPG16 (the government's advice on *Archaeology and Planning)*

3.3.5 A full photographic record was kept of the work using black and white film, colour slide and digital cameras.

3.3.6 A metal detector was used at regular intervals (2 hourly) to scan the spoil from the excavations in order to recover any artefacts of archaeological interest.

3.3.7 Where deposits suitable for environmental sampling were identified, bulk soil samples were taken for further analysis.

3.3.8 Where structures were identified samples of the building material was also

collected for analysis and dating where possible.

3.3.9 Any artefacts or ecofacts of archaeological interest were collected and bagged by individual context for analysis

3.3.10 The National Trust Archaeologist was kept informed of the progress of the works in order that she may monitor the archaeological work from the outset of the ground works.

Table 2: Quantification of site archive

Number of Contexts	40
No. of files/paper record	1
Plan and sections sheets	3
Bulk Samples	1 bulk, 5 brick samples, 1 mortar sample
Photographs	Digital and 1 Print film and 1 slide film
Bulk finds	1 box
Registered finds	2
Environmental flots/residue	1

4.0 RESULTS (Figs 3 – 6)

4.1 Service Trench and Soakaway

4.1.1 A total of 30metres of linear open trenching of 0.40metres width and a maximum depth of 0.60metres was monitored in the driveway of the gardener's nursery leading to a two metre square soakaway excavated into undisturbed Tunbridge Wells Sand deposits. The contexts recorded from this area are detailed in Appendix 1.

Summary

The undisturbed geological Tunbridge Wells Sand [002] was encountered at a depth of 56.475mAOD. Overlying this at a depth of 56.665mAOD was a light brownish yellow silty clay deposit [003] containing occasional CBM fragments. Cut into and overlying this deposit were a number of post medieval features. These comprised a series of dumps to the east in the location of the soak-away [029], [030], a small modern pit to the western end of the service trench [004]; and the remains of two post medieval brick structures [008] and [025] with a more recent brick built foundation [013] and [024] abutting wall [025] (Figs 3 & 4).

4.1.2 **Brick Structure [008]** (Figs 3, 4, & 5)

The northern end of a brick structure was identified in the centre of the service trench. In total three walls were present in the trench, [020] the eastern wall and [008] the number given to the northern and western walls. The building measured 2.60 metres in width east to west. The building continued to the south beyond the limit of excavation so the full length is unknown. The foundations of the wall extend to a depth of 56.445mAOD, 0.50m below the ground surface. Each wall is constructed of reddish orange bricks in a stretcher bond. The northern wall [008] was topped by a layer of red ceramic peg tile; this was bonded to the wall using the same whitish yellow lime mortar.

The Interior of the building had a central floor surface [014] at a depth of 56.290m AOD, 1.0 metre wide and constructed of reddish orange bricks 0.10 metres thick, with each brick measuring 0.20 metres in width, laid side by side bedded onto a 0.04 metre thick compact whitish yellow sandy mortar [018] with moderate brick and tile fragment inclusions. The floor does not extend the full width of the building, to the west and east of the central floor is a moderately compact light brownish yellow clay [017] at a depth of 56.495m AOD containing occasional brick fragments. Context [017] is most likely upcast from the construction of the recessed central aisle [026].

Overlying the brick floor surface and infilling the recessed central aisle to a minimum depth of 56.420mAOD is a loosely compact blackish grey gravelly clinker deposit [016] containing occasional brick fragments measuring 0.25metres thick with a width of 1metre. This deposit was in turn overlain at a depth of 56.620mAOD by a loose greyish brown silty clay [012] containing occasional fragments of brick and pea gravel. Deposit [012] covered the

entire width of building [008] and measured 2.60metres east to west with a maximum thickness of 0.22metres. Deposit [012] was overlain by a 0.05metre thick deposit of boiler clinker [015] with occasional brick fragments. The deposit extended across the entire width of the building of 2.60metres. Deposit [012] was overlain at a depth of 56.790mAOD by a light brownish yellow deposit [009] of a moderately compact sandy mortar with occasional large brick inclusions which appears to have served as a floor surface. Deposit [009] and wall [020] are both partially overlain at the eastern edge by deposit [021], a deposit of clean loose orange yellow builders sand. In turn this is overlain at a depth of 57.105mAOD by the modern surface deposit [001] comprising pea gravel and dark brown humic silt with a thickness of 0.20metres.

