Discovery and Excavation in Scotland

Updated on 15/06/2007

LOCAL AUTHORITY:	Edinburgh, City of
PROJECT TITLE/SITE NAME:	Edinburgh Castle (Coal Yard and Guardhouse)
PROJECT CODE:	HSCO-90130-2006-01, HSCO-90130-2006-02
PARISH:	Edinburgh, City of
NAME OF CONTRIBUTOR:	Gordon Ewart, Alan Radley
NAME OF ORGANISATION:	Kirkdale Archaeology
TYPE(S) OF PROJECT:	Archaeological excavation and monitoring
NMRS NO(S):	NT27SE 1.43
SITE/MONUMENT TYPE(S):	Defence
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NT 252 735
START DATE (this season)	27 September 2006
END DATE (this season)	14 February 2007
PREVIOUS WORK (incl. *DES* ref.)	**Radley and Stewart, A and D** (2005 a) 'Edinburgh Castle, Coal Yard (City parish of Edinburgh), watching brief' Discovery Excav Scot, 6, 2005, 64,
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	Watching briefs were maintained at Edinburgh Castle in late 2006 during a programme of works included in the Visitor Reception Project. The Coalyard lies at the mouth of the service tunnel and was the site of a series of six piles intended to support the new building overhead. Two trenches were dug under archaeological supervision, the first lying towards the SE corner of the Coalyard uncovered modern backfill associated with the construction of the present service tunnel to a depth of *c* 800mm. At this depth, a deposit of mixed soils and post medieval debris (18th-19thC). The other trench lay towards the N of the yard and was dug to a depth of 1.7m and did not expose anything but post tunnel construction debris and services. The latter was used for the re-interring of human remains excavated in 1989. Six geo-archaeological cores were retrieved by Headland Archaeology Ltd from each of the proposed pile sites and cores to the E and middle of the yard confirmed the presence of two massive defensive ditches. These ditches underlie the Coalyard and part of the Esplanade. They were first identified during work in advance of the service tunnel .and the recent cores suggested that the inner ditch was *c* 9.7m deep and the outer *c* 10.7m. Prior to the establishment of access to the new ticket office located over the Castle Coalyard, a small trench (3.5x 2m) was excavated immediately W of the Guardhouse (located in the N half of the Gatehouse). This revealed the spine of a N/S aligned vault below and this prompted the examination of a series of chambers within a service passageway located below the present Gatehouse. These chambers were partially infilled with rubble and were associated with the construction of the present Gatehouse in 1887. The short survey also revealed evidence of a massive angled outer defensive wall running across the service passage floor. This rampart is the truncated remains of the angled forework of 1660-90 which was levelled some time in advance of the establishment of massive N/S aligned 18th-century vaults to the W. A further series of vaults was constructed, aligned E/W as foundations rather than interconnected chambers beneath the present Gatehouse.
PROPOSED FUTURE WORK:	

CAPTION(S) FOR ILLUSTRS:	
SPONSOR OR FUNDING BODY:	Historic Scotland
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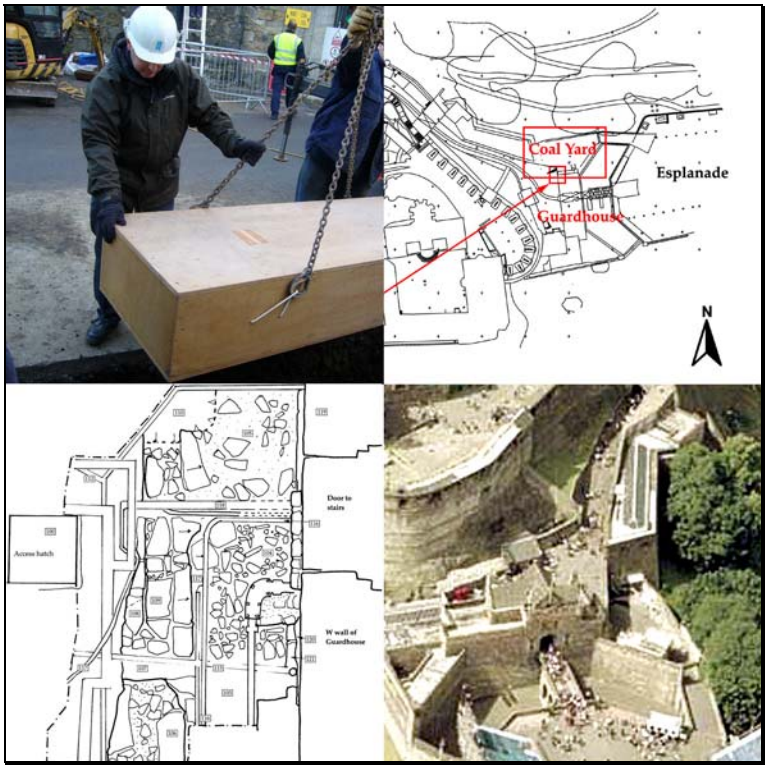
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS

Historic Scotland
Properties in Care
Minor Archaeological Works 2006

Edinburgh Castle: Archaeological Excavation and Monitoring, September - December 2006

HS PIC Index number: 90130
Project code: HSCO-90130-2006-01



23 March 2007
Kirkdale Archaeology

Site	Edinburgh Castle
N.G.R	NT 252 735
Project Description	Archaeological excavation and monitoring
Project Number	HSCO-90130-2006-01

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SUMMARY: Watching briefs were maintained at Edinburgh Castle in late 2006 during a programme of works included in the Visitor Reception Project. Three visits during works in the Coal Yard revealed nothing of archaeological significance. A small excavation against the north end of the west external wall of the Guardhouse revealed the top of a vaulted structure, although so little of the structure was seen it was not possible to determine its date or function.

1.0 INTRODUCTION

Under the terms of its PIC call-off contract with Historic Scotland, Kirkdale Archaeology were asked to undertake archaeological monitoring during a series of works in the Coal Yard and by the N end of the W wall of the Guardhouse at Edinburgh Castle:

- **Coal Yard, 27-28 September 2006:** monitoring of excavation of small test pit
- **Guardhouse, 31 November - 1 December 2006:** *c* 2.5 m x 4 m trench against the W wall
- **Coal Yard, 20-21 December 2006:** monitoring the excavation of a trench for the re-internment of human remains uncovered during previous excavations (1989).

In early October, Headland Archaeology undertook geoarchaeological coring in the Coal Yard (Headland Project Code ECB06 - report submitted to HS, November 2006). The results of this work are included in this report (Appendix A5.0).

The excavation of further boreholes was monitored both within, and just N of, the Coal Yard. Detailed recording of the location of these boreholes was not undertaken but a description is included below (5.0).

2.0 COAL YARD, SEPTEMBER 2006: SMALL TEST PIT

2.1 Introduction

Archaeological monitoring was undertaken during the excavation of a single small test-pit in the Coal Yard, which presently forms the open space at the E end of the castle tunnel (Fig. 1). The purpose of the work was to evaluate the nature of deposits

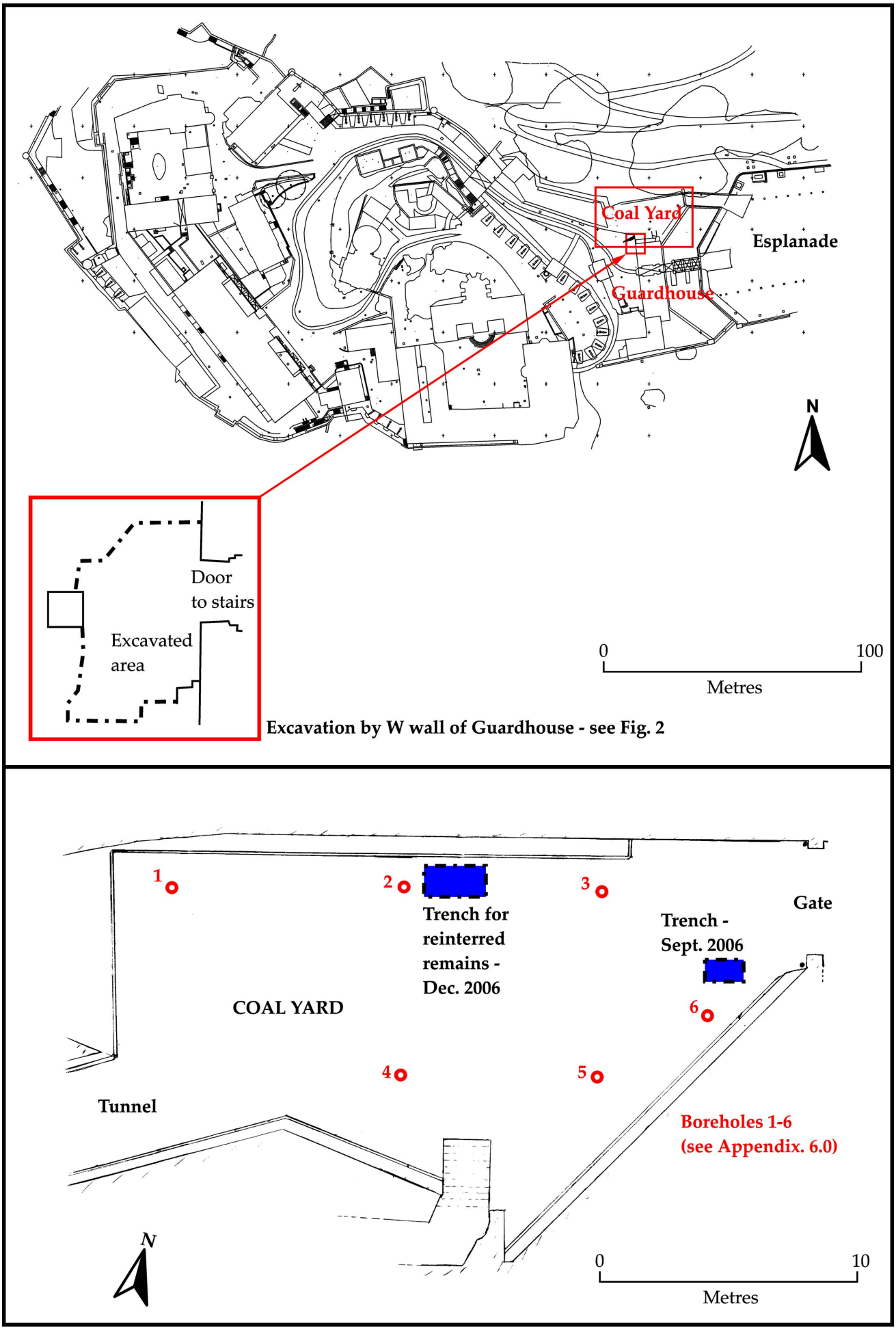

Fig. 1 : Plan showing location of excavated areas

and structures at the E entrance of the Coal Yard. This area is known to have been extensively disturbed during excavations and clearance work for the nearby tunnel and six small test pits were excavated in 2005, suggesting very limited archaeological potential.

2.2 Description

The deposits in this trench consisted of **(103)**, 210 mm of tarmac removed with a circular saw and demolition breaker. Sealed below this was **(104)**, a 250 mm thick layer of type 1 aggregate. Within this was found a single piece of degraded iron and wood, which was photographed before being discarded. Below this was **(105)**, a 250 mm thick mixed layer of type 1 with rubble and brick inclusions. Sealed below the tarmac and aggregate layers was a service cut, **(109)**, with associated features. The top fill of this cut was **(106)**, a thick layer of clean, orange, builders' sand. Below this was **(107)**, a modern, grey plastic, telecommunications duct, *c* 100 mm in diameter running roughly E-W and visible in the NE corner of the trench. The bottom fill of cut **(109)** was **(108),** a thin layer of type 1 aggregate. This layer was identical to **(104)** but 30 mm thick. The service cut, **(109)**, was a 'U'-shaped cut through **(110)**, and was up to 300 mm deep, at least 750 mm wide, running roughly E-W. The lowest deposit revealed in this trench was **(110)**, a mid-brown, gritty silt. Slightly moist yet friable when dug, it was excavated to a depth of *c* 300mm. Within the deposit were some flecks of mortar and charcoal. Retrieved from this deposit was a piece of brown-glazed earthenware, a piece of pipe stem and three bone fragments. It seems very likely that this deposit is the same as the midden deposit that was identified during the 2005 excavations.

2.3 Interpretation and observations

The Coal Yard is known to have been excavated and restored at the time of the 1980s tunnel insertion. This would suggest that only deep excavation is likely to reveal undisturbed material.

The stratigraphic sequence of this test pit is almost identical to the six pits dug in 2005 - the exception being the service duct and cut sealed below the type 1 aggregate. As in the previous test pits a lower layer of possible midden material was discovered at the bottom of the pit. The sherd of glazed pot and the clay pipe stem

would suggest a 19th-century date for this deposit.

It seems likely that any *in situ* deposits in the area of the Coal Yard are at a depth of at least 1.0 m. Any excavation of a foundation trench for the new wall and arch is likely to have little effect on archaeological deposits if it is kept to a depth of 1m. It is possible that structural remains will be in existence where the new wall is planned to dog-leg to the W of the existing wall. It was not possible to test this area, as it would have involved closing off access to the tunnel and possibly the removal of the gates to the Coal Yard.

3.0 GUARDHOUSE, NOVEMBER - DECEMBER 2006: *C* 2.5 X 4 M TRENCH

3.1 Introduction

Archaeological monitoring and recording was undertaken during the excavation of a trench *c* 2.5 m E-W x 4 m N-S against the W wall of the Guardhouse near the steps that rise from the Coal Yard, in advance of landscaping work. The excavation was intended to remove between 300 mm and 1.2 m in depth.

3.2 Description

Roughly central at the W end of the trench, **(100)** was a service box with an iron lid, there are stone setts mortared into the lid. Within the box were cables in a round plastic casing, the cables can be seen penetrating the roof of the vault below this area.

The whin setts that covered the area prior to excavation, **(101)**, were rectangular in shape and measured 180 mm by 100 mm on average. The majority of the setts were lifted prior to the archaeological supervision but where the pointing could be seen it was pale grey concrete. Seen over the whole area, immediately under **(101)**, **(102)** was a 100 mm thick band of pale grey concrete. **(102)** sealed **(103)**, a 100 mm thick deposit of fairly loose, mid-brown, silty sand with 30% small (6 mm - 20 mm in diameter) stones. **(103)** was seen in patches over the whole trench.

At the S end of the trench **(121)** was an N-S line of whin blocks, only a small part of which was seen within the current excavation. **(121)** was under **120** and stepped 80 mm W from that structure.

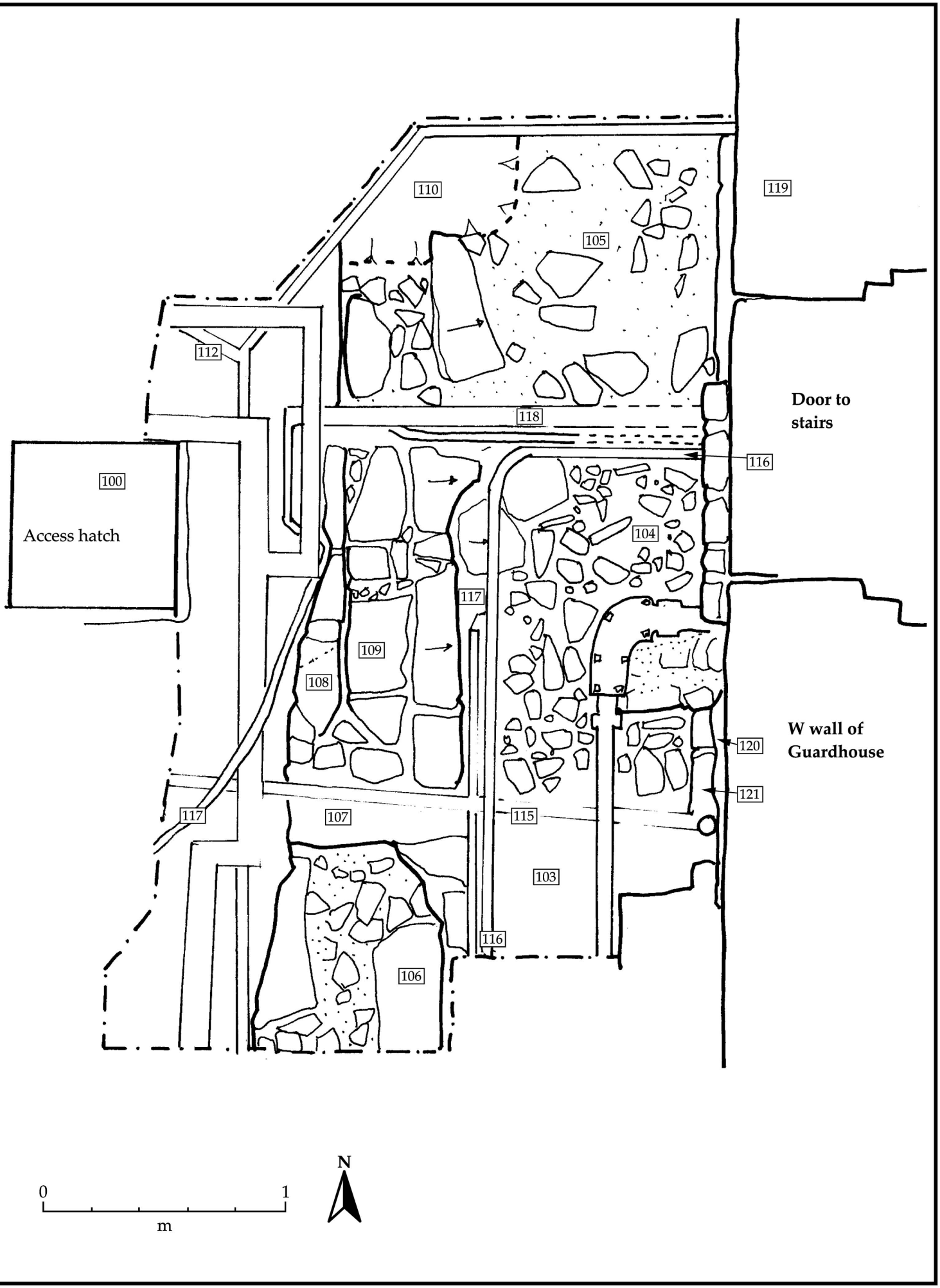

Fig. 2 : Plan (1:20) showing excavated area by N end of Guardhouse

In the SE of the trench **(104)** was an area (*c* 1.5 m N-S and 1.0 m E-W) of fairly flat stones and fairly hard, pale grey mortar. The stones were rectangular and measured 60 mm and 40 mm on average; they were heavily pointed to form a fairly flat surface.