4.1.3 **Brick Structure [013] and [024]** (Figs 3, 4 & 6)

A second brick structure was identified to the east of [008]. Cut into the natural Tunbridge wells sand [002] and the subsoil deposit [003] on the eastern side, wall [013] (cut [040]) was constructed of pinkish orange frogged bricks with yellow flecks in English courses bonded with a very fine strong yellowish mortar. The wall ran in a north south direction and was wider at the base on the western side than at the top, giving it the appearance of a retaining wall. To the western side of the wall was a dump of loose blackish grey boiler clinker [022] measuring 0.60metres thick and continuing below the limit of excavation and 1.30metres in width east to west and containing occasional brick fragments and probably fragments of asbestos; this deposit was bounded to the west by wall [020]. Wall [013] abutted an earlier east west running wall [025] which was constructed of orange unfrogged bricks in stretcher courses bonded by a whitish yellow sandy mortar and continuing outside the limits of excavation.

Wall [024] was identified running parallel to and 2.40metres to the east of wall [013] and cut [027] into the natural Tunbridge wells sand [002] and the subsoil [003]. Constructed of reddish orange bricks bonded by a hard grey mortar in English courses, [024] measured 0.24metres wide with a depth of 0.55metres and continuing below limit of excavation. Wall [024] and [013] appear to be roughly contemporary. Between walls [013] and [024] at a depth of 56.795mAOD was a deposit of irregularly laid full and half red bricks [023] lying within a deposit of clean orange yellow builders sand. Deposit [023] appears to be constructed of reused bricks to form a floor surface measuring 2.40metres east to west and continuing wither side of the limits of excavation. This deposit is overlain by [001] the modern pea gravel and dark brown humic silt of 0.10 metres thick.

4.2 LPG Tank 1 (Fig. 2)

4.2.1 LPG Tank 1 (3m x 1.60m) was excavated to a depth of *c*. 0.40m (57.01m AOD) at which point the natural clay was encountered. The stratigraphy consisted of the following contexts. Context [033] was seen at the base of the trench and was a mid orange yellow clay (natural). Directly above this was [032], a *c*. 0.20m thick mid brownish grey silty clay (subsoil). The latest deposit was [031], a *c*. 0.15m thick dark greyish brown silty clay (topsoil).

4.2.2 No archaeological features were seen within this excavation. Two tile fragments dated to the post medieval period were recovered from the subsoil [032].

4.2.3 An electricity duct was seen cut through context [032] and [033]. Due to the position of this duct within the centre of the excavation, the LPG tank excavation had to be shifted northwards by 1m. The revealed stratigraphy was the same as described above.

4.3 LPG Tank 2 (Fig. 2)

4.3.1 LPG Tank 2 (4.5m x 2m) was excavated to a depth of *c*. 0.50m (57.76m AOD) at which point the natural clay was encountered. The stratigraphy consisted of the following contexts. Context [039] was seen at the base of the trench and was a mid orange yellow clay (natural). Directly above this was [038], a *c*. 0.20m thick mid brownish grey silty clay (subsoil). The latest deposit was [037], a *c*. 0.15m thick dark greyish brown silty clay (topsoil).