In the N of the trench **(105)** comprised stones and light brown, gritty mortar, *c* 70% stones (up to 500 mm by 200 mm) the edges of which were often obscured by the mortar. **(105)** was seen in an area measuring 1.10 m N-S and 1.10 m E-W.

In the SW corner of the trench **(106)** was an area, 850 mm N-S and 750 mm E-W, of stonework bounded on the E and W sides by large rectangular blocks with smaller stones bonded with yellow/light brown mortar between.

Aligned N-S in the area of the trench N of **(106)**, **(108)** was a single line of roughly rectangular stone blocks. **(108)** stood 50 mm higher than the structure **(105)** / **(109)**, seen to the E.

E of the central part of **(108)** was an area, measuring 1.55 m N-S and 500 mm wide, of rectangular whin blocks **(109)** that measure 300 mm by 200 mm on average. The slabs sloped down from W to E, pointed with yellow/brown, silty mortar that contained some stone grits.

In the N of the trench **(110)** was a hole measuring 700 mm E-W, 500 mm N-S and 250 mm in depth as seen but extending beyond the W and N baulks, and not bottomed. **(110)** was cut through **(109)** - there were no services seen within the hole.

The bottom of the W face of the W wall of the gatehouse was numbered **(120).** It comprised rectangular sandstone blocks (500 mm by 200 mm on average) pointed with light brown, gritty mortar.

Below **(120)**, **(119)** comprised whin blocks pointed with hard orange/brown, gritty mortar. **(119)** stepped out (W) from **(120)**.

(111) was a heavily lagged pipe, measuring 100 mm in diameter with the lagging. This pipe extended N from the S baulk and continued across the trench, including a right-angled joint moving it E slightly, almost to the N baulk before it split into two parts and turned W and ran out of the trench.

Feeding off the NW end of **(111)**, **(112)** was a 30 mm diameter lead pipe running E to

the guardhouse in the vicinity of the stairway situated immediately E of the trench.

(117) was a 20 mm diameter, lagged, iron pipe that emerged from the S end of the W baulk and was twisted round **(111)** as it ran N eventually feeding into **(118)**. 80 mm diameter iron pipe **(118)** was very badly rusted - it ran E from **(117)** toward the arched doorway but was not traced all the way over.

Extending N from the S baulk and following the trench edge as it turned NE and then E, **(113)** was a white plastic casing for a single cable.

Iron pipe **(114)** extended roughly 1.45 m N from the E end of the S section before curving round and continuing E and going through the wall of the guardhouse. The pipe measured 60 mm in diameter and the curve had a studded iron plate over it.

Seen running roughly E-W across the S part of the trench before entering a down pipe against the W wall of the guardhouse, **(115)** was an 80 mm diameter iron casing holding four cables. The cables had been cut at the E end. **(115)** had been fitted around pipes **(111)**, **(113)**, **(114)** and **(116)**.

Below **(115)** and toward the W end of it, **(107)** was an area of very compact, grey silt and cement (80% cement) measuring 750 mm E-W and 200 mm wide. **(107)** was around **(115)** and over **(106)**.

Extending 2.1 m N from the S baulk before curving and turning E to go under the slabs at the arched doorway to the E of the trench, **(116)** was a cast iron pipe measuring 30 mm in diameter, badly rusted.

3.3 Interpretation and phasing

3.3.1 Phase 1

N-S in the W side of the trench **(108)** is thought to be the central spine of a vault. **(109)** is the blocks forming the top of the E side of the curving vault roof, further E and N respectively **(104)** and **(105)** are over **(109)**.

Only a small area of whin blocks **(121)** were seen. **(120)** appeared to be constructed against these blocks. With the small amount seen it is not clear what **(121)** is, but it looked to be of similar construction to **(104)** so is probably part of the vault, perhaps the E wall. **(121)** may also be reused as part of the foundations for **(119)**.

(104) looks like stones and mortar put over the sloping E side of the vault to form a flat surface.

In the N of the trench **(105)** is structural remains that are notably higher than **(104)**. This could be the remains of the vault's N wall or perhaps this is the top of an E-W vault and **(104)** is the surface over an E-W one. This being part of the N wall seems the more likely of the interpretations offered.

(106) in the SW corner of the trench is notably higher than **(108)** and **(109)** to the N of it and is thought to be an architectural detail. The problem with this interpretation is that **(106)** is disturbed by **(113)**, **(107)** and **(116)** to the W, N and E respectively and runs out of the trench to the S. It may be that the higher remains are part of a wall but even than its not clear what direction it runs, it looks most like a short stretch of N-S walling - perhaps the E side of a doorway between two vaults.

The partly excavated hole in the N of the trench, **(110)**, was excavated to a depth of 250 mm but not bottomed. The likelihood is that this feature cut through the roof of the vault below. As there were no services seen it was thought that **(110)** might be an original feature, perhaps a hatch. There is also the possibility that **(110)** is a fairly early hole for services that were later taken out.

3.3.2 *Phase 2*

(120) is the bottom of the W wall of the gatehouse dating to 1887. The pointing now seen may be a later re-pointing. **(119)** is directly under **(120)** and is most likely the projected footings for it, although there is a possibility that it is a remnant of an earlier structure.

3.3.3 *Phase 3*

The features in this phase are services and probably date from the middle to fairly late in the 20th century.

(115) is an iron casing for cables - the cables are out of use and to be removed. **(115)** is later than **(111)**, **(113)**, **(114)** and **(116)**. **(107)** is cement that has been poured around **(115)**.

(113) is a telephone cable, leading to the two boxes to the SW, inside the main entrance.

(111) is the current water main - it was probably installed around the middle of the 20th century. **(112)** feeds off **(111)** and takes water into the gatehouse - this pipe was lead and for this reason was to be replaced as part of the current work.

(116) is a cast iron gas pipe still in use - it is rusting and may need to be replaced.

Cast iron pipe **(114)** is for drainage - still in use and is to be retained in the new layout.

(117) and **(118)** are disused gas pipes - **(118)** has practically rusted to nothing.

3.3.4 *Phase 4*

The setts forming the current surface, **(101)**, may have been an earlier feature (perhaps dating to around 1887) but they have been re-laid recently and pale grey concrete **(102)** is part of the reformed surface. It appears that **(103)** was imported at this time to create a flat surface and perhaps raise the ground level around 100 mm. The re-laying of the setts probably dates to around 1990.

Service box **(100)** is probably also a *c* 1990, or later, feature. The cables from this can be seen entering the vault roof below and provide a location from this box into the vault.

3.4 Discussion

The Phase 1 features relate to the vault(s) below this area. It is not possible from the recording done here, on top of the vault, to say exactly how it all ties in to the structure below.

(108) appears to be the central spine of an N-S vault and the area immediately to the W is disturbed by the Phase 3 services **(111)** and **(113)**. Part of the E side of the vault roof is seen at **(109)**. **(104)** looks like it has been put in to form a flat surface over the vault roof showing this area was in use prior to the current surface. The surface seen at **(104)** is roughly 350 mm below the current one, and it is not entirely clear whether it is an indoor or outdoor surface but it looks more like the latter - it may have been disturbed.

In the SE corner of the trench **(121)** may be part of the vaults E wall but very little of it was seen. **(105)** could be the top of the N wall and **(106)**, in the SW corner, the E

side of a doorway between the same vault and one to the S.

In the N of the trench, **(110)** could either be a hatch in the original construction or a later service feature.

This would suggest a vault measuring roughly 1.45 m from the central spine to the E wall and roughly 1.8 m N-S. This seems very small for a vault and the interpretation may need to be looked at when the area below is investigated.

The vaulting was probably put in as the base for a major structure. The fact that the vaults extend W of the current guardhouse may suggest that they are originally part of an earlier structure.

The Phase 2 features **(119)** and **(120)** are part of the construction of the 1887 gatehouse.

The Phase 3 features are 20th-century services and Phase 4 probably dates to 1989, the tunnel construction.

4.0 COAL YARD, DECEMBER 2006: RE-INTERNMENT OF HUMAN REMAINS

4.1 Introduction

Archaeological monitoring was carried out during the small excavation of a small trench in the Coal Yard to re-inter the burials removed during archaeological excavations in 1989.

This excavation was carried out 20-21 December 2006.

4.2 Description

The trench was located close to the N wall of the Coal Yard, fairly centrally E-W. The trench measured 2.40 m E-W, 1.20 m N-S and a maximum of 1.70 m deep. The excavation was mostly by mini digger, under archaeological supervision, with some excavation by hand.

Below *c* 80 mm of tarmac was *c* 300 mm of green sand and gravel. A series of deposits and cuts below this were a number of cuts and fills, apparently of recent date, associated with the insertion of modern services.

There were no finds or features of archaeological significance.

5.0 FURTHER CORE SAMPLING IN AND NEAR COAL YARD

5.1 Introduction

Archaeological monitoring was undertaken during 50 mm diameter core sampling by Mini Soil Survey Ltd. The purpose was to determine depth of bedrock or other sufficiently solid deposits.

Cores 1, 2 and 5 were within the Coal Yard, while Cores 3 and 4 were located just N of the Coal Yard.

5.2 Description

Core 1 was dug into a concrete culvert at the west end of the coal yard. At a depth of 800mm another concrete raft was hit and the Core was abandoned.

Core 1A was drilled 500mm to the N. This core went through 50 mm of tarmac and 150 mm of concrete before entering a 350 mm void. The void was a service culvert and this core was therefore abandoned.

Three further attempts were made around **Core 1** (**1B, 1C,1D**). In all three, 130 mm of tarmac then 100 mm of "Type 1" sand and gravel bottomed onto concrete and these cores were abandoned.

Core 1B – 3.25 m E of Core 5 and 950 mm N of wall.

Core 1C – 3.30 m E of Core 5 and 1.45 m N of wall.

Core 1D – 2.85 m E of Core 5 and 2.45 m N of wall.

It was not possible to bore down at **Core 2** so further attempts were made 4.30 m N and 1.15 m east (**2A**) and 4.90 m N and 1.95 m E (**2B**) of it.

Core 2A drilled through 100 mm of tarmac, 200mm of "Type 1" and 150 mm of concrete then a void. Core was abandoned.

Core 2B showed 3.50 - 4.00 m of fairly loose in-fill, probably recent, then fairly compact material to a depth of 10 m (possibly glacial till?). Became more compact below 10 m (boulder clay) then bedrock at 10.62 m.

At **Cores 3, 3A**, the upper surface was overgrown with vegetation. 100mm N of the

castle boundary wall there was a 100 mm diameter, lagged, service pipe **(001)** at a depth of 400 mm.

The upper deposit **(002)** comprised loose, slightly silty, sand and gravel (20% sub-angular pieces of basalt 80 mm by 60 mm on average) and occasional pieces of mortar. **(002)** measured 1.30 m in depth and bottomed onto a stonier, more compact deposit, **(003)**, from 1.30 m to 1.90 m depth.

At 1.90 m the core hit a large boulder or very dense clay, **(004)**. This persisted until 2.40 m. There was boulder clay, **(005)**, from 2.40 m to 7.30 m at which point bedrock was encountered.

(002) and **(003)** are thought to be disturbed soils - it may be that the wall bottoms at the base of **(003)**, a depth of 1.90 m.

Core 3A was dug 2 m to the E of Core 3 to check if the service pipe was still running along the wall. **(001)** was found on the same alignment and at the same depth - the core was abandoned.

Core 4 showed the same deposits as **Core 3** and was located 5 m west of it. The upper 1.30 m was **(001)/(002)** - only 200 mm thick. **(003)** was seen from the core to be mottled brown, glacial till, and it went down to 4.90 m (3.40 m thick). **(004)**, grey boulder clay, filled to bottom 2 m. Bedrock encountered at 6.90 m.

Core 3 and 4 - Both the bedrock and the wall base are higher at **Core 4** (1.50 m and 6.90 m) than **Core 3** (1.90 m and 7.30 m) showing the wall base slopes with the bedrock, down to the E, some 5.40 m above it.

Core 5 - upper part was hand dug and measured 800 mm N-S by 450 mm wide, a steel bar was then hammered down to bedrock. Bedrock was at a depth of 1.50 m and everything above seemed to be recent in-fill.

A1.0 APPENDIX 1: LIST OF DRAWINGS

No	Type	Description	Scale
1	Plan	Amended HS plan	various
2	Plan	Plan of features in trench W of Guardhouse	1:20

A2.0 APPENDIX 2: LIST OF CONTEXTS

Coal Yard, September 2006: small test pit

No	Description
101	Hardcore/aggregates filling 2005 test pit 6
102	Cut for test pit 6
103	Modern tarmac
104	Type 1 aggregates
105	Rubble and Type 1 aggregates
106	Builders' sand filling 109
107	Plastic service duct
108	Thin layer of Type 1 below 107
109	U-shaped cut for 107
110	Dark brown gritty silt

Guardhouse, November - December 2006

No	Description
100	Service access hatch.
101	Stone setts, current ground surface.
102	Concrete base for 101.
103	Mid brown silty sand and stones, bottoming for 101.
104	Stones and very hard pale grey mortar, possible surface in the E part of the trench.
105	Stones and very hard pale grey mortar, possible surface in the N part of the trench.
106	Stonework in the SW corner.
107	Cement around 115.
108	Central spine at the top of the vault.
109	Top of the E side of the vault.
110	Hole cut into the top of the vault, NW corner of the trench.
111	Lagged water pipe.
112	Lead pipe, runs off the North end of 111.
113	Plastic casing for cable(s).
114	Iron drainage pipe.
115	Iron casing for cables, disused.
116	Iron gas pipe.
117	Lagged iron pipe.

No	Description
118	Very badly rusted iron pipe.
119	Whin blocks, footings for 120.
120	W face of the W wall of the gatehouse.
121	N-S line of whin blocks under 119.

Coal Yard, December 2006: re-internment of human remains

No	Description
001	Current tarmac surface.
002	Bottoming for 001.
003	Orange/brown sand and gravel, upper fill of 012.
004	Mid-dark brown clay and stones, fill of 012.
005	Grey/green gravel, fill of 012.
006	Red brown sand, primary fill of 012.
007	Gravel and yellow light brown sand.
008	Light-mid grey clayey silt, upper fill of 013.
009	300mm diameter cast iron pipe.
010	120mm diameter cast iron pipe.
011	Mid-dark grey clayey silt, fill of 013.
012	Cut for drain to the North of the trench.
013	Cut for pipes 109 and 110.

A3.0 APPENDIX 3: LIST OF PHOTOGRAPHS

HSCO-90130-2006-01-CD1: Coal Yard, September 2006: small test pit

#	Description	From	Date
1	Pre-excavation	S	27/09/06
2	Stihl saw cutting tarmac	SW	27/09/06
3	Breaking tarmac	SW	27/09/06
4	Tarmac F103	S	27/09/06
5	Iron and wood find from f104	-	27/09/06
6	Removing F104/F105	E	27/09/06
7	Removing F104/F105	E	27/09/06
8	Duct F107 in sand F106	S	27/09/06
9	End of day 1. S facing section	S	27/09/06
10	End of day 1. Whole trench	E	27/09/06
11	Duct F107 in sand F106	SW	27/09/06
12	S facing section	S	27/09/06
13	W facing section	W	27/09/06
14	N facing section	N	27/09/06
15	E facing section	E	27/09/06
16	Location shot	SW	27/09/06
17	Location shot	W	27/09/06

#	Description	From	Date
18	Location shot	W	27/09/06
19	Location shot	NE	27/09/06
20	Location shot showing hazard tape	SW	28/09/06
21	Boarded over trench	W	28/09/06
22	W facing section	W	28/09/06
23	N facing section	N	28/09/06
24	E facing section	E	28/09/06
25	S facing section	S	28/09/06
26	Final plan shot	W	28/09/06

HSCO-90130-2006-01-CD2: Guardhouse, November - December 2006

#	Description	From	Date
1	Structure 106, 108 and 109 and the service pipes.	S	01/12/06
2	Trench post excavation. Structure 105, 108 and 109 and the service pipes.	N	01/12/06
3	Detail of 108 and 109.	N	01/12/06
4	Detail of 108 and 109.	N	01/12/06
5	Trench post excavation. Structure 105, 108 and 109 and the service pipes.	N	01/12/06
6	Trench post excavation. Structure 106, 108 and 109 and the service pipes.	S	01/12/06
7	Structure 105, 106 and 109.	W	01/12/06

HSCO-90130-2006-01-CD3: Coal Yard, December 2006: re-internment of human remains

#	Description	From	Date
1	Removing pipe 009.	NW	21/12/06
2	012 in the North Elevation, fill 005 collapsing.	S	21/12/06
3	Pipe 005 in East section.	W	21/12/06
4	Lifting the casket over the trench.	NW	21/12/06
5	Lowering the casket.	NE	21/12/06
6	Lowering the casket.	W	21/12/06
7	Detail of the plaque on the casket	N	21/12/06
8	Casket placed in the trench.	SW	21/12/06

A 4.0 APPENDIX 4: ARCHIVAL REFERENCES

Site	Edinburgh Castle
HS PIC Index no	90130
Kirkdale Project no	HSCO-90130-2006-01

Files submitted on CD:

PDF (Report & illus)	HSCO-90130-2006-01-Report.pdf
Report in MS Word	HSCO-90130-2006-01-Report.doc
TIFFs	HSCO-90130-2006-01-Report Fig 1.tif
Photo scans	HSCO-90130-2006-01-CD1- . jpg(s) HSCO-90130-2006-01-CD2- 1-26. jpg(s) HSCO-90130-2006-01-CD3- 1-7. jpg(s)

A5.0 APPENDIX 5 (ATTACHED):

EDINBURGH CASTLE VISITOR RECEPTION PROJECT -

REPORT ON THE ARCHAEOLOGICAL CORING OF THE DEPOSITS IN THE COAL YARD, EDINBURGH CASTLE

(DR. STEPHEN LANCASTER, HEADLAND ARCHAEOLOGY, NOV 2006)

Date: November 2006
Client: Kirkdale Archaeology Ltd
Project Code: ECB 06

Edinburgh Castle Visitor Reception Project
Report on the Archaeological Coring of the Deposits in the Coal Yard, Edinburgh Castle.

Dr. Stephen Lancaster

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INTRODUCTION

Geoarchaeological coring was undertaken at the coal yard at Edinburgh Castle in advance of piling to support the base slab for a new ticket office at the Castle. The fieldwork was carried out from the 2nd to the 5th October 2006. The work was managed by Kirkdale Archaeology on behalf of Historic Scotland. The work was intended to establish the character and potential of the deposits known to exist in the coal yard (Driscoll and Yeoman 1997). The main feature identified in the 1988 excavations was a pair of massive defensive ditches which ran through and under the later Coal Yard. These were subject to only limited investigation at the time.

METHODS

Six boreholes were drilled under the supervision of Dr Stephen Lancaster, Headland Archaeology. Drilling was undertaken using a Dando Terrier 2000, a small, tracked rig, rather than a full-sized tripod rig as originally envisaged, in order to reduce access and clearance issues. The boreholes were located to match the positions of the projected pilings (See Figure 1). The sequence of sediments was recorded on standardised sheets. Full description of texture, colour, sedimentary structure and pedogenic features were recorded to allow the identification of interfaces between sedimentary units and the occurrence of post-depositional changes. Where a core or loose material from a core was thought to have archaeological or palaenvironmental potential this has been retained: a list of such samples is given in Appendix 1.

RESULTS

The results of the coring are presented below. All depths are from current ground surface.

Borehole 1

0.00-0.40m Dense gravel with yellow grey silt sand matrix: probable hardcore filling.
0.40-0.50m Layer of rocks (20-30 cm across).

0.50-1.50m (Gap at 1.00-1.16m) Clay with abundant clasts, predominantly stones (5-8 cm), with fragments of coal, 'modern' ceramic drain. Clasts chaotically arranged and randomly distributed.
1.50-3.00m (Gap **at 2.00-2.44m**). Pale yellow brown mortar rich granular clay sand, grading between **1.65m** and **2.00m** to brown clay silt with abundant stones and mortar fragments (2-4mm) and grading to a red brown colour below **2.44m**.
3.00-4.00m Gap, cobble driven through sediment, possible void at **3.75-3.85m**.
4.00-4.02m Red brown clay silt with abundant stones and mortar fragments (2-4mm).
4.02-4.22m Brown to yellow brown soft silt with common stones (0.5-6cm).
4.22-4.65m Gap.
4.65-4.90m Brown to yellow brown stiff clay silt with common stones (0.5-12cm).
4.90-4.95m Till
4.95 +m Heavily weathered siltstone.

Borehole 2
0.00-1.00m Dense gravel with yellow grey silt sand matrix: probable hardcore filling.
1.00-1.35m Gap.
1.35-1.65m Clay with abundant stones (5-8 cm).
1.65-1.90m Brown silt sand, with frequent mortar fragments, (0.3-7.0 cm), with rare fragments of charcoal/peat.
1.90-2.15m Stone and mortar rubble.
2.15-2.40m Gap.
2.40-3.00m Compact, massive to blocky, brown silt clay. Occasional to common mortar fragments (1-2mm), stones (1-5cm) and charcoal.
3.00-3.15m Gap
3.15-3.90m Red brown clay silt with occasional fragments of mortar (1-2mm).
3.90-4.00m Dark grey brown silt clay with frequent shell fragments (2-3cm), charcoal/peat.
4.00-4.33m Gap
4.33-4.65m Dark grey brown silt clay with frequent shell fragments (2-3cm), charcoal/peat and occasional fragments of mortar (1-2 mm).
4.65-9.60m Dark grey brown silt clay with frequent shell fragments (2-3cm), charcoal/peat. Shell and charcoal reduces gradually from frequent to occasional occurrences between **5.00** and **6.00m.** Bone fragments occur at approximately **7.8m**. Gap at **8.00-8.55m**.
9.60-9.80m Till.
9.80+m Fine grained igneous rock.

Borehole 3
0.00-0.80m Dense gravel with yellow grey silt sand matrix: probable hardcore filling.
0.80-1.10m Grey brown soft sand clay with abundant stones and occasional fragments of mortar (1-2mm). Stones have a chaotic arrangement.
1.10-1.40m Gap
1.40-4.60m Grey brown to brown gritty, sand clay silt with rare bone and charcoal fragments (3-5mm) and very rare mortar fragments (1-2mm). Gap at **2.00-2.18m**. Stone and mortar fragments (2-7cm) at **2.45m** and **3.2m**. Stones at **3.4m** and **3.6m**. Frequent oyster shell, charcoal (3-12mm) and mortar fragments (1-2mm) from **3.00m**.
4.60-8.80m Grey brown slightly gritty sand silt clay, with occasional fragments of oyster shell and charcoal (2-5mm) and rare mortar fragments (1-2mm), with inclusions decreasing in frequency with increasing depth. Bone fragments noted between **4.95** and **5.00m**. Clay content increases from **7.8m**. Gaps at **6.00-6.20m**, **7.00-7.50m**, **8.00-8.32m**.
8.80-9.00m Mixed till and rock fragments.
9.00-9.45m Gap.

9.45-10.00m Till.

Borehole 4

0.00-1.37m Dense gravel with pale yellow silt sand matrix: probable hardcore filling.
1.37- 3.85m Brown, becoming reddish dark brown clay silt, with abundant charcoal, frequent grit, stones (2-4cm) and shell fragments, charcoal content reduces and texture becomes silt clay to occasional between **2.00-2.25m**. Concentration of larger stones (5-7 cm) at **2.4-2.5m**.
3.85-4.25m Brown grey gritty sand with abundant shell fragments and frequent stones (2-5cm).
4.25-4.40m Brown gritty silt. Loose stone driven to **5.00m**, probably through relatively stony layer. Borehole abandoned.

Borehole 5

0.00-1.35m Dense gravel with pale yellow silt sand matrix: probable hardcore filling.
1.35-2.80m Reddish brown clay, with occasional grey and yellow mottles. Common stones (3-7cm), fragments of charcoal and mortar. Clay structureless, clasts chaotically arranged and randomly distributed.
2.80-3.00m Dark brown silt clay, with abundant stones (2-5cm) and common fragments of mortar (2-4cm)**.**
3.00-3.83m Grey clay with occasional stones (2-4cm). Clay has a weakly developed blocky structure.
3.83-3.90m Yellow brown sandy gritty clay.
3.90-4.00m Dark brown clay silt loam with common fragments of shell (1-2cm, oyster).
4.00-4.25m Gap
4.25-6.00m Brown soft silty clay, with frequent grit, common charcoal, shell fragments and stones (1-5cm). Gap at **5.00-5.29m**.
6.00-6.39m Gap
6.39-7.00m Brown clay with frequent to abundant stones (2-7cm).
7.00-7.30m Gap
7.30-8.00m Brown grey very stiff stony clay till.

Borehole 6

0.00-1.30m Dense gravel with pale yellow silty sand matrix: probable hardcore filling.
1.30-2.23m Dark brown silt clay loam, with common fragments of mortar (2-4mm), charcoal (1-3mm) and stones, stoniness increasing with depth.
2.23-2.38m Layer of stones, larger stones at top of unit and smaller stones/gravel to base.
2.38-2.80m Brown grey silt clay loam. Abundant stones (3-4cm), fragments of mortar (2-3mm and charcoal (1-3mm). Clasts chaotically arranged and randomly distributed.
2.80-2.85m Dark brown clay silt, with rare mortar and charcoal fragments (2-4mm).
2.85-3.37m Dark brown silty clay, with abundant grit and common stones (1-3cm). Gap at **3.00-3.22m**.
3.37-3.54m Dark brown silt clay, with common fragments of shell and charcoal fragments (2-3cm).
3.54-5.00m Grey clay with common stones (3-5cm).
5.00-8.00m Brown clay silt, firm to friable, with common shell fragments (4-10mm).
8.00-8.30m Mixed red and grey sandy clay, possible contaminants from borehole sides.
8.30-8.60m Brown to grey brown mixed sand silt with abundant stones.
8.60-9.00m Grey brown well sorted silt with occasional fragments of shell and peat (1-4cm).
9.00-10.70m Grey brown stiff clay silt, with occasional small fragments of shell and peat (1-4cm).

10.70-10.85m Brown grey very stiff stony clay till.
10.85-11.00m Weathered siltstone.

DISCUSSION

Sedimentary Sequence

The sequence can be divided into 5 types of deposit. The five types of deposit are as follows: (1) the underlying natural glacial till and bedrock; (2) moderately to well sorted silts and clays that do not contain fragments of mortar, interpreted as low energy alluvial (water-lain) deposits; (3) moderately to well sorted silts and clays that contain mortar fragments, interpreted as low energy alluvial deposits; (4) chaotic mixed deposits of clay aggregates, stone and mortar fragments, interpreted as being the result of the levelling/dumping of demolition material; (5) modern hardcore.

Deposit Type	Borehole No. and Depth	Process/Environment of Deposition
1	1) 4.90+m, 2) 9.60+m, 3) 8.80+m, 5) 7.30+m, 6) 10.70+m	Glacial till and Bedrock.
2	1) 4.02-4.90m, 2) 3.90-9.60m, 3) 6.00-8.80m, 5) 3.90-7.00m, 6) 2.85-10.70m	Alluvial deposits, no mortar input.
3	1) 1.50-4.02m, 2) 2.40-3.90m, 3) 1.10-6.00m, 4) 1.37-4.40m, 5) 3.00-3.90m, 6) 2.38-2.85m	Alluvial deposits, fine mortar input.
4	1) 0.50-1.50, 2) 1.35-2.15m, 3) 0.80-1.10m, 5) 1.35-3.00m, 6) 1.30-2.38m	Levelling/dumping of demolition material.
5	1) 0.00-0.50m, 2) 0.00-1.35, 3) 0.00-0.80, 4) 0.00-1.37m, 5) 0.00-1.35m, 6) 0.00-1.30m	Modern hardcore.

Table 1: Classification of borehole deposits.

Till was encountered at the base of the five successful boreholes. The varying depths at which till were encountered broadly confirm earlier findings that there was a double ditch running under the Old Coalyard and part of the Esplanade (Driscoll & Yeoman 1997). In three of the boreholes (Numbers 1, 2, 6) bedrock was reached. Where bedrock was encountered it always had an overlying cover of till. The thickness of till encountered was variable, from as little as 5cm to over 70cm, with the greatest thickness being in the area corresponding to the area between the ditches. The implications of this are discussed below.

Type 2 and 3 deposits are predominantly composed of silts and clays, with relatively few larger components, suggesting a lower energy process of deposition, such as might be envisaged in an environment with still or slowly moving water. The upper, Type 3, deposits of clay and silt generally contain small (1-4mm) fragments of mortar, suggesting that during the course of their accumulation there was demolition or remodelling of structures somewhere in the area of the ditch, but that the rubble was not being dumped in this area. Type 2 deposits do not contain mortar, suggesting no demolition or remodelling in the near vicinity during the accumulation of these deposits. Inputs that are indicative of nearby human activity include small fragments of shell, which generally appears to be oyster, and charcoal, which may include both wood and peat charcoal.

The Type 4 deposits can be split into two elements, one of a mixed character, containing relatively large fragments of mortar and other inclusions. The arrangement and distribution of these inclusions is chaotic and random. This suggests a short lived and relatively high energy deposition process, consonant with deliberate dumping of material, perhaps to fill in or level the area. At the base of these deposits lies the other element of the Type 4 deposits, an intermittent layer of stone and mortar fragments, also indicative of deliberate dumping of material, presumably resulting from demolition (peaceful or otherwise!) of older structures. The Type 5 hardcore deposits been backfilled recently into test pits dug over the positions of the proposed pilings. The test pits were dug to approximately 1m. As such the uppermost deposits in the boreholes will not represent the uppermost deposits in the area.

Archaeological Implications

As has been noted above, wherever bedrock was reached it was covered by a layer of glacial till, meaning that the ditches were cut through till rather than bedrock. The bedrock itself does dip or form a depression in this area, over which a varying thickness of till was draped. This suggests that the location of the ditches was based on a natural depression that would have been observable on the ground. This is not to suggest that the underlying geology completely determined the form of the ditches: the dividing baulk between the ditches appears to be formed of till rather than bedrock. The ditches were of greater depth than had been tentatively suggested on the basis of the excavation work in the area: the inner ditch has a depth of approximately 9.6m, the outer ditch has a depth of at least 10.7m. Even allowing for a natural depression in the landscape these ditches represent a significant undertaking.

The subsequent infilling of the ditches appears to have been through low-energy alluvial processes. As such the infilling would probably have been relatively gradual. All the infilling deposits appear to have shell and charcoal fragments, which are taken as indicators of human activity in the area. The shell fragments are mostly very small, indicating that there has been considerable movement and recycling of material prior to incorporation in the ditch sediments. This suggests that the sediments derived from areas in which rubbish has been deposited, but also that the ditches themselves were not primarily used for dumping refuse.

The upper alluvial deposits were small fragments of mortar. These are small and light enough to have been incorporated into the sediment through inwashing from the surrounding area. Their presence indicates some form of demolition/remodelling activity in the vicinity during the period of sediment accumulation, leading to residual mortar being deposited incidentally, rather than the deliberate dumping of mortar.

No definite evidence erosion or a cessation of accumulation has been detected in the alluvial deposits. Erosion could include human activity such as clean or recutting a ditch, as well as natural processes. The lack of evidence for cessation or erosion may reflect the difficulties of precise observation in the field rather than a genuinely continuous process of infilling of the ditches.

The infill of the ditch at a depth of c. 5m has been dated on the basis of pottery evidence to the 14th century (Driscoll and Yeoman 1997). No direct dating evidence was noted during boring. There may be potential for the recovery of datable materials from the retained cores, both in terms of artefact evidence and organic materials for radiocarbon dating.

RECOMMENDATIONS

In order to further enhance our understanding of the ditches in the Old Coalyard it is necessary to fully appreciate the details of the sedimentary processes of the infilling of the ditches including, as far as possible, whether the processes of infilling were continuous or intermittent. This will form the context for improving the understanding of the chronology of the ditches. Given the current understanding of the formation processes of the ditch fills, in particular the degree of recycling of material prior to deposition represented by the degree of shell fragmentation observed in the field, fine-scale environmental analysis is not recommended. Instead three procedures are suggested that should represent an appropriate degree of effort:

- Detailed laboratory descriptions of the cores from Boreholes 2 and 6 should be made. This will refine the record derived form on-site observations, specifically with tracing possible phases of non-accumulation in the sedimentary records of the ditches.