4.2.2 No archaeological features were seen within this excavation.

4.4 Test Pit 1 (Fig. 2)

4.4.1 Test pit 1 (2m x 1m) was excavated to a total depth 0.50m (57.02m AOD) from ground level and the following stratigraphy was recorded. Context [036] was the natural mid orange yellow clay. Directly above this was context [035], a *c*. 0.20m thick mid yellowish grey silty clay (subsoil) which contained occasional CBM. The latest deposit [034] was a *c*. 0.25m thick dark greyish black silty clay of a friable consistency, which contained glass bottles and broken china of an early 20th Century date.

4.4.2 No archaeological features were seen within this test pit.

4.5 LPG Tank 3 and associated pipe trench (Fig. 2).

4.5.1 LPG tank 3 pit (3m × 2m) was excavated to a depth of 1.60metres, natural clay [003] was encountered at a depth of 63.065mAOD. The stratigraphy of the trench consisted of Tunbridge wells sand, mid orange yellow clay, overlain by a yellowish brown silty clay subsoil [041] of 0.40metres thickness containing occasional CBM fragments and pottery. Overlying [041] was a light yellowish brown clayey silt topsoil [043] containing a moderate amount of modern building material.

4.5.2 Excavations of the pipe trench which measured 20 metres in total length uncovered natural Tunbridge Wells sand [003], mid orange yellow clay, overlain at the western end by [042] a 0.40metres thick modern deposit of concrete and rubble forming the driveway at a depth of 62.95mAOD and extending for a width of 5metres within the trench at the curve in the pipe trench. This was overlain by a thin light yellowish brown topsoil deposit [043]. The rest of the pipe trench followed the same stratigraphic sequence as the tank pit.

5.0 THE FINDS by Elke Raemen

5.1 The excavations produced a small assemblage of finds. A summary can be found in Table 3 and Table 4.

Context	Sample	Pot	wt(g)	CBM	wt(g)	Cement	wt(g)	Shell	wt(g)	Iron	wt(g)	Zinc	wt(g)	Slag	wt (g)	Glass	wt (g)	Wood	wt (g)
1		6	86	1	136			3	8	2	300								
3				5	408									2	18				
5		2	4	1	12											1	<2	1	42
8				10	894														
8	2			3	4706														
9	7					15	98												
12		6	608									2	60			2	24		
13	3			2	2148														
23	5			1	2382														
24	6			2	5618														
25	4			2	2748														
30		4	258									1	8	1	20	32	1612		
32				2	174														
41		2	10	6	3520											1	68		

Table 3. Quantification of the finds from the watching brief at Sissinghurst Castle, Sissinghurst, Kent.

5.2 The Pottery

5.2.1 A small amount of pottery was recovered from five different contexts. All fragments date to the 19th century. Included are blue and black transfer printed china fragments (mainly from plates), glazed red earthen wares (mainly bowl fragments) and English salt-glazed stoneware bottle fragments. Five pieces of unglazed red earthenware, probably belonging to large flower pots, were recovered from [12]. A few plain white china fragments and a Bristol glazed stoneware bottle fragment, dating to the second half of the 19th century, were recovered as well.

5.3 The Ceramic Building Material

5.3.1 A total of 25 ceramic building material (CBM) fragments were recovered from the site, in addition to five brick samples.

5.3.2 The oldest roof tile fragments from the site [32] consist of two high fired, sparse fine sand-tempered pieces, both with occasional iron oxide inclusions to 1 mm. The fragments date to the 17th to 18th century. Four roof tile fragments of 18th- to 19th- century date were recovered from [3]. These pieces are high fired with sparse fine sand-tempering and occasional iron

oxides to 2 mm. Some also contain chalk inclusions, leaving voids where they have been burnt out.

5.3.3 Roof tile fragments of 19th-century date were recovered from [8] and [42], including two pieces exhibiting a round peg-hole. The width of one of these tiles measures 152 mm. Pieces are all in a high fired, sparse fine sand-tempered fabric with occasional iron oxides to 2 mm. Some contain moderate chalk inclusions to 1 mm. Some have mortar adhering on one or more surfaces. Foundation trench [8] also contained a possible ridge tile.