- All retained cores should be sub-sampled on the basis of the depth units identified in the field. The sub-samples should be wet-sieved for the recovery of datable material.

- Organic remains recovered by wet-sieving should be assessed for suitability for radiocarbon dating.

REFERENCES

Driscoll, S T & Yeoman, P A 1997 *Excavations within Edinburgh Castle in 1988-91* Society of Antiquaries of Scotland Monograph Series Number 12

Mitchell, G H and Mykura, W 1962 *The Geology of the Neighbourhood of Edinburgh* Memoirs of the Geological Survey Scotland, HMSO

APPENDIX 1
Samples Retained At Headland Archaeology
Top 1.2 metres not retained as composed of modern made ground.

BH1
No samples retained.

BH2
2-3m, 3-4m, 4-5m, 5-6m, 6-7m, 7-8m, 8-9m, 9-10m.

BH3
1-2m, 2-3m, 3-4m, 4-5m, 5-6m, 6-7m, 7-8m, 8-9m, 9-10m.

BH4
1-2m, 2-3m, 3-4m.

BH5
4-5m, 5-6m, 6-7m.

BH6

1-2m, 2-3m, 3-4m, 4-5m, 5-6m, 6-7m, 7-8m, 8-9m, 9-10m, 10-11m.

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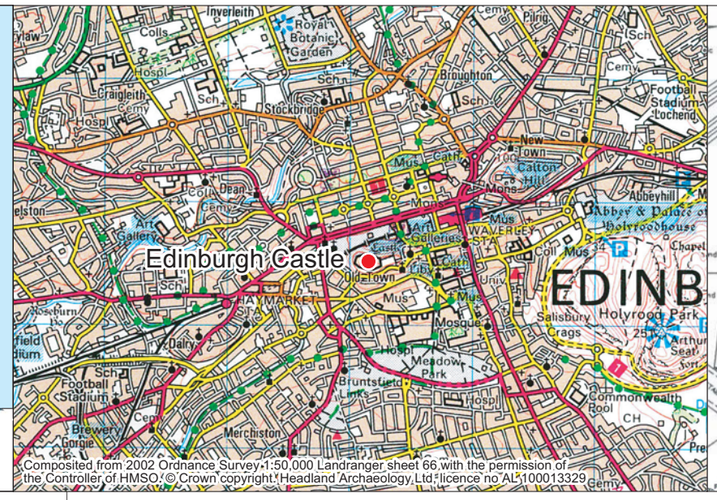

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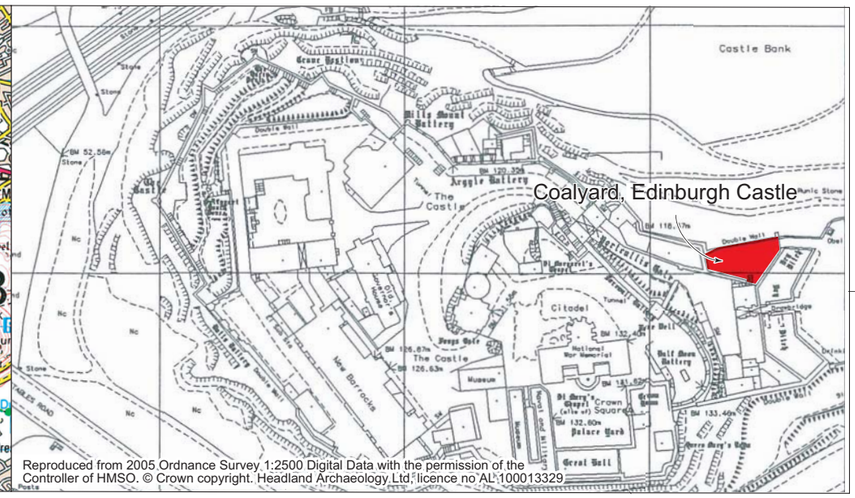

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Key

●	Borehole location and number
1	
4.95m	Depth to top of till

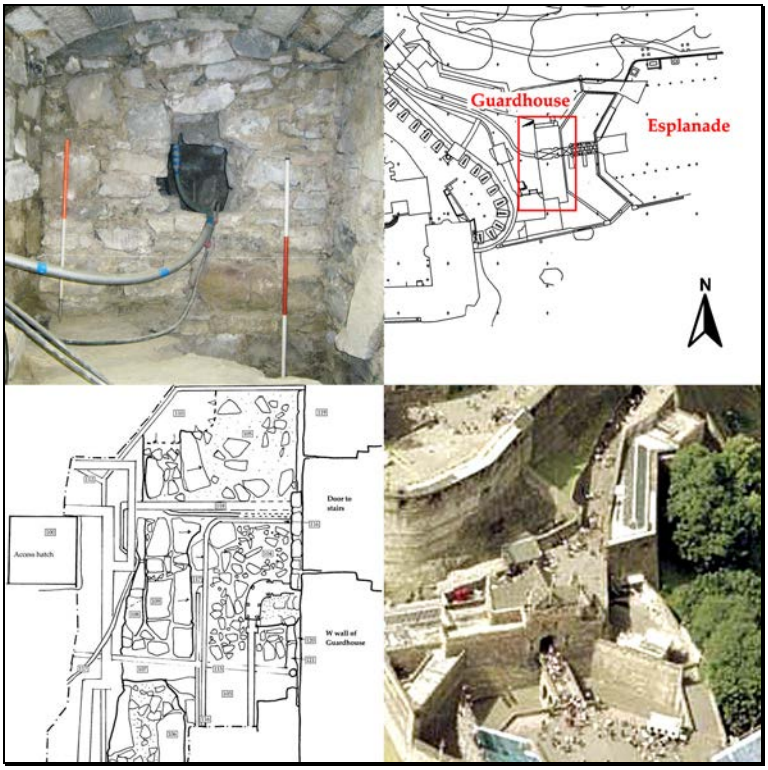
Based on illustration provided by the client.

Figure 1: Coalyard Edinburgh Castle (ECB06): Location of geoarchaeological boreholes.

Historic Scotland
Properties in Care
Minor Archaeological Works 2007

Edinburgh Castle (Guardhouse): Archaeological Excavation January - February 2007

HS PIC Index number: 90130
Project code: HSCO-90130-2007-01



30 March 2007
Kirkdale Archaeology

Site	Edinburgh Castle (Guardhouse)
N.G.R	NT 252 735
Project Description	Archaeological excavation
Project Number	HSCO-90130-2007-01

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SUMMARY: Further to the discovery of the top of a vaulted structure during the excavation of a small trench against the west wall of the Guardhouse in late 2006, excavation and recording was undertaken in the vaults themselves. Seven phases of construction were identified, dating from the 17th century onwards.

1.0 INTRODUCTION

Under the terms of its PIC call-off contract with Historic Scotland, Kirkdale Archaeology were asked to undertake archaeological excavation and recording at the Guardhouse at Edinburgh Castle.

In December 2006, a *c* 2.5 m x 4 m trench had been opened against the N end of the W wall of the Guardhouse in advance of that area being landscaped as part of the works for the new ticket office. After the discovery in this trench of the upper surface of a vaulted structure it was decided that further investigation was warranted.

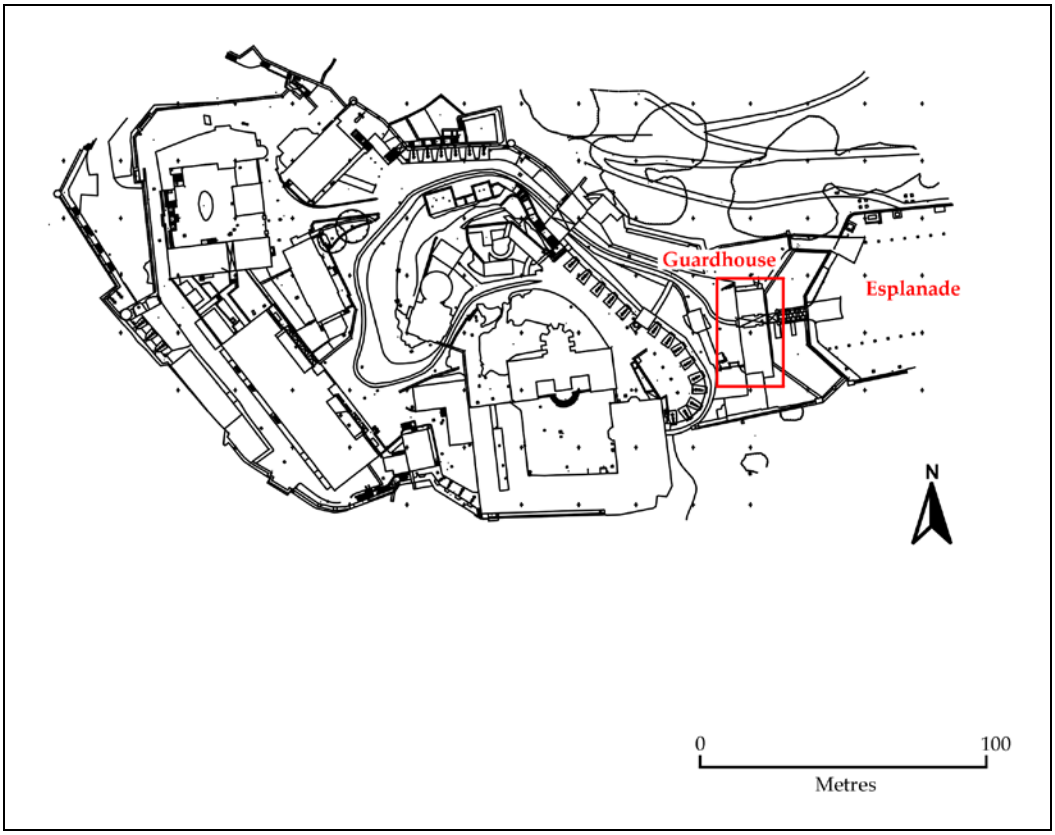


Figure 1 - Location Plan

2.0 EXCAVATION ACCOUNT

2.1 Overview

Within the earlier trench the top of part of **vault 1** was uncovered and it was decided to carry out a small amount of excavation within the vaults. The elevations of the upstanding vaults were also to be recorded and a plan locating them to the earlier trench and the structure above ground was drawn. However, the first part of this work comprised the removal of the considerable amount of debris that had been dumped in the vaults in recent times. During the removal of the dumped material and the subsequent excavation, HS MCU personnel provided great assistance, carrying away a seemingly endless supply of bags filled with spoil.

There was spoil to be removed from **vaults 2**, **3, 4** and **6**; in **vault 1** there were bollards, cables and other odds and ends, while **vault 5** was clear. **Vault 7** and **vault 8** are still full of rubble and were not examined during these works.

During the work there were trenches excavated in **vault 2** (trenches 1 and 2), **vault 3** (trench 3), **vault 4** (trench 4) and **vault 6** (trench 5). The features seen in the trenches are described in the relevant vaults.

- Trench 1 was little more than a clean over the W 2.00 m of **vault 2**.
- Trench 2 was located in the SE corner of vault 2; it was a triangular area measuring up to 1.80 m NE-SW, 900 mm wide and up to 1.05 m deep.
- Trench 3 is the area on top of the **phase 1** wall in the W part of **vault 3**. The excavated area was at the S side and measured 1.00 m square and up to 200 mm deep, the N part was also cleaned.
- Trench 4 measured up to 1.80 m E-W, 1.70 m N-S and up to 900 mm deep, it was located at the W end of **vault 4**.
- Trench 5 removed the topsoil, up to 100 mm deep, from most of **vault 6**.

2.2 Vault 1

Vault 1 was located to the NW of the others and measured up to 7.00 m N-S (although the N 1.90 m of this is an entrance corridor) and 3.40 m E-W. The door in the N wall of this vault is the only entrance to these rooms; access to any of the

others is through this vault. In the SW corner of the room there is a, roughly "L" shaped, brick built structure measuring 3.70 m N-S and 1.45 m E-W at the N end and 2.50 m E-W in the S part. The brick construction fills most of the height of the vault.

The N wall, **V1.1.001**, is constructed mainly with concrete blocks although there is some red brick patching. The concrete blocks measure 450 mm in length, 210 mm wide and 110 mm thick and although they are coursed they have often been laid on their side or edge. The pointing is hard grey cement. The inner (S) face of the wall is roughly 1.90 m S of the doorway (**V1.1.002**) into the vaults and the corridor between is lined with the same blocks.

The doorway into the N end of the vaults, **V1.1.002**, measures 2.14 m in height and 1.00 m E-W, the edges are formed with cement.

The E side of the vaulting, **V1.2.001**, is formed with roughly coursed rectangular sandstone blocks (looks to be red and grey sandstone but limited access and heavy sooting makes it hard to tell) measuring 400 mm by 200 mm on average. There are some small pinning stones and hard, gritty, light brown mortar between the larger blocks. All of the stonework is heavily fumed, stained black.

The S wall, **V1.3.001**, was only seen by looking along the top of the roof of the, **phase 7**, brick structure. All that could be said with confidence was that this wall was very heavily sooted.

V1.4.001, the W wall, was only seen in a small area. Once again the stone blocks were heavily sooted but it was noted that they looked to be larger and squarer than those to the E, measuring 400 mm by 350 mm on average.

In the corridor part of the vault, the area outside the brick shed, the floor surface is concrete, **V1.5.001**.

The walls of the shed **V1.5.002** are constructed with coursed red bricks. Mostly whole but also some part bricks are used, a whole brick measures 220 mm by 100 mm and 60 mm thick.

The wall along the E side of the corridor **V1.5.003** is a red brick structure measuring 1.45 m N-S (S from **V1.5.004**) and 200 mm thick at the N end and 100 mm elsewhere.

There is a 300 mm gap between the W face of **V1.5.003** and the W wall of the vault. Running E from the S end of **V1.5.003**, **V1.5.007** is another red brick wall forming the edge of the corridor. **V1.5.007** measures 1.25 m E-W.

V1.5.004 is an entrance to the short corridor that runs along the E side of the brick shed then turns E toward **vault 2**. The aperture measures 950 mm in width and there is no structure filling it.

The S end of the corridor is formed by red brick wall **V1.5.005**. **V1.5.005** measures 2.25 m E-W.

The aperture between **V1.5.003** and **V1.5.005**, **V1.5.006**, measures 1.10 m N-S.

The top part of the vaulting, **V1.6.001** is very heavily sooted making individual blocks very difficult to pick out at the distance it was viewed from.

In the N part of **V1.6.002** shows the point where two electricity cables penetrated the structure.

2.3 Vault 2

Vault 2 measured 4.40 m E-W and 1.80 m N-S, it was entered at the W end through **vault 1** and a doorway, just W of central, in the S wall provided access to **vault 3**. Crawl holes in the E and N walls provided the only access to **vault 7** and **vault 8** respectively.

The N wall, **V2.1.001**, was constructed with roughly coursed rectangular blocks measuring 500 mm by 300 mm on average. The sandstone blocks are mostly yellow but also include some red and a couple of grey ones. The pointing is light brown sandy mortar.

Roughly halfway along the wall, at the top and measuring 900 mm in height and 1.20 m E-W, **V2.1.002** is a plywood board that has been painted black.

E of **V2.1.002** and half way up the wall; **V2.1.003** is an aperture through the wall. **V2.1.003** is roughly rectangular and measures 700 mm E-W, up to 500 mm in height and 950 mm N-S.

At the base of the wall, under **V2.1.003**, there is an area of yellow sandstone blocks, **V2.1.004** that are heavily pointed with pale brown sandy mortar. **V2.1.004** extends

out (S) 250 mm from the face of **V2.1.001** and measure 1.20 m E-W and up to 300 mm in height.

To the E of **V2.1.004**, at the base of the E end if the wall, **V2.1.005** is a sandstone block measuring 480 mm E-W and over (continues under **V2.1.001**) N-S. The outer face of **V2.1.005** is at an angle to the wall face, running NE-SW.

Immediately to the W of **V2.1.004**, **V2.1.007** is a grey sandstone block also at an angle to the wall face, at the E edge it emerges from under the wall face and at the W is 180 mm into the room.

Toward the W end of the elevation, under **V2.1.001**, **V2.1.008** is a large (590 mm E-W and up to 250 mm N-S) grey sandstone block. This block is angled in the same way as **V2.1.005** and **V2.1.007**.

Below and between **V2.1.007** and **V2.1.008**, **V2.1.006** is hard light brown mortar and small stones. **V2.1.008** was up to 250 mm thick and seen in the W 2.40 m of the N elevation.

Deposits **V2.1.009**- **V2.1.014** were seen at the W end of the elevation, beyond the W edge of **V2.5.001**.

Below **V2.1.008**, **V2.1.009** is a deposit of gravel and compact mid-dark brown silty clay and stones, roughly 40% stones measuring 60 mm by 40 mm on average. **V2.1.009** measured between 50 mm and 400 mm in depth, thickening to the W. Sealed by **V2.1.009**, **V2.1.011** is a deposit of very compact light brown gritty mortar and stones, the mortar hid most of the stones. **V2.1.009** and **V2.1.011** were against the face of **V2.5.001** although the later may be the continuation of it.

V2.1.010 looked to be over **V2.1.011** and under **V2.1.009**, it is a, 400 mm thick, mix of rubble and yellow/light brown sticky clay with roughly 85% sandstone fragments measuring 80 mm by 50 mm on average.

Sealed by **V2.1.011**, **V2.1.012** is a 50 mm thick deposit of compact mid-dark brown silty clay. **V2.1.12** sealed **V2.1.013**, rotting green sandstone and compact green clay in a fairly even mix.

Against **V2.1.013** there is an 80 mm thick deposit of very sticky yellow /light brown sandy clay with 20%, 60 mm by 40 mm on average, stones, **V2.1.014**. Although in

section it looks like **V2.1.014** is clearly under **V2.1.013** it is in fact against and therefore, stratigraphically, over it.

The E wall, **V2.2.001**, is constructed with a mix of red, yellow and grey sandstone blocks although grey are most prevalent. Towards the top of the wall, down to just below **V2.2.002**, the average size of the blocks is 250 mm by 150 mm and they are un-coursed. Lower down the wall is rougher coursed, better faced and the stones measure 550 mm by 400 mm on average. The pointing in both parts is light brown sandy mortar.

V2.2.002 is an irregularly shaped aperture measuring up to 600 mm high, 550 mm N-S and 800 mm thick.

The doorway aperture, **V2.3.016**, between vaults 2 and 3 measured 1.80 m in height and 1.10 m E-W. The structure at the E and W sides, **V2.3.017** and **V2.3.018** respectively, was coursed red brick pointed with thick, mid grey, cement. The bricks used measure 210 mm by 100 mm by 65 mm when complete. **V2.3.017** measured 400 mm E-W in the main, **V2.3.018** 200 mm E-W. The lintel was formed with **V2.3.019**, a concrete (probably reinforced) slab measuring 1.50 m E-W and 110 mm thick. Over and around **V2.3.017** and **V2.3.018** and over **V2.3.019**, **V2.3.020** comprises sandstone chips with thick, mid grey, cement pointing.

The upper part of the W end of the S wall, **V2.3.001**, used mostly rectangular blocks, the largest measuring 750 mm by 350 mm thick, pointed with hard pale grey mortar. The inner face of the wall slopes N as it runs down. The E end, **V2.3.002**, is formed with sub rectangular sandstone blocks (400 mm by 200 mm on average) and pointed with hard pale grey mortar. The outer (N) face is mostly flat but there are one or two stones jutting out from it.

Immediately below **V2.3.001**, **V2.3.003** is formed with two roughly rectangular sandstone blocks filling an area 1.00 m E-W and 250 mm high. The outer faces project out (N) from **V2.3.001** and ragged and chipped.

Under the E side of **V2.3.003** and stepping out (N) 30 mm at the E end and 100 mm to the W, **V2.3.007** is a yellow sandstone block. **V2.3.007** measures 250 mm E-W and 350 mm in height, although the E side has been cut away for **V2.3.0**##. The bottom

part of the stone is burnt.

Under the W side of **V2.3.003** and running into the W wall, **V2.3.008** is a yellow sandstone block. **V2.3.008** measures 250 mm E-W and 300 mm in height, the E edge is 250 mm out from (N of) **V2.3.003** and the W edge 300mm.

Below **V2.3.003** and between **V2.3.007** and **V2.3.008**, **V2.3.004** comprises sandstone blocks bonded with light brown gritty mortar. Below and between the stones of **V2.3.004**, **V2.3.005** is very hard light brown gritty mortar.

Sealed by **V2.3.005**, **V2.3.006** is a mix of mid brown and grey clay with 30% small (20 mm diameter) stones and charcoal flecks throughout.

At the base of **V2.3.008** and sealed by **V2.3.006**, **V2.3.009** is thin (20 mm thick) sandstone slabs.

Under **V2.3.007**, **V2.3.012** is a 40 mm thick deposit of fairly compact light-mid brown silty sand. **V2.3.012** sealed **V2.3.013**, compact light grey silty clay and stones (approximately 50% stones 30 mm by 20 mm diameter on average) with ash and charcoal flecks throughout. Below **V2.3.013** there is a 30 mm thick even mix of grey clay and small (20 mm diameter) stones with occasional charcoal flecks, **V2.3.014**. Over **V2.5.002** and sealed by **V2.3.014**, **V2.3.015** is a deposit of dark grey silty clay with many charcoal flecks and occasional small stones.

At the W end of the elevation, under **V2.3.009**, **V2.3.010** is a 120 mm thick deposit of yellow brown clay and decayed stone. **V2.3.010** sealed **V2.3.011**, compact dark brown silty clay and stones measuring up to 450 mm in thickness.

The W elevation is dominated by (**V2.4.002**) a door aperture measuring 2.12 m high and 1.10 m N-S. The S and N sides of **V2.4.002** are **V2.4.003** and **V2.4.004** respectively, coursed red brick pointed with thick, mid grey, cement. The lintel is a concrete slab, **V2.4.005**, measuring 1.25 m N-S and 80 mm thick. Above **V2.4.005**, **V2.4.006** is an area (1.50 m N-S and 400 mm high) of irregularly shaped, uncoursed yellow sandstone blocks that are pointed with mid grey cement.

The W wall face (**V2.4.001**) is constructed with roughly coursed yellow and grey sandstone blocks, measuring 350 mm by 200 mm on average, and pointed with light brown sandy mortar.

Within trench 1, in the SE corner of the room, **V2.5.003** is rubble and gravel infill mixed with yellow light brown sand and mortar. The majority, approximately 70%, of the deposit is angular sandstone fragments (180 mm by 80 mm on average) the rest being larger stones (up to 350 mm by 250mm) and sand. Within this deposit there were modern finds including beer cans and a couple of dust masks.

Below **V2.5.003** there was a deposit of grey/brown sandy silt and stones, **V2.5.004**. **V2.5.004** was not excavated and it was distinguished from **V2.5.003,** as it was mainly soil.

In the NE part of the vault the fairly flat and very hard surface is formed with **V2.5.001**, stones and yellow/light brown mortar. The edges of the stones were usually hidden but at the W edge it could be seen they were sandstone blocks. At the SE edge (see **V2.5.006**) it was seen that this was a wall. **V2.5.001** measures 2.30 m (NE-SW) in width.

V2.5.006 is the SE face of **V2.5.001** is fairly straight and neat, it is formed with large (450 mm by 250 mm on average) sandstone blocks that are fairly well coursed. The pointing at **V2.5.006** is hard, pale grey, gritty mortar.

The SE limit of **V2.5.001** is at **V2.5.005** a jagged crack measuring up to 300 mm in width and seen to a depth of 350 mm but looking to continue beyond.

To the SW of **V2.5.005**, **V2.5.002** measures 2.15 m in width and is formed with sandstone chunks bonded with hard, pale grey, gritty mortar. Both the NW and SE faces of **V2.5.002** are fairly straight and continue below the excavated levels.

The ceiling arch, **V2.6.001**, is constructed with coursed rectangular sandstone blocks. The stones over the N and S walls are cut so that the ends are flat over these walls and then slope up to form the base of the sides of the arch. The blocks are grey and yellow sandstone and measure 600 mm E-W on average and consistently 200 mm in width; the outer faces are heavily tooled.

2.4 Vault 3

Vault 3 is to the S of **vault 2** and measures 4.40 m E-W and 1.70 m N-S. There are doorways just to the W of central in the N and S walls providing links with **vault 1** and **vault 2** respectively.

The inner face of the W end of the N wall, **V3.1.001**, is formed with roughly coursed rectangular sandstone blocks measuring 400 mm by 250 mm on average. The stones are a mix of yellow, red and grey, the pointing is hard light grey gritty mortar but there are patches of pale grey cement. The wall slopes inward (S) toward the base. Similar blocks are used at the E end but yellow and grey sandstone is dominant, and the face does not slope.

V3.1.005 is a, 1.86 m high and 570 mm wide aperture within **V3.1.001**. The sides of **V3.1.005**, **V3.1.002**, are formed with coursed red bricks pointed with mid grey cement and extend up 200 mm outside the aperture to the W and 600 mm to the E.

Over **V3.1.002**, **V3.1.003** comprises four concrete slabs (each measuring 1.38 m E-W, 140mm-160 mm N-S and 100 mm thick) pointed with mid grey cement. The slabs of **V3.1.003** cap the full length (N-S) of the aperture. Above **V3.1.003** there are sandstone chips pointed with grey cement, **V3.1.004**.

The majority of the inner face of the E wall, **V3.2.001**, is constructed with roughly coursed rectangular and sub rectangular sandstone blocks measuring 500 mm by 300 mm on average. The stones are mainly yellow, but also some red and grey sandstone, the pointing is hard light brown gritty mortar.

At the top of wall **V3.2.001**, **V3.2.002** is an area where smaller stones are used and the wall is not as well finished.

The E part of the S wall, **V3.3.001**, is constructed with roughly coursed rectangular and sub rectangular sandstone blocks measuring 350 mm by 250 mm on average. The stones are mainly yellow, but also some red and grey sandstone, the pointing is hard light brown gritty mortar. The wall slopes inward (N) toward the base. At the W end of the wall, **V3.3.006** is numbered separately from **V3.3.001** as a couple of the stones jut out from the wall face into the room and red and yellow sandstone dominates here.

V3.3.003 is a, 1.74 m high and 770 mm wide aperture that extends 1.10 m N-S (through the wall separating **vaults 3** and **4**) within **V3.3.001**. The sides of **V3.3.003**, **V3.1.002**, are formed with coursed red bricks pointed with mid grey cement and extend up 200 mm outside the aperture to the E and 350 mm to the W.

Over **V3.3.003**, **V3.004** is made with five concrete slabs (each measuring 1.50 m E-W, 140 mm N-S and 100 mm thick) pointed with mid grey cement. Above **V3.3.004**, **V3.3.005** is sandstone chips pointed with grey cement.

The face of the W wall, **V3.4.001**, is formed with sub rectangular sandstone blocks including many that are reddened or blackened. There seemed no particular pattern to which stones were stained ones that were and were not being sited beside each other. The wall slopes into the room slightly (E) toward the bottom.

Above the other features, **V3.5.005** is rubble and gravel infill mixed with yellow light brown sand and mortar. The finds were modern, a chisel, dust masks etc. **V3.5.005** was up to 800 mm high in the SW corner of the room.

Wall **V3.5.001** was the continuation of **V2.5.002**. **V3.5.002** is an area of the SE face of **V3.5.001** where irregular cuts have been made in the wall face.

N-S across **V3.5.001**, roughly in line with the doorway to the N, **V3.5.003** is a cut and the level at the top of the wall drops 300 mm as a result of this.

At the SW end of **V3.5.001**, **V3.5.004** is a grey sandstone block that has a smooth upper face. There looked to be a line of stonework continuing NW from the NE edge of **V3.5.004** but this was not investigated.

In an area of up to 800 mm E-W and 400 mm N-S in the NW corner of the trench, under **V3.5.005**, **V3.5.006** is a 10 mm thick deposit of grey decayed stone. **V3.5.006** sealed **V3.5.007**, a 100 mm thick deposit of light-mid brown sand. Under **V3.5.007** there was another, 20 mm thick, deposit of grey decayed stone, **V3.5.008**. **V3.5.008** was seen in an area of up to 1.30 m E-W and 650 mm N-S in the NW corner of the room. Directly under **V3.5.008**, **V3.5.009** is a mix of small (30 mm by 20mm) pieces of stone, decayed stone and red sand. **V3.5.009** was up to 40 mm thick and sealed **V3.5.010**, a 120 mm thick deposit of stones (60 mm by 40 mm on average) mid-dark grey silty clay with charcoal flecks throughout.

V3.5.010 sealed **V3.5.011** a compact surface of stones and light brown mortar that was mostly flat but included small dips. **V3.5.011** was seen in the W part of the trench, an area of approximately 1.00 m square.

In the NE corner of the high part of **V3.5.002**, **V3.5.012** is an area of walling that

looked to join into **V3.5.011**.

Against the W wall there was a small area of sticky dark grey/black silty sand, **V3.5.013**. The relationship between **V3.5.011** and **V3.5.013** was not excavated.

The roof arch, **V3.6.001**, is constructed with coursed rectangular sandstone blocks, the outer faces of which are heavily tooled. The stones over the N and S walls are cut so that the ends are flat over these walls and then slope up to form the sides of the arch. The blocks are grey and yellow sandstone and measure 600 mm E-W on average and consistently 200 mm wide.

2.5 Vault 4

Vault 4 is to the S of **vault 3**. This vault measures a maximum of 4.85 m E-W and 1.75 m N-S. There are doors in the N and S walls linking this vault into **vault 3** and **vault 5** respectively**.**

The N wall, **V4.1.001**, is formed mainly with rectangular blocks (400 mm by 250 mm on average) but included some smaller pinnings. The blocks are a mix of yellow, grey and red sandstone, although red are prevalent, and they are pointed with hard light grey gritty mortar although there are a couple of patches of cement. The wall face slopes in (S) toward the base. The E end of the wall face was numbered **V4.1.006** as the stones here were yellow and grey sandstone.

V4.1.004 is an aperture slightly to the W of central in the N wall, it measured 1.74 m in height, 770 mm wide and 1.10 m N-S. The sides of **V4.1.004** were formed with were formed with coursed red brick, **V4.1.003**, extending up to 400 mm into the wall face at both sides. Above **V4.1.004**, **V4.1.005** is an iron girder measuring 1.35 m E-W and 80 mm thick.

The E wall face, **V4.2.001** is formed with red, yellow and grey sandstone blocks that are roughly coursed. Most of the blocks are large, up to 1.00 m N-S by 400 mm thick, and these are red sandstone.

The majority of the S wall, **V4.3.001**, is formed with a mix of red, yellow and grey sandstone blocks. The sub rectangular blocks are roughly coursed and measure 400 mm by 200 mm on average. The outer face has often been lost from the blocks, especially those to the W.

At the base of the W side of the wall, the blocks at **V4.3.002** are rectangular and smaller, 250 mm by 150 mm on average.

Below **V4.3.002** the bottom two courses, **V4.3.009**, are slabs measuring 1.00 m E-W and 150 mm thick.

At the W edge of the Elevation **V4.3.007** is the W edge of a vault, the stonework curves E as it rises. There are areas of light brown gritty mortar surviving on the inner face.

Running straight down from just inside (E of) the base of **V4.3.007**, **V4.3.008** is formed with large sandstone blocks that also have traces of gritty mortar facing on them.

The top of the S part of the SW wall, **V4.3.010** is formed with large red and grey sandstone blocks that are roughly coursed and look to be tied into **V4.3.001**. Below **V4.3.010**, **V4.3.011** is walling formed with large red and yellow sandstone blocks and faced with light brown gritty mortar.

V4.3.006 is an aperture, measuring 1.90 m in height and 1.00 m E-W. The sides of **V4.3.006** are formed with **V4.3.003**, coursed red bricks that generally extended 200 mm into the wall face to the E and 400 mm at the W side. Above the aperture, **V4.3.004** is a concrete lintel measuring 1.50 m E-W and 80 mm thick.

At the top of the wall **V4.3.005** is an iron girder measuring 3.00 m E-W and 150 mm thick.

The W wall was in two parts, the N part extended SW from the N wall and the S ran NW from the S one, the two meeting at a point. The features in the S part are recorded as S wall features.

The upper part of the N part of the wall, **V4.4.001**, is formed with roughly coursed rectangular grey, yellow and red sandstone blocks. The pointing is very hard and gritty light grey mortar. The lower part of the wall, **V4.4.002**, is heavily coated with gritty light brown mortar that masks the stonework.

At the top of the wall in the SW corner **V4.4.003** is a large sandstone slab measuring 1.10 m NE-SW, 700 mm wide and 110 mm thick.

At the junction of the angled walls, **V4.4.004** is a circular aperture formed with the stones at the top of **V4.4.006**. **V4.4.001** and **V4.3.010** have been placed to leave the aperture open and **V4.4.003** has been cut for it.

Over **V4.4.003**, **V4.4.005** is infilling formed with chunks of sandstone and hard gritty light grey mortar.

On the N side of the junction of the two angled walls, **V4.4.006** comprises grey sandstone blocks pointed with very hard stony mortar. The blocks at **V4.4.006** are neatly faced and both they and the mortar are heavily fumed.

V4.5.001 filled trench 4 (up to 600 mm deep) and was piled up to 1.50 m high in both the E and W ends of this vault, it comprised fairly loose rubble and light brown sand. There were late 20th-century artefacts in **V4.5.001**.

Below **V4.5.001** along the N side of the trench **V4.5.002** is an E-W aligned trench parallel to the N wall and measuring 200 mm in width. The fill of **V4.5.002**, **V4.5.003** is rubble and very loose mid brown sandy silt. Most of the fill is voided rubble. **V4.5.002**/ **V4.5.003** was not excavated.

Cut by **V4.5.002** at the limit of excavation **V4.5.004** is a deposit of compact dark grey silty clay and stones.