5.3.4 A fragment dating to the 19th to mid 20th century, again in a similar fabric, was recovered from [5].

5.3.5 Brick fragments were recovered from [41]. Samples were taken from [8] (<2>), [13] (<3>), [25] (<4>), [23] (<5>) and [24] (<6>). The earliest brick recovered came from [8]. The high fired brick is sparse fine sand-tempered with occasional iron oxides to 2 mm and a sandy buff coloured mortar adhering. The piece measures 109 mm wide, 232 mm long and 47 mm high. The same brick sample also contained a 19th- century brick fragment in a similar fabric but with rare crushed flint inclusions to 5 mm, as well as a tapering brick (W 63 to 100 mm; L 230 mm; H 65 mm) in a sparse fine sand-tempered fabric, the latter dating to the 18th to 19th century.

5.3.6 Samples <4> to <6>, five bricks in total, all date to the mid 18th to 19th century. The bricks are high fired and well made, all with a sparse fine sand-temper and occasional iron oxides to 6 mm. Some contain clay streaks and clay pellets in addition. The worn surface of brick <5> suggests it has been utilised as a floor brick. Brick lengths vary from 210 to 230 mm. Heights measure 56 to 63 mm and pieces are 102 to 110 mm wide.

5.3.7 Five pieces of 20th- century date were recovered as well. Three of these ([41] and [13] (<3>) are from the London Brick Company (W 105 to 107 mm; H 65 mm), all with a well-defined frog. These are in a high fired, sparse fine sand-tempered fabric with occasional slag/iron oxide inclusions to 3 mm and rare chalk temper to 3 mm. A second 20th-century piece from [41] is in a high fired sparse fine sand-tempered fabric with clay pellets to 4 mm and occasional iron oxides to 2 mm. The fragment exhibits a well-defined frog. A brick fragment of the same date with occasional slag to 5 mm and rare crushed flint temper to 3 mm was recovered as well. The same context also contained a brick with shallow, crude frog (W 106 mm; H 50 mm), in a sparse fine sand-tempered fabric with occasional slag/iron oxides to 4 mm, dating to the 19th century.

5.3.8 A few land drain fragments were recovered as well including a piece from deposit [1] dating to the 19th century. Context [41] contained a ribbed fragment dating to the 19th to 20th century.

5.4 The Glass

5.4.1 Four different contexts contained glass fragments. Bottle fragments, of mid 19th- to early 20th- century date, all consist of bottle necks. Bottles

represented are a pale green glass rectangular-sectioned bottle, a clear glass cylindrical bottle with traces of cork and a large cobalt blue cylindrical bottle (all from [30]). These would have contained household products or medicine. The cobalt blue fragment may be from a large poison bottle. A green glass beer bottle neck fragment, dating to the late 19th to early 20th century, with screw cap in situ was recovered from [41]. The letters "ISHERWOOD. FOSTER & STACEY. LIMITED. MAIDSTONE" are embossed on the cap.

5.4.2 Two conjoining white "porcelain" cap lining fragments, with "GENUINE PORCELAIN LINED BOYD'S" embossed along the edge, were recovered from deposit [30]. These white glass pieces refer to the lining of caps for fruit jars, patented in 1869 in the United States. The cap lining stayed in use up to the mid 20th century.

5.4.3 Deposit [30] also contained a large, nearly complete (27 sherds), pale green glass bowl with folded rim. The bowl dates to the mid 19th to early 20th century. Pit [4] ([5]) contained a single clear glass fragment, belonging to a cylindrical vessel and dating to the 19th century.

5.4.4 In addition, two clear window glass fragments were recovered from building [8] (fill [12]). The pieces are of late 19th- to 20th- century date.

5.5 The Metalwork

5.5.1 Road surface [1] contained two iron strip fragments of 19th- to 20th-century date. From wall construction cut [10] (fill [12]), two zinc strip fragments were recovered (i.e. lining), again of 19th- to 20th- century date. A zinc tin base fragment (i.e. food) was recovered from deposit [30].

5.5.2 Two objects were assigned unique registered finds numbers (RF <00>). These have been tabulated in Table 4.

CONTEXT	RF .	OBJECT	MATERIAL	WT(g)	PERIOD
1	15	MOUNT	COPP	4	PMED
1	16	TOOL	IRON	446	PMED

Table 4. Summary of the Registered Finds from the watching brief at Sissinghurst Castle.

5.5.3 Both were recovered from road surface [1]. RF <15> consists of a copper alloy decorative furniture mount fragment, and would have formed part of a drop handle. The fragment dates to the 18th- to 19th- century. An iron tool fragment (RF <16>), possibly from machinery and dating to the 19th to early 20th century, was recovered as well.

5.6 Other Finds

5.6.1 A small amount of isolated other finds was recovered, including three fragments from a scallop from deposit [1] and a modern wood fragment from

a 1 inch square batten from [5]. Three fragments of fuel ash slag were recovered as well ([3] and [30]).

5.6.2 Sample <7> from floor [9] consists of 19th- to early 20th- century cement.

5.7 Potential

5.7.1 The pottery and ceramic building material from the site provides dating evidence for various structures. There is however no further potential for the finds and they are not considered to merit any further analysis. No further work is required.

6.0 The Environmental Sample by Lucy Allott

6.1 One environmental sample was taken from context (012), a grey, silty clay deposit in building [008] to help establish the function of the structure and determine the nature of the burnt material that was visible. This sample was processed using tank flotation, the flot and residue were retained on 250µm and 500µm meshes respectively and were air dried prior to sorting for environmental and archaeological remains. The contents of this sample are summarised in Table 5.

Sample Number	1	
Context	12	
	Flot	Residue
Weight	2g	
Volume	<5ml	1 litre
Charcoal >4mm	*	**/10g
Charcoal <4mm	**	**/1g
Charcoal <2mm	***	
Industrial debris, hammerscale	***	*/84g

Table 5: Sample Quantification (*=1-10, ** = 11-50, *** = 51-250)

6.2 This sample contains a small assemblage dominated by industrial debris including fragments of slag and hammerscale spheroids. In addition a small quantity of charcoal fragments is present. Some of these are vitrified which suggests they were burnt at very high temperatures. No other archaeobotanical or faunal remains are evident in this sample and it provides no potential for further environmental investigation of the deposit.

7.0 DISCUSSION

7.1 Greenhouse Construction

7.1.1 The brick buildings identified close to the present day gardeners nursery offer clues to the development of the site. The 18th to 19th century date of the bricks suggest that they are contemporary with the occupation of the site by the Cornwallis family, builders and owners of the Castle Farmhouse in 1855. At this time it was fashionable for the wealthy to cultivate exotic plants such as orchids and grapes, in order to make this possible a range of new greenhouse designs were invented. Building [008] with the recessed central floor, may have been used as an orchid house. The design of these buildings can involve the insertion of water tanks into the centre of the greenhouse which are then heated from below by a boiler to create the steam necessary for the cultivation of tropical plants (Gilmore 2008). Such a water tank would not need to be excessively deep as this would increase the amount of fuel required to heat it. The brick floor in the building may have been laid to support a lead or iron water tank, when the building fell into disuse this would have been removed. As only a tiny fraction of the interior of the building was exposed during the course of the present works it was not possible to ascertain whether the building had once contained a subterranean boiler (to maximise efficiency the system made use of the fact that heat rises), the entrance to which may have been at the southern end of the greenhouse. Alternatively the building may have housed raised beds to either side of a central aisle. It is interesting to note that the building itself is below surface level by approximately 0.70metres. This is consistent with a 'pit greenhouse' design, another system designed by the Victorians to make use of the insulating properties of the earth. In this design the interior of the building is below surface level and depend upon the constant ground temperature and solar heat from glazing to maintain temperature (Gilmore 2008).