V4.6.001, the ceiling arch, is constructed with coursed rectangular sandstone blocks, the outer faces of which are heavily tooled. The stones over the N and S walls are cut so that the ends are flat over these walls and then slope up to form the sides of the arch. The blocks are sandstone and measure 550 mm E-W on average and consistently 200 mm wide.

2.6 Vault 5

Vault 5 measures 5.70 m N-S and a maximum of 1.10 m E-W, it is a corridor linking **vault 4** (to the N) and **vault 6**. There is no N wall in vault 5, just the doorway recorded in the S wall of **vault 4**.

The E wall is formed with coursed red bricks, **V5.2.001**, and pointed with hard pale grey cement. The whole bricks in **V5.2.001** measured 210 mm by 100 mm and 60 mm thick.

Although there is no actual S wall the S face of the **vault 6** structure is recorded here.

At the top and W side of the elevation **V5.3.001** comprises large grey sandstone blocks bonded with light grey/brown sandy mortar that contains many stone grits.

At the E side an elevation across the E wall of **vault 6** is seen. The vaulting, **V5.3.002** is formed with, mostly red, sandstone blocks pointed with hard light brown mortar.

Most of the W wall, **V5.4.001**, is formed with the same coursed red bricks as **V5.2.001**.

At the S end of the elevation **V5.4.002** is walling constructed with uncoursed sub rectangular blocks that are heavily pointed with hard pale grey mortar.

The central part of the floor is a large concrete step, **V5.5.001**.

Across the top of the N 1.00 m of the passageway **V5.6.001- V5.6.006** are concrete lintels fixed with light brown sandy mortar, numbered from S-N. The lintels measured each measured 1.47 m E-W (continuing 190 mm E of the E wall and 280 mm beyond the W one), 150 mm wide and 110 mm thick. S of **V5.6.006**, **V5.6.007** is a similar lintel set 120 mm higher than them and measuring 290 mm in width. Continuing S from **V5.6.007**, **V5.6.008- V5.6.010** are large yellow/light brown concrete slabs seen E-W across the corridor, and perhaps continuing beyond. Slabs **V5.6.008- V5.6.010** measured 1.15 m N-S and were numbered from N-S. Immediately S of **V5.6.010**, **V5.6.011** is a concrete lintel measuring 120 mm in width. Above and S of **V5.6.011**, **V5.6.012** is a large slab that E-W across the corridor, and perhaps beyond. **V5.6.012** is set 120 mm above **V5.6.011** and measures 120 mm N-S.

2.7 Vault 6

Vault 6 was at the S end of the recorded area and was only accessed from the N, through **vault 5**. This room measured 2.65 m E-W and 1.30 m N-S.

The inner face of the N wall, **V6.1.001**, is formed with sandstone blocks, mostly very large up to 1.50 m E-W and 500 mm thick. There are yellow, red and grey blocks included but the largest are yellow. **V6.1.001** is built against **V5.1.001** in the main but continues up behind its ragged edge at the E end. (=**V5.4.002**)

Seen at the base of the E end of **V6.1.001** and continuing into **V6.5.001**, **V6.1.002** is a neatly cut grey sandstone slab. **V6.1.002** measures 400 mm in the elevation and continues 750 mm into **V6.5.001**.

The E side of the vaulting, **V6.2.001**, is formed with rectangular, red and yellow, sandstone blocks that measure 400 mm N-S and 80 mm thick on average. Toward the bottom there is a patchy, 10 mm thick, deposit of gritty light brown mortar on the inner face. Further up the wall there is less facing on the stones and voids are seen more often.

The inner face of the W and central part of the S wall, **V6.3.001** is constructed with a sub rectangular grey and yellow sandstone blocks that are pointed with hard, gritty, light grey mortar. The outer faces of the stones at **V6.3.001** are often broken off.

The E end of the S wall, **V6.3.002**, uses uncoursed sub rectangular grey sandstone blocks and hard, gritty, light grey mortar. The outer face has been broken off most of the stones.

Immediately to the N of **V6.3.002** set diagonally roughly halfway up that feature, **V6.3.003** is a rectangular piece of wood, measuring 800 mm E-W by 140 mm wide and 30 mm thick.

The W face of the W wall, **V6.4.001** is formed with a mix of rectangular and sub rectangular yellow and grey sandstone blocks. The blocks measured 450 mm by 250 mm on average and were pointed with hard, gritty, light grey mortar. **V6.4.001** was constructed against **V6.4.003**.

Infilling against **V6.4.001**, **V6.4.002** is loose light brown sand, mortar and stones.

The W side of the vaulting, **V6.4.003**, is the same as **V6.2.001** where more detail was seen. **V6.4.003** can be seen continuing down behind **V6.4.001**.

The infill in **Vault 6**, **V6.5.006**, was fairly loose rubble and light brown sand. There was 600 mm of **V6.5.006** removed from above the ground level at the start of the excavation and another 200 mm was excavated within the trench.

Along the S part of the E side of the vault **V6.5.001** is a N-S wall with a fairly flat upper face, although it slopes down slightly from W-E. **V6.5.001** measures 1.10 m

E-W and a height of 200 mm is seen although it probably continues down below the excavated level.

Immediately N of **V6.5.001**, grey sandstone slab **V6.5.002** has been described at **V6.5.002**. It looked like **V6.5.001** and **V6.5.003** may have been constructed against this slab.

V6.5.003 is the N part of the wall seen at **V6.5.001**; it is pointed with light brown sandy mortar.

Within the excavated area, W of **V6.5.001-V6.5.003**, **V6.5.004** is a compact deposit of stones and light brown silty sand, approximately 80% stones measuring 60 mm by 40 mm on average. **V6.5.004** was seen against the walls **V6.5.005** was in the middle of the area. **V6.5.005** is a deposit of mid brown slightly silty sand and sandstone fragments with mortar and charcoal flecks throughout. **V6.5.004** overlay **V6.5.005**. Neither deposit was excavated.

The upper part of the vaulting, **V6.6.001**, is formed with rectangular, red and yellow, sandstone blocks that measure 400 mm N-S and 80 mm thick on average. The stones are heavily fumed and many are reddened. There are some patches of light brown gritty mortar on the faces of some of the stones.

Fixed into **V6.6.001** near the S edge, **V6.6.002** is an iron fitting that measures 40 mm in length (although it looks to have been broken at this point) 20 mm wide (N-S) and 5 mm thick.

S of **V6.6.001**, **V6.6.003** is infill described at **V6.4.002**.

The S edge of the vaulting, **V6.6.004**, extends NW-SE across the roof in the S end of the room. The stones at **V6.6.004** have neat outer edges.

The N limit of the vaulting, **V6.6.005**, has a very ragged edge to the E and to the W it looks to continue behind that part of the N wall.

2.8 Vault 7

Vault 7 is to the E of **vault 2**, a crawl hole through the E wall of which provides the only access to this area. The only work done in this area was to plan the room in relation to the recorded vaults. The vault measures approximately 3.30 m N-S and

1.40 m wide.

2.9 Vault 8

Vault 8 is located to the N of **vault 2**; it measured roughly 1.50 m in width (N-S). The only open access to this room is via a crawl hole in the N wall of **vault 2**, though it is possible to lift a slab on the stairway above and get in that way. This area was planned and attempt was made to mark the stairway above the vault onto the drawing. The stairway was drawn in the ceiling of the vault, rather than planned from above but any discrepancy caused by this should be minimal.

There are great amounts of rubble dumped in **vault 7** and **vault 8**, none of which was removed. **Vault 7**, unlike the other 1887 vaults was aligned N-S.

3.0 INTERPRETATION AND PHASING

3.1 Phasing

The phases seen have been divided as follows, but should at this stage be regarded as approximate, and will likely be adjusted and possibly sub-divided in the light of further excavation and/or research.

- **Phase 1:** 1660-90. The construction of a large, defensive wall.
- **Phase 2**: Early 18th century. Evidence of industrial burning.
- **Phase 3**: 18th century. The **phase 1** wall is extended or demolished, and a hard surface created.
- **Phase 4**: 18th century. Demolition of **phases 2 and 3**.
- **Phase 5**: 17th/18th century. The N-S vaults, possible industrial or domestic use.
- **Phase.6**: The 1887 vaults.
- **Phase 7**: 1990s. Modern demolition and construction.

3.2 Phase 1 features

Wall **V2.5.002**, in the S part of **vault 2** measures 2.15 m wide and both the outer faces are straight and continue below the excavated levels. In **vault 3** the wall continued as **V3.5.001**.

At the SW end of **V3.5.001**, the sandstone block **V3.5.004** looked like it may be part of a structural feature, perhaps an embrasure, and there was a line of stonework continuing NW from it.

The early wall was seen in **vault 4**, **V4.4.002**, as the NW wall of that room. A heavy cover of mortar hid the detail of this wall.

This looks to be a large defensive wall aligned NE-SW. Initially it looked like this and the **phase 3** wall were parts of the same, cracked, structure but investigation in trench 1 indicated that this was in situ first with **V2.5.001** tacked onto it later. It is also possible this is part of a structure that was altered to be a defensive wall in

phase 3.

There is no dating evidence for this phase and there has not been a detailed study of maps for this report.

3.3 Phase 2 features

Below (the **phase 3**) features **V2.1.011** there is a series of deposits seen in the NW corner of **vault 2**. The upper of these (**V2.1.012**) is compact mid-dark brown silty clay and it sealed rotting green sandstone and compact green clay (**V2.1.013**). Against and therefore over **V2.1.013**, **V2.1.014** is very sticky yellow /light brown sandy clay and stones.

Toward the W end of the S elevation, under the **phase 3** deposits and over the **phase 1** wall remains, **V2.3.012**-**V2.3.015** comprised silty sand, silty clay and stones with ash and charcoal, clay and stones with charcoal and clay and small stones with charcoal.

At the W end of the elevation, cut by the W wall of **vault 2**, **V2.3.010** and **V2.3.011** are deposits of clay and decayed stone and silty clay and stones.

The initial thought is that these deposits are associated with an industrial burning process, perhaps a forge or kiln for example. The stone looked to have decayed because of being subjected to a lot of heat and there was a lot of fairly clean clay present.

In **vault 3**, in the NW corner of the trench there were thin deposits seen over the **phase 1** wall. These deposits (**V3.5.006- V3.5.010**) included sand sandwiched between two layers of decayed stone, decayed stone and red sand and finally silty clay with charcoal flecks. The deposits that included decayed stone looked to have been intensely burnt and the others also showed evidence of burning.

Like the deposits in **vault 2** these deposits seem to be indicative of burning and they look to be *in situ*.

Against the W wall **V3.5.013** may have been disturbed by water seeping through.

The earliest deposit seen in this area, **V3.5.011**, may have been a disturbed surface. In the NE corner of the high part of **V3.5.002**, **V3.5.012** is an area of walling that

looked to join into **V3.5.011**.

This phase seems to involve large scale burning but there are no structural remains assigned to it. It could be that some of the features seen re-used in **phase 6** are from the demolition of this. It is also possible that the **phase 5** vaults (some or all) could be actually part of this phase.

3.4 Phase 3 features

In the NE part of **vault 2**, **V2.5.001** is the upper face of a wall that measures 2.30 m (NE-SW) in width, it forms a fairly flat surface. The SE edge of the wall is seen at **V2.5.006**; this face is fairly straight and neat and is formed with large, fairly well coursed, sandstone blocks.

It is difficult to assess what this wall is. The burnt deposits in **phase 2** pre-date this wall and are later than **phase 1** at the NW edge of the structure, at the SE edge it can clearly be seen that this is a wall. Perhaps it is (at least) two features that are being seen here. The original construction, which was demolished to its present level, and the remains used to make a rough surface. The surface may have been extended NW of the original construction. The features in this area were only looked at in trench 1 and none of them were removed and without excavation it is impossible to offer a firm opinion as to exactly what is in this area. It would obviously be odd for two massive walls to be joined in this way, and it is unlikely, but that is what the stratigraphy implies. Perhaps the structure in this phase is the reuse of the large defensive wall.

There were a series of deposits against the NW edge of the large wall. These deposits comprised gravel, silty clay and stones (**V2.1.009**), very compact gritty mortar (**V2.1.011**) and a mix of rubble and sticky clay (**V2.1.010**). These deposits were against the edge of the wall and thought to be associated with it. **V2.1.011** may have been remains of a surface.

These are thought to be disturbed and re-deposited **phase 2** deposits, with **V2.1.011** being another part of the surface.

3.5 Phase 4 features

The remnants at the bottom of the **phase 6** construction **V2.1.001**, **V2.1.004-V2.1.008**

may be foundations for that wall but is thought to be earlier structure reused for that purpose. The structure continues out from the wall face and is often at an angle to that feature.

Immediately below the W side of S wall of the 1887 vaults and stepping out from the base there are two roughly rectangular sandstone blocks (**V2.3.003**) the outer faces of which are ragged and chipped. Under **V2.3.003** and stepping out slightly from the base at an angle there are two yellow sandstone blocks, **V2.3.008** and **V2.3.007**, the base of the latter is burnt. These look to be structural remains reused as foundations. Below **V2.3.008** there are three thin sandstone slabs, **V2.3.009**, that look to be bottoming for that look that block. There are stones between the blocks at **V2.3.004**, which are loosely bonded with gritty mortar **V2.3.005**. Below **V2.3.005**, **V2.3.006** is grey clay with small stones and charcoal flecks.

This was thought to be badly disturbed remains of **phase 2** and **phase 3** features and it included evidence of burning and perhaps fragments of structures.

3.6 Phase 5 features

Vault 1 measures at least 5.70mN-S (the **phase 7** structure probably hides the N continuation), 3.40 m E-W and stands 3.00 m above the current floor level.

The walling at the E (**V1.2.001**) and W (**V1.4.001**) sides and the top (**V1.6.001**) of the vaulting is heavily sooted but it could be seen that they use red and grey sandstone blocks.

This N-S vault is thought to pre-date those constructed for the 1887 guardhouse. In common with all of the vaults assigned this phase there is no evidence seen indicating an exact date. It is not in the position of the 18th century casements demolished during the work for the tunnel. The fuming of the stonework could be the result of an accidental fire but it is very heavy and equally may be related to the **phase 2** burning.

In **vault 4,** at the base of the W side of the S wall, there are slabs (**V4.3.009**) measuring roughly 1.00 m E-W and 150 mm thick. It is thought that these slabs may be remains of a step up to the vault to the N.

V4.3.007 is the W edge of a vault that is seen in the S wall of **vault 4**. The

stonework rises 1.10 m curving gently E. Running straight down from just E of the base of **V4.3.007**, **V4.3.008** is part of the same construction. Both pieces of structure have traces of mortar facing on them. This is the W side of an N-S vault.

At the base of the SW wall **V4.3.011** is joining the vault into the NW (**phase 1**) wall. There were traces of mortar facing on this structure.

This would be a critical area to investigate closely. The wall running from the vault is certainly part of that feature and it joins in very well with the **phase 1** wall. All of these walls have traces of the same facing, suggesting either the **phase 1** wall has been refaced or this structure is built at the same time. The joint of the walls is largely hidden but it does look like similar stonework is used in all of these walls.

On the N side of the junction of the two walls grey sandstone blocks **V4.4.006** are neatly faced and also fumed. This has the look of a structural feature, perhaps the back of a chimneystack. Another possibility is that this is the remains of the early wall with **V4.4.001**and **V4.3.010** being rebuild to the NE and SE of it respectively.

The deposit, **V4.5.004**, cut by the **phase 6** foundation trench for the N wall obviously pre-dates that structure, for this reason alone it has been put in this phase.

The sides and the top of **vault 6** are formed with red and yellow, sandstone blocks. At the S end of **vault 5** it can be seen that the vaulting is an average of 300 mm thick.

Toward the bottom of the E side of the vaulting there is patchy remains of a facing, further up the wall is more voided and there is less facing seen. The blocks are heavily fumed and often reddened, suggesting that they have been subjected to a lot of heat. The consistency of the burning suggests that it was in situ. On the W side the vaulting can be seen continuing down behind the wall of the 1887 structure.

This vault was therefore faced and suffered fuming, by accident or as part of its usage.

Slab **V6.1.002** is neatly cut and may be a remnant of structure in this phase, perhaps a doorstep.

Deposits **V6.5.004** and **V6.5.005** are tentatively placed in this phase although there is no evidence for this; it is simply the earliest deposit seen.

The S edge of the vaulting, **V6.6.004**, extends NW-SE across the roof and has a neat edge. This does not look to be disturbed it is the genuine S end of vault. The angle of the vault at this edge shows a different alignment to all of the other structure seen

The N limit of the vaulting, **V6.6.005**; has a very ragged edge to the E, to the W it continues behind the N wall. The E part of the N part of the Vault has been cut away probably during the construction of the 1887 structure, to the W it continues N.

This vault may have been part of the structure for an earlier entrance to the castle.

3.7 Phase 6 features

These vaults are 1887 constructions. The walls (**V2.1.001**, **V2.2.001**, **V2.3.001**, **V2.3.002** and **V2.4.001**) were constructed with sub rectangular or rectangular blocks that included a mix of yellow, red and grey sandstone although there are small differences it the types of sandstone used.