7.2 The Boiler House

7.2.1 The evidence for use of boilers in the garden is suggested by the frequent deposits of clinker, found as part of the backfill of building [008] and also the large deposit between walls [020] and [013]. The present day boiler stands immediately to the south of the trench and has incorporates a chimney though the modern boiler within does not burn solid fuel. Walls [013] and [024] stand in the proximity of the present boiler house and may have some connection to it. Early 20th century boilers were designed to be built into the wall of a greenhouse, one in particular was required to be surrounded by sand (Gilmore 2008). The quantity of builder's sand in the area is circumstantial evidence of such a boiler. When the newer, modern boilers became available which required less space and no fossil fuel, a large boiler house was no longer necessary. One possibility at Sissinghurst is that the boiler house was reduced in size in the 20th century for ease of access and to maximise space with the chimney retained for aesthetic purposes.

7.3 The LPG Tanks

7.3.1 The excavations in advance of the LPG storage tanks 1 and 2 revealed

simple overburden of topsoil and subsoil deposits covering natural clay. No archaeological features were observed within these excavations and therefore it is assumed that this area was not under intensive occupation in the past. The evaluation trenches (ASE 2008a) close to the excavations revealed only one layer of burnt material indicating that area was used for general waste in the recent past. Test Pit 1 revealed a similar stratigraphy to that of LPG Tank 1 & 2. The finds were from the topsoil and were Victorian clay bottles and glass which were probably discarded when the Castle Farm House and Gardener's workshop were initially in use. Excavation of LPG storage tank 3 revealed overburden of topsoil with a subsoil deposit over natural clay, and excavation of the pipe trench associated with this tank revealed a deposit of rubble and concrete most likely a foundation for the modern driveway.

8.0 CONCLUSION

8.1 No evidence was found for the buildings illustrated on the 18th century map, however evidence was found for the mid 19th to early 20th century development of the gardens around the time of the construction of the Castle Farmhouse, with the discovery of an earlier greenhouse and possible evidence of an earlier, larger boiler house in the location of the present day gardener's nursery. No further significant archaeological features or artefacts were uncovered.

8.2 Confidence is high that the best possible results were achieved.

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Appendix 1: List of Recorded Contexts

Context number	Type	Description	Dimensions	Depth mAOD
1	Deposit	Compact modern road surface of sandy gravel	0.10m thick	57.105m
2	Natural	Compact yellow clay natural	N/A	56.475m
3	Deposit	Moderately compact brownish yellow silty clay with occasional brick inclusions.	0.15m thick	56.655m
4	Cut	Cut of post medieval/modern pit, roughly circular 'U' shaped	0.60m diameter 0.75m+deep.	56.925m
5	Fill	Moderate to loosely compact blueish greenish yellow clay and gravel with diesel staining, fill of pit 4.	0.60m diameter 0.75m+deep.	56.925m
6	Cut	Linear cut of modern service pipe.	0.40m wide, 0.45m deep. 2m+length	56.925m
7	Fill	Moderately compact mottled orangish browny yellow clay with occasional brick fragments. Backfill of pipe trench 6	0.40m wide, 0.45m deep. 2m+length	56.925m
8	Masonry	Brick and peg tile foundation wall of PM building.	2.0m east-west, 0.40m+ north south, 0.45m deep.	56.805m
9	Floor surface	Moderately compact grey sandy mortar floor surface.	0.40m east-west 0.20m+north-south, 0.05m thick	56.790m
10	Cut	Construction cut for wall 8.	0.30m deep, 0.30m wide.	56.845m
11	Fill	Moderately loose brown silty clay backfill of construction cut for wall 8.	0.30m deep, 0.30m wide.	56.845m
12	Fill	Loose greyish brown silty clay with occasional brick fragments and pea gravel. Fill inside building 8.	2.60m east-west, 0.20m thick	56.620m
13	Masonry	Foundation wall abutting wall 25.	0.40m wide at base, 0.20m wide at top, 0.50m deep.	56.775m
14	Floor surface	Floor bricks in building 8. Irregularly laid with undulating surface.	0.80m east-west, 0.20m north-south and continuing. 0.10m thick.	56.290m

Context number	Type	Description	Dimensions	Depth mAOD
15	Fill	Loose gravelly clinker deposit in building 8. Possible boiler debris.	2.60m east-west, 0.20m, 0.20m north-south and continues.	56.620m
16	Fill	Loose blackish grey deposit of clinker with occasional brick fragments.	1.0m east-west, 0.15m thick. 0.20m and continuing north-south.	56.420m
17	Deposit	Moderately compact light brownish yellow clay with occasional brick inclusions.	2.60m east-west, 0.22m thick, 0.20m+ wide.	56.495m
18	Deposit	Compact whitish yellow sandy mortar with moderate brick and tile inclusions. Underlies 14.	0.85m east-west, 0.20m+ wide, 0.03m thick.	56.220m
19	Cut	Construction cut for wall 20.	0.08m deep, 0.40m north-south.	56.320m
20	Masonry	Probable east wall of building 8.	0.40m north south, 0.40m east-west, 0.45m deep.	56.72m
21	fill	Loose orangish yellow builders sand. Proably deposited during the laying of floor 23.	1.50m east-west, patchy.	56.800m
22	Deposit	Loose, blackish grey clinker with rubble inclusions.	1.35m east-west, 0.50m deep, 0.40m+ wide.	56.800m
23	Deposit	Pathway/surface of reused bricks bedded loosely in sand.	0.90m east-west, 0.30m+ north-south, 0.10m thick.	56.795m
24	Masonry	Brick wall parallel to wall 13. Running north to south.	0.24m wide, 0.40m+ north south, 0.40m deep.	56.805m
25	Masonry	Wall parallel to trench abutted by wall 13.	2.0m east-west, 0.50m deep, width unknown.	56.805m
26	cut	Cut for insertion of floor 14.	1.0m east-west, 0.20m north to south, 0.25m deep.	56.495m
27	cut	Linear construction cut for insertion of wall 024.	0.55m deep, 0.20m wide, this to 0m.	56.620m

Context number	Type	Description	Dimensions	Depth mAOD
28	fill	Loose light brown silty clay with frequent broken tile inclusions. Fill of [027]	0.55m deep, 0.20m wide at top 0m at base, 0.40m+ north to south.	56.620m
29	Deposit	Loose black coal and clinker deposit.	2.0m+east-west, and 0.40m north to south, 0.05m deep.	56.610m
30	Deposit	Loose brownish yellow silty clay deposit containing occasional brick, tile, glass and metal.	2.0m east-west, 0.40m deep continues north south.	56.780m
31	Deposit	Dark greyish brown silty clay (topsoil)	0.15m thick, continues both directions	57.410m
32	Deposit	Mid brownish grey silty clay (subsoil)	0.20m thick continues both directions	57.260m
33	Deposit	Mid orange yellow clay silt (natural)	N/A	57.060m
34	Deposit	Dark greyish black silty clay (topsoil)	0.20-0.25m thick continues both directions	57.520m
35	Deposit	Mid yellowish grey silty clay (subsoil)	0.15m-0.20m thick continues both directions	c. 57.300m
36	Deposit	Mid orange yellow clay silt (natural)	N/A	c. 57.100m
37	Deposit	Dark greyish brown silty clay (topsoil)	0.15m thick continues both directions	58.260m
38	Deposit	Mid brownish grey silty clay (subsoil)	0.20m thick continues both directions	58.110m
39	Deposit	Mid orange yellow clay silt (natural)	N/A	58.910m
40	Cut	Cut for insertion of wall (013)	0.55m+ deep, 0.40m+wide, continues	56.775m