In **vault 2**, the N wall contains mostly yellow sandstone, at the E wall grey sandstone is most prevalent and the W wall uses yellow and grey sandstone blocks, there was no dominance noted at the S wall.

In **vault 3**, the E and S walls and the top of the arch are formed with mainly yellow sandstone.

Within **vault 4**, red sandstone dominates the W end of the N wall, at the E end of the same wall the blocks are grey and yellow sandstone. The other walls use a mix of blocks.

It seems likely that during this phase there was a lot of recycling of earlier structure and it may be that not all of the sandstone types were brought quarried for this phase. It looks as if the red sandstone is the least used of the three types and is perhaps being reused. Red sandstone dominated the W end of the N wall in **vault 4** and was also present in the other walls of this room. This stone was also seen in the W end of the S wall of **vault 2** and the E end of the N, the W and W end of the S

walls of **vault 3**. It looks like the red sandstone is mostly in the W side of the structure; perhaps indicating that demolition took place in that area. The **phase 1** wall is the most obvious candidate.

Many of the blocks in the W wall of **vault 3** (**V3.4.001**) are reddened or blackened, presumably by burning. The burnt stones are spread through the wall, rather than being in particular areas, suggesting that they were burnt before being reused in this wall.

In the face of the S wall in **vault 4**, (**V4.3.001**) the blocks, especially those to the W, have often lost their outer face. Although this damage could have been done when the wall was standing, it is difficult to see any reason for it to have and more likely is that this is more evidence for reused masonry.

The upper part of the N part of the W wall in **vault 4** (**V4.4.001**) is thought to be a rebuild or heightening of the **phase 1** wall. Most likely it is heightened in this area as part of the vault construction (helping form the W wall of the vault), although elsewhere it has probably been partly demolished.

At the top of the junction of the angled walls to the W and continuing into the SW corner of **vault 4**, **V4.4.003** is a large sandstone slab that is thought to have been put in to help support the vaulting above. Deposit **V4.4.005** is infilling between **V4.4.003** and the top of the vaulting.

The top part of the SW wall, **V4.3.010**, is a rebuild raising the remains to the level of this phase of vaults.

At the junction of the earlier angled walls, **V4.4.004** is a circular hole running up from the vault. This may have been an air hole into the vaults. If this was an earlier feature **V4.3.010** have been placed to leave it open and **V4.4.003** has been cut for it. More likely this feature belongs in this phase.

In the W end of the S walls of **vaults 2** and **3** it is noted that stones jut out from the wall face, this shows little care for how the walls would look after construction.

At the top of the E wall in **vault 3**, **V3.2.002** may be a repair or simply smaller stones used to reach the wall-head level.

The W end of the walls between **Vaults 2** and **3** and **Vaults 3** and **4** as well as the W

wall of **vault 3** slope out (into the room) at the base. The most likely reason being is that they bottom onto the **phase 1** wall and these are the foundations. The rest of the walling continues below the levels seen.

Along the N side of the trench 4 **V4.5.002** is a foundation trench for the N wall of **vault 4**. This feature was not excavated.

The stones forming the top part of the arches are cut to fit over the N and S walls. It was noted that the outer faces of these stones are heavily tooled in all three vaults.

The apertures cut in the N **(V2.1.003**) and E (**V2.2.002**) walls are quite ragged which seems odd if they are part of the original construction. It may be that these are late features created to use this area to run services through but perhaps more likely is that there were holes here and they were enlarged in the later phase.

It is difficult to phase the, unexcavated, trench 2 deposit V2.5.004 in the small area it was revealed in. It may be that it belonged in this phase and was trample.

At the bottom of the S wall V4.3.002 may just coincidentally be smaller blocks but there is a possibility that they are blocking a step either as part of this phase or an earlier one.

These three vaults have been constructed to carry the 1887 guardhouse constructed above them. This seems to made sense as a construction method, it would take a massive amount of infill to raise the level to the base of the building. Even if the area were to be infilled some structure would be needed to hold it in place.

Little care has been taken with the finish of the wall faces, suggesting that the "rooms" formed were not important. It would seem these vaults are little more than foundations for the guardhouse. There are no doorways in this phase, either into the vaults or between them; all the ones in use are later. There seem few candidates for where a door could have been, perhaps the most obvious is that the later door between **vault 1** and **vault 2** replaced one in this phase, although a door at this point leads onto an uneven, steep, slope in **vault 2**. Perhaps the crawl holes seen between **vault 2** and **vault 7,** and **vault 2** and **vault 8** are later and there was no

access to, or between, these vaults.

There appears to have been no use made of these rooms, not even as storage spaces. The evidence suggests, however unlikely, that these vaults are simply foundations and they were sealed, or access was very limited.

The apparent reuse of stone indicates that there was some demolition immediately prior to this construction. In other places structure has been left intact and built into this phase, primarily at the W end of **vault 4**. The demolition seems to have been in the W end of the vaults and while this is almost certainly of the **phase 1** wall there may have been other structure involved. The burnt stones in **vault 4** perhaps suggest that there has been demolition of **phase 2** structure as well.

At the N end of the W side of the **vault 5** corridor **V5.3.001** is infill N of the surviving vault (**vault 6**) as part of the foundations for the guardhouse above.

V6.5.001 is an N-S wall in the S part of the E side of **vault 6**. Its upper face is fairly neat. A height of 200 mm is seen of this wall and it continues down below the excavated level.

The E end of the S wall (**V6.3.002**) is very uneven and looks like it has been hacked at. This wall looks to be a continuation of wall **V6.5.001**. **V6.5.003** is the N continuation of **V6.5.001**. It looks like these are all parts of the same wall and **V6.5.001** and **V6.5.003** have at some point been demolished to its current level.

The demolition of the wall in the E of the area probably took place during the 1994 work; this scruffy wall may well have looked like infill.

The wall remains at the E and W sides of the area are all built against the inside of the (**phase 5**) vault.

The N, both parts of the S and the W walls have been constructed with grey and yellow sandstone blocks some of which, especially in the N wall, are very large.

In both parts of the S wall the outer faces of many of the stones are broken off.

There seems to be reused material here, suggested by the chipped faces on some of the stones. None of the reused material here is noted as containing the red sandstone seen in the vaults to the N. Presumably different structure has been

demolished here, probably the earlier (N-S) vault.

V6.6.002 is an iron fitting in the top of the vaulting; it is tentatively placed in this phase although it is as likely to be an original fitting.

Infill **V6.4.002** has been put in from above, against **V6.4.001**. There are slabs above this area suggesting that this was deposited before the Victorian structure above was constructed.

The construction in this phase is basically as a foundation for the guardhouse above. The walls on the E and W sides have been built against the earlier vault as strengthening. The S wall is built just to the S end of the vault and the area between in filled with soil and small stones, from above, prior to the construction of the guardhouse. The N wall is also constructed, it blocks of the N continuation of the vaulting. The NE part of the **phase 5** vault has been demolished perhaps producing the reused blocks.

Although **vault 7** was only glimpsed it was seen that the same it was the same style of construction as the other vaults in this phase. A possibility considered was that the E wall of this vault might have been a remnant of earlier structure.

The construction of **vault 8** is thought to date to this phase; it must be contemporary with the construction of the stairway to the W of the guardhouse.

3.8 Phase 7 features

This phase involves demolition of the casements during the (1989/90) construction of the tunnel and subsequent construction. In, or around, 1994 there was an attempt to find route through not only these vaults but also those to the S, under the guardhouse. Most of the construction in this phase, as well as the dumps of rubble, date to this work.

In **vault 1** there has been a lot of recent construction. The N wall, **V1.1.001**, and doorway **V1.1.002** are constructed creating a new entrance and passageway into the room.

In the S of the room brick shed **V1.5.002** is constructed as an electrical station, housing the power points for the cables used during the Military Tattoo.

To the E of the shed a corridor is formed with brick walls **V1.5.003**, **V1.5.007** and **V1.5.005**. IA poured concrete floor, **V1.5.001**, is laid in the corridor.

The point where cables **V1.6.002** enter the vault roof was recorded to overlay the trench above onto the vault plan.

In **Vaults 2, 3, 4** and **6** there was rubble and gravel infill mixed with yellow light brown sand and mortar excavated in trench 2 the SE corner of **vault 2** (**V2.5.003**), in **vault 3** within trench 3 (**V3.5.005**), trench 4 in **vault 4** (**V4.5.001**) and in trench 5 (**V6.5.006**) within **vault 6**.

Against the N wall of **vault 2 V2.1.002** is a plywood board that has fitted to hold the electrical boxes for the power cables.

The door aperture, **V2.3.016 / V3.1.005**, between **vaults 2** and **3** is lined with bricks at the E and W sides and the lintel over it is concrete. In the area over and around the lintel the wall has been filled with sandstone chips and cement pointing. Similar doorways were seen between **vault 2** and **vault 1** (**V2.4.002**), between **vault 3** and **vault 4** (**V3.3.003 / V4.1.004**) and between **vault 4** and **vault 5** (**V4.3.006**

Roughly E-W across the junction of **V2.5.001** and **V2.5.002**, **V2.5.005** is a crack that may have formed in an earlier phase but equally may have opened during the demolition that happened in this one.

The diagonally placed piece of wood, **V6.3.003**, against the S wall of **vault 6** is put in as a prop.

V3.5.002 is an area of the SE face of **V3.5.001** where a drill has been used to cut part of the wall away.

The E (**V5.2.001**) and W walls (**V5.4.001**) of the **vault 5** are red brick constructions. The floor is formed with a large concrete step, **V5.5.001**.

V5.6.001- V5.6.006 are concrete lintels at the N end of the corridor, presumably supporting the breech in the wall at the N side of the drawbridge. Continuing S **V5.6.008-V5.6.010** are concrete slabs forming the base for the drawbridge. To the S **V5.6.011** and **V5.6.012** are further strengthening.

A1.0 APPENDIX 1: LIST OF CONTEXTS

No	Phase	Description
V1.1.001	7	N wall of vault, modern construction.
V1.1.002	7	Doorway into the NW end of the vaults. Modern feature.
V1.2.001	5	E wall of the vault, formed with roughly coursed sandstone blocks.
V1.3.001	5	S wall of the vault, barely seen and heavily fumed.
V1.4.001	5	W wall of the vault, formed with roughly coursed sandstone blocks.
V1.5.001	7	Modern concrete floor.
V1.5.002	7	Brick walls of shed standing in the S end of the vault.
V1.5.003	7	Brick wall forming the E side of a corridor along the E part of vault 1.
V1.5.004	7	Doorway immediately E of the NE corner of **V1.5.002**.
V1.5.005	7	Red brick wall forming the S end of the corridor.
V1.5.006	7	Doorway between vaults 1 and 2.
V1.5.007	7	Red brick wall turning E from the S end of **V1.5.003**.
V1.6.001	5	Vaulted ceiling, formed with roughly coursed sandstone blocks that are very heavily fumed.
V1.6.002	7	Two round holes, penetration points for electricity cables.
V2.1.001	6	N wall formed with, roughly coursed, rectangular sandstone blocks.
V2.1.002	7	Modern plywood board.
V2.1.003	6	Irregularly shaped aperture through the N wall.
V2.1.004	4	Stonework under the central and E part of **V2.1.001**.
V2.1.005	4	Stone projecting out from the base of the E end of **V2.1.001**.
V2.1.006	4	Mortar infill between **V2.1.007** and **V2.1.008**.
V2.1.007	4	Grey sandstone blocks immediately W of **V2.1.004**.
V2.1.008	4	Large grey sandstone block projecting out from the base of the W end of **V2.1.001**.
V2.1.009	3	Deposit of Gravel and compact silty clay, under **V2.1.006**.
V2.1.010	3	Mix of rubble and sticky clay, under **2.1.009**.
V2.1.011	2	Very compact gritty mortar and stones, under **V2.1.010**.
V2.1.012	2	Compact mid-dark brown silty clay, under **V2.1.011**.
V2.1.013	2	Very compact green clay and rotting green sandstone, under **V2.1.012**.

V2.1.014	2	Very sticky yellow/light brown sandy clay, under **V2.1.013**.
V2.2.001	6	E wall, constructed with a mix of red, yellow and grey sandstone blocks. The bottom of the wall is roughly coursed, the top is uncoursed.
V2.2.002	6	Irregularly shaped aperture through **V2.2.001**.
V2.3.001	6	Upper part of the E end of the S wall. Mostly rectangular blocks, the inner face slopes in as it runs down.
V2.3.002	6	Lower part of E end of S wall. Mostly sub rectangular sandstone blocks, one or two of which jut out from the face.
V2.3.003	4	Two sandstone blocks immediately below **V2.3.001**. The outer faces are N of **V2.3.001** and have been cut away.
V2.3.004	4	Sandstone blocks below **V2.3.003** and bonded with **V2.3.005**.
V2.3.005	4	Very hard and gritty, light brown mortar. Seen E of, below and between the stones of **V2.3.004**.
V2.3.006	4	Mix of brown and grey clay.
V2.3.007	4	Yellow sandstone block under the E side of **V2.3.003**.
V2.3.008	4	Sandstone block under the W side of **V2.3.003**.
V2.3.009	4	Thin sandstone slabs at the base of Yellow sandstone block under the E side of **V2.3.008**. (**V2.3.009**-**V2.3.015** are all deposits under the stonework at the W end of the N wall)
V2.3.010	2	Yellow brown clay and decayed stone.
V2.3.011	2	Compact dark brown silty clay and stones.
V2.3.012	2	Fairly compact light-mid brown silty sand.
V2.3.013	2	Compact light grey silty clay.
V2.3.014	2	Compact mix of grey clay and small stones.
V2.3.015	2	Dark grey silty clay.
V2.4.001	6	W wall, constructed with roughly coursed yellow and grey sandstone blocks.
V2.4.002	7	Door aperture.
V2.4.003	7	Red brick at S edge of **V2.4.002**.
V2.4.004	7	Red brick at N edge of **V2.4.002**.
V2.4.005	7	Cement slab at the E face of **V2.4.002**.
V2.4.006	7	Area of uncoursed Yellow sandstone blocks around **V2.4.002**.
V2.5.001	3	This forms a surface in the NE part of the room but is seen at **V2.5.006** to be a wall.
V2.5.002	1	Wall to the SW of **V2.5.005**, continues SW from **V2.5.001**.
V2.5.003	7	Rubble and gravel infill in the SE corner of the room, modern.
V2.5.004	6	Unexcavated deposit under **V2.5.003**.
V2.5.005	7	Irregular crack at the junction of **V2.5.001** and **V2.5.002**.

V2.5.006	3	SE face of **V2.5.001**, formed with large rectangular sandstone blocks that are fairly well coursed.
V2.6.001	6	Ceiling constructed with coursed, rectangular, sandstone blocks.
V3.1.001	6	N wall, uses red, yellow and grey sandstone blocks. The face slopes in as it runs down.
V3.1.002	7	Bricks forming the sides of **V3.1.005**.
V3.1.003	7	Cement lintels over **V3.1.005**.
V3.1.004	7	Infill of sandstone chippings over **V3.1.003**.
V3.1.005	7	Door aperture between V2 and V3.
V3.1.006	6	E side of the N wall, uses red, yellow and grey sandstone blocks forming a fairly neat face. Some tool marks on the stones.
V3.2.001	6	E wall, uses mainly yellow but also some red and grey sandstone blocks.
V3.2.002	6	Area of rougher walling within **V3.2.001**.
V3.3.001	6	N wall, uses red, yellow and grey sandstone blocks. The bottom part of the face slopes in as it continues down.
V3.3.002	7	Bricks forming the sides of **V3.3.003**.
V3.3.003	7	Door aperture between V3 and V4.
V3.3.004	7	Cement lintels over **V3.3.003**, there are five cement slabs through the doorway.
V3.3.005	7	Infill of sandstone chippings over **V3.3.004**.
V3.3.006	6	E side of the S wall, uses red, yellow and grey sandstone blocks forming a, mostly, fairly neat face but two stones jut out from it. Some tool marks on the stones.
V3.4.001	6	W wall, uses red, yellow and grey sandstone blocks. Some of the blocks are blackened or reddened. The face slopes in slightly toward the bottom.
V3.5.001	1	Large upstanding wall, same wall as **V2.5.002**.
V3.5.002	7	Cut in the SE face of **V3.5.002**.
V3.5.003	7	N-S cut forming an edge on **V3.5.001**
V3.5.004	1	Grey sandstone block at the SW end of **V3.5.001**, has a smooth upper face.
V3.5.005	7	Rubble and gravel infill, modern.
V3.5.006	2	Lens of decayed grey sandstone.
V3.5.007	2	Deposit of light-mid brown sand.
V3.5.008	2	Lens of decayed grey sandstone.
V3.5.009	2	Burnt stone and sand deposit.
V3.5.010	2	Deposit of small stones and grey silty clay.
V3.5.011	2	Compact deposit of stones and light brown mortar.
V3.5.012	2	Walling NE of **V3.5.004**.
V3.5.013	2	Sticky dark grey/black silty sand deposit.
V3.6.001	6	Ceiling constructed with coursed, rectangular, sandstone blocks.