Context number	Type	Description	Dimensions	Depth mAOD
			either side of excavation.	
41	Deposit	Yellowish brown silty clay (subsoil) with CBM inslusions.	0.40m thick continues all directions	62.865m
42	Deposit	Greyish brown concrete, tarmac and rubble deposit (Modern driveway base)	0.40m thick continues beyond L.O.E.	62.950m
43	Deposit	Light yellowish brown clayey silt. (Topsoil)	0.20m thick, covers area.	63.065m

SMR Summary Form

Site Code	SIS08					
Identification Name and Address	Sissinghurst Castle, Gardens					
County, District &/or Borough	Kent					
OS Grid Refs.	580702 138296					
Geology	Tunbridge Wells Sand					
Arch. South-East Project Number	3600					
Type of Fieldwork	Eval.	Excav.	Watching Brief ✓	Standing Structure	Survey	Other
Type of Site	Green Field	Shallow Urban	Deep Urban	Other		
Dates of Fieldwork	Eval.	Excav.	WB 22/9/08-20/10/08	Other		
Sponsor/Client	The National Trust					
Project Manager	Giles Dawkes					
Project Supervisor	Paul Riccoboni					
Period Summary	Palaeo.	Meso.	Neo.	BA	IA	RB
	AS	MED	PM ✓	Other Modern		

100 Word Summary.

Archaeology South East were commissioned by The National Trust Ltd to undertake an archaeological watching brief during ground works associated with the installation of three LPG storage tanks and associated ground works during October 2008. Archaeological features were discovered which included walls and brick structures most likely late post medieval greenhouses and a possible boiler house, within a pipe trench located within the gardener's nursery dated to the 19th Century. A confidence rating is high the best results were achieved.

OASIS Form

OASIS ID: archaeol6-51980

Project details

Project name	An archaeological watching brief at Sissinghurst Castle, Kent
Short description of the project	Archaeology South East were commissioned by The National Trust Ltd to undertake an archaeological watching brief during ground works associated with the installation of three LPG storage tanks and associated ground works during October 2008. Archaeological features were discovered which included walls and brick structures most likely late post medieval greenhouses and a possible boiler house, within a pipe trench located within the gardener's nursery dated to the 19th Century.
Project dates	Start: 22-09-2008 End: 20-10-2008
Previous/future work	Yes / Not known
Any associated project reference codes	SIS08 - Site code
Type of project	Recording project
Site status	National Trust land
Current Land use	Other 15 - Other
Monument type	BOILER HOUSE Modern
Monument type	GREENHOUSE Post Medieval
Significant Finds	HANDLE Post Medieval
Investigation type	'Watching Brief'
Prompt	Voluntary/self-interest

Project location

Country	England
Site location	KENT TUNBRIDGE WELLS CRANBROOK Sissinghurst Castle
Postcode	TN17 2
Study area	20.00 Square metres
Site coordinates	TQ 580702 138296 50.9016920568 0.248276281289 50 54 06 N 000 14 53 E Point

Project creators

Name of Organisation	Archaeology South-East
Project brief originator	National Trust
Project design originator	Archaeology South-East
Project director/manager	Giles Dawkes
Project supervisor	Paul Riccoboni
Type of sponsor/funding body	National Trust

Project archives

Physical Archive recipient	National Trust
Physical Contents	'Metal','Glass'
Digital Archive recipient	National Trust
Digital Contents	'none'

Digital Media available	'Images raster / digital photography'
Paper Archive recipient	National Trust
Paper Contents	'none'
Paper Media available	'Context sheet','Drawing','Notebook - Excavation',' Research',' General Notes','Photograph','Report','Unpublished Text'

Project bibliography 1

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