V4.1.001	6	Upper part of the N wall face, uses red, yellow and grey sandstone blocks. The face is fairly flat but the outer face has been broken off some of the stones.
V4.1.002	6	Below **V4.1.001**, the outer faces are intact and the pointing is neater.
V4.1.003	7	Bricks forming the sides of **V4.1.005**.
V4.1.004	7	Infill of sandstone chippings over **V4.1.005**.
V4.1.005	7	Door aperture between V3 and V4.
V4.1.006	6	N wall face, uses some red but mainly yellow and grey sandstone blocks.
V4.2.001	6	E wall face, formed with a mix of red yellow and grey sandstone. Most of the blocks are very large and these ones are mostly red.
V4.3.001	6	Forms the majority of the S wall face, formed with a mix of red yellow and grey sandstone. The outer faces are often lost especially at the W end.
V4.3.002	6	Large blocks at the bottom of the W side of **V4.3.001**.
V4.3.003	7	Bricks forming the sides of **V4.3.006**.
V4.3.004	7	concrete lintel over **V4.3.006**.
V4.3.005	7	Iron girder, part of 1990's fixtures.
V4.3.006	7	Aperture of doorway between V4 and V5.
V4.3.007	5	E edge of vault stonework, curves E as it rises.
V4.3.008	5	Stonework running straight down from **V4.3.007**.
V4.3.009	5	Bottom two courses in the W side of the wall, slabs.
V4.3.010	6	Top part of the walling in the SW corner, runs SW-NE. Large, roughly coursed red and grey sandstone blocks.
V4.3.011	5	Wall running NW from the vault to tie in with the SW wall. Large red and yellow sandstone blocks.
V4.4.001	5	Upper part of the wall in the NW corner. Formed with roughly coursed red, yellow and grey sandstone blocks.
V4.4.002	6	Lower part of the wall in the NW corner. Mortar masks most of the face.
V4.4.003	6	Large slabs at the top of the wall in the SW corner.
V4.4.004	6	Circular aperture formed with stones at the top of **V4.4.006**.
V4.4.005	6	Infill over **V4.4.003**, chunks of sandstone and mortar.
V4.4.006	5	Rectangular grey sandstone blocks at the top of the SW side of the NW wall.
V4.5.001	7	Fairly loose rubble and light brown sand. Modern infill.
V4.5.002	6	Foundation trench for **V4.3.001**. Not excavated.
V4.5.003	6	Fill of **V4.5.002**, rubble and loose sandy silt. Not excavated.
V4.5.004		Compact dark grey silty clay and stones. Not excavated.
V4.6.001	6	Ceiling constructed with coursed, rectangular, sandstone blocks.
V5.2.001	5	E wall, formed with red bricks.

V5.3.001	5	Infilling N of V6, large uncoursed grey sandstone blocks.
V5.3.002	5	E side of vault, formed with rectangular blocks that are mostly red sandstone.
V5.4.001	7	W wall, formed with red bricks.
V5.4.002	5	Walling continuing S from **V5.4.001**, uncoursed sub rectangular sandstone blocks.
V5.5.001	7	Central part of the floor, a large concrete step.
V5.6.001	7	Concrete lintel.
V5.6.002	7	Concrete lintel.
V5.6.003	7	Concrete lintel.
V5.6.004	7	Concrete lintel.
V5.6.005	7	Concrete lintel.
V5.6.006	7	Concrete lintel.
V5.6.007	7	Concrete lintel.
V5.6.008	7	Large cement slab seen E-W across the passageway.
V5.6.009	7	Large cement slab seen E-W across the passageway.
V5.6.010	7	Large cement slab seen E-W across the passageway.
V5.6.011	7	Concrete lintel.
V5.6.012	7	Large slab above and S of **V5.5.011**, extends E-W across the corridor.
V6.1.001	6	N wall, formed mainly with very large sandstone blocks.
V6.1.002	5	Grey sandstone slab seen at the base of **V6.1.001** and continuing E into **V6.5.001**.
V6.2.001	5	E side of the vaulting. Formed with, usually rectangular, sandstone blocks.
V6.3.001	6	S wall, constructed with a mix of grey and yellow sandstone that often have the outer face missing.
V6.3.002	6	Walling at the E end of the S elevation. Sub rectangular, grey, sandstone blocks that often have the outer face missing.
V6.3.003	7	Wooden beam acting as a brace.
V6.4.001	6	W wall face, mostly rectangular yellow and grey sandstone blocks.
V6.4.002	6	Loose silty sand, mortar and stones infilling against **V6.3.001** and **V6.4.001**.
V6.4.003	5	W side of the vaulting. Formed with, usually rectangular, sandstone blocks.
V6.5.001	6	Walling with a fairly flat upper face that slopes down from W-E..
V6.5.002	5	= **V6.1.002**.
V6.5.003	6	S part of **V6.5.001**.
V6.5.004	5	Compact deposit of stones and silty sand, mostly stones. This was not excavated.
V6.5.005	5	Deposit of mid brown slightly silty sand and sandstone fragments. This was not excavated.

V6.5.006	7	Rubble and gravel infill in the W side of the room, modern.
V6.6.001	5	Top part of the vaulting, heavily fumed red sandstone blocks.
V6.6.002	6	Iron fitting in **V6.6.001**.
V6.6.003	6	Infilling that uses sub rectangular, grey, sandstone blocks and chips.
V6.6.004	5	S edge of the vaulting, extends NW-SE across the room. The stones have a neat outer edge.
V6.6.005	5	N end of the vaulting, looks to continue beyond the W part of the N wall.

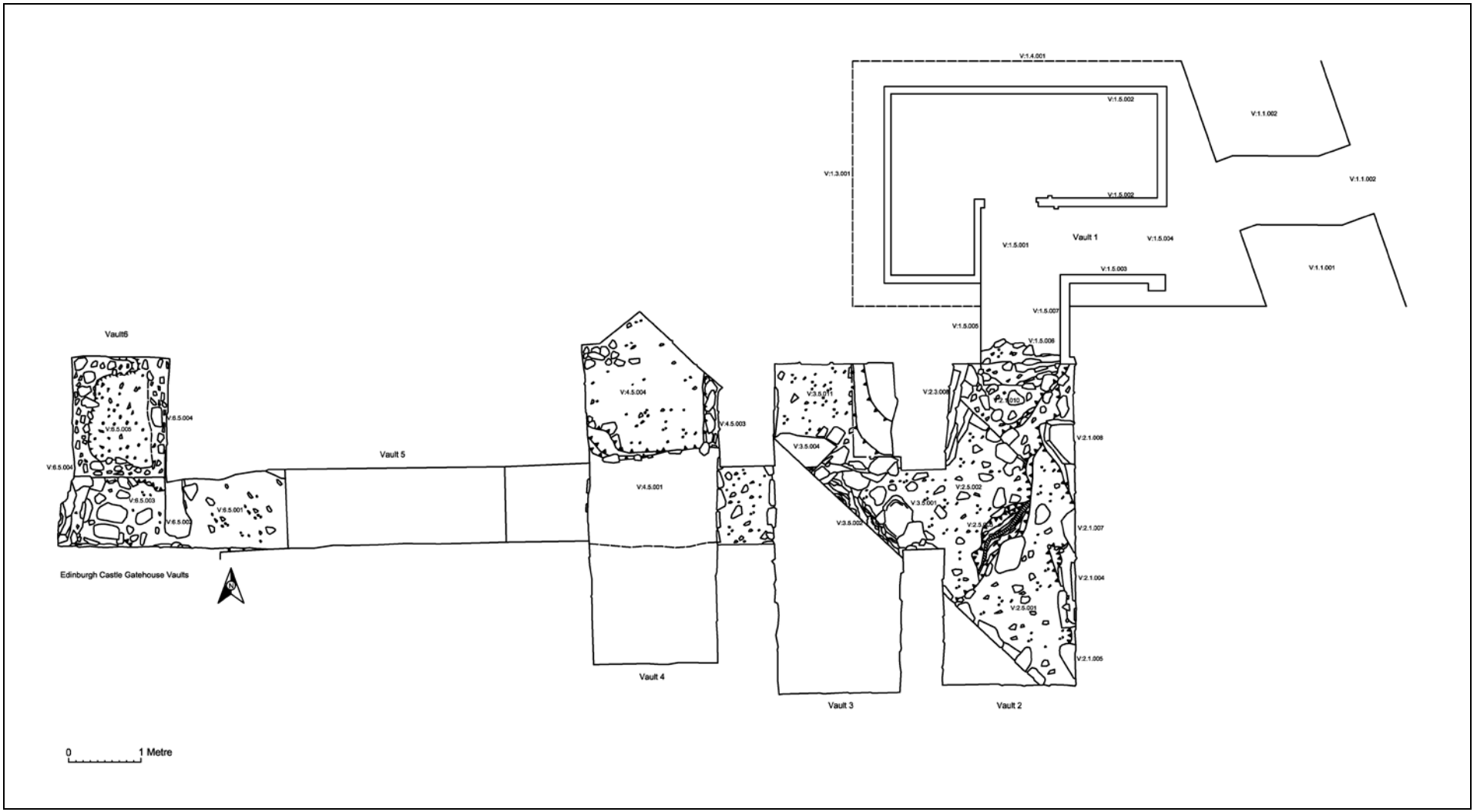
A2.0 APPENDIX 2: LIST OF DRAWINGS

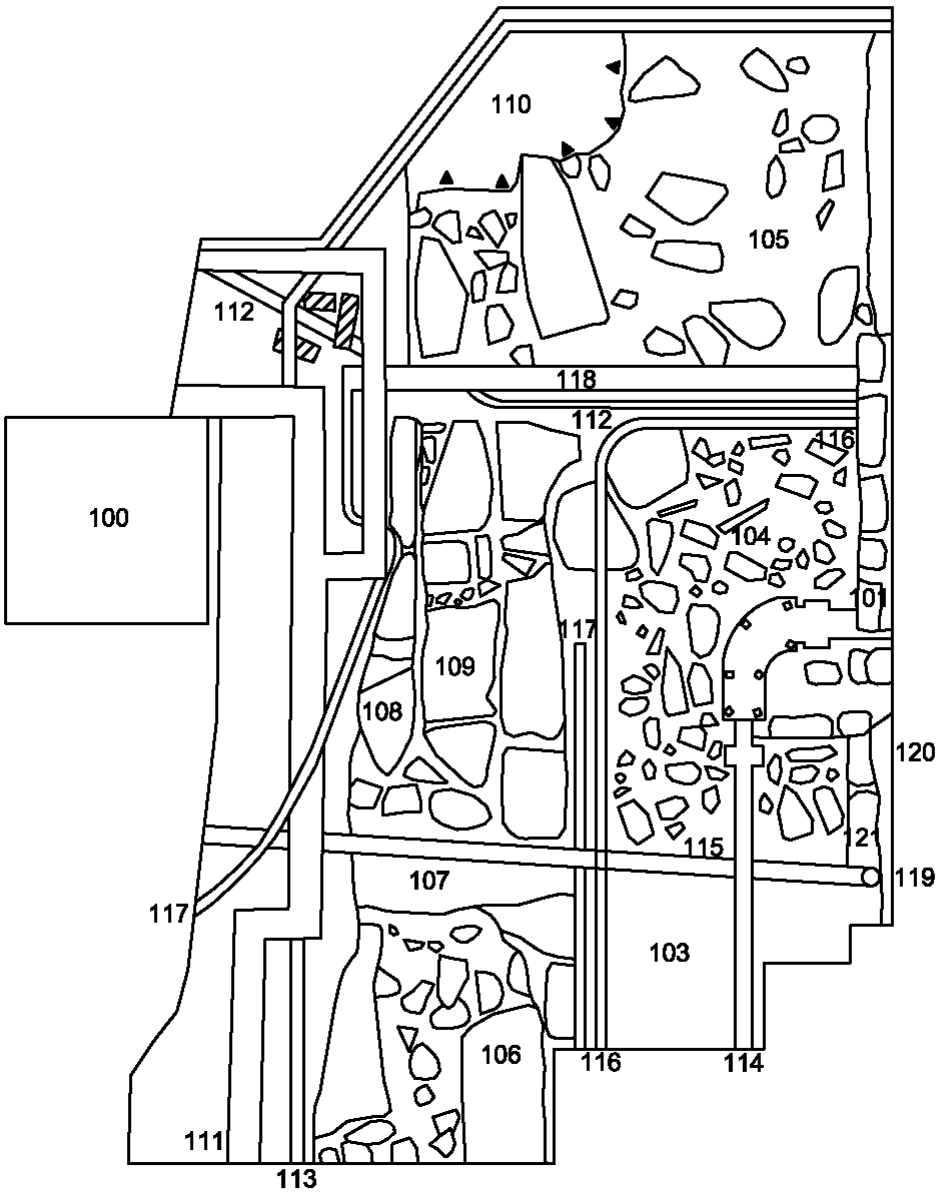
#	Room	Type	Scale	Description	Date
1	V1-V5	Plan	1:20	Post excavation plan of vaults 1-4 and the N end of vault 5.	24/01/07
2	5+6	Plan	1:20	Post excavation plan of vaults 5 and 6.	02/02/07
3	7+8	Plan	1:20	Plan of vaults 7 and 8.	06/02/07
4	----	Plan	1:20	Plan of the S end of the coalyard.	06/02/07
5	V2-V6	Elevation	1:20	E elevation through the vaults.	29/01/07
6	V2-V6	Elevation	1:20	W elevation through the vaults.	30/01/07
7	V4	Elevation	1:20	S end of the W elevation.	31/01/07
8	V4	Elevation	1:20	N end of the W elevation.	31/01/07
9	V5	Elevation	1:20	Elevation at the S end of the vault.	06/02/07
10	V6	Elevation	1:20	S elevation.	06/02/07
11	V6	Elevation	1:20	N elevation.	06/02/07
12	V1	Elevation	1:20	E-W elevation at the inner doorway of vault 1.	06/02/07
13	V2	Elevation	1:20	N elevation.	01/02/07
14	V2	Elevation	1:20	S elevation.	01/02/07
15	V3	Elevation	1:20	N elevation.	06/02/07
16	V3	Elevation	1:20	S elevation.	06/02/07
17	V4	Elevation	1:20	N elevation.	07/02/07
18	V4	Elevation	1:20	S elevation.	03/02/07

A3.0 APPENDIX 3: LIST OF PHOTOGRAPHS

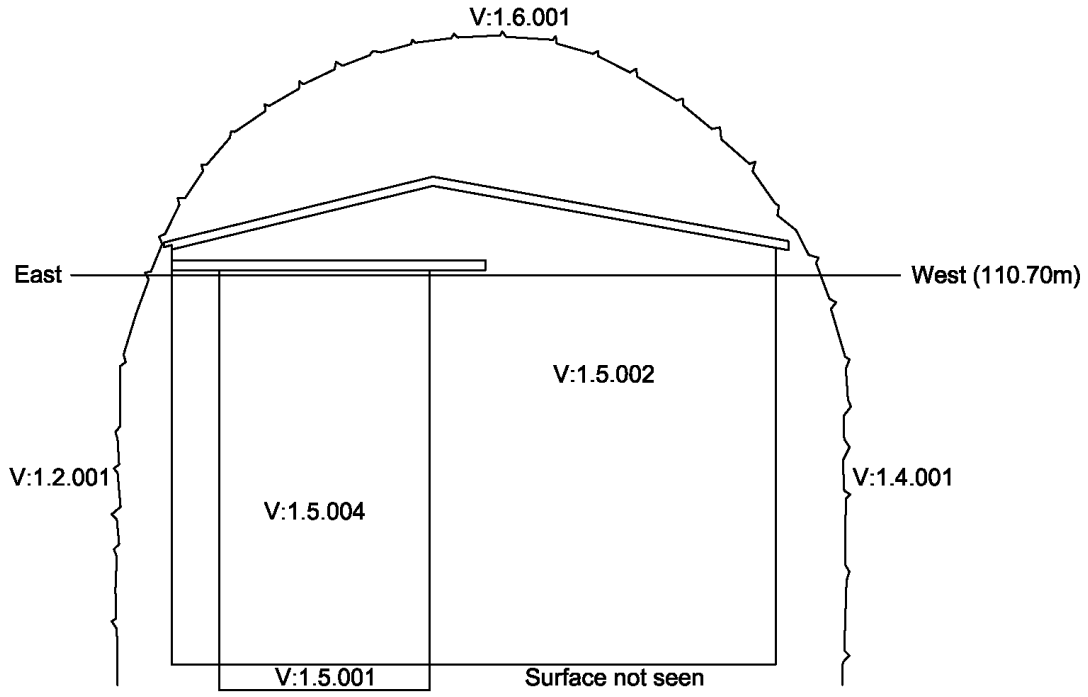
#	Room	Description	From	Date
1	V2	Bottom of the door into V1. **V2.3.003**, **V2.3.004**, **V2.3.008** and **V2.3.011**.	E	24/01/07
2	V2	Structure over **V2.5.002** in the S section. **V2.3.008-011** and **V2.5.002**.	N	24/01/07
3	V2	W end of the S wall. **V2.3.001-003**.	N	24/01/07
4	V2	Bottom of the E end of the S wall. **V2.3.002**.	N	24/01/07
5	V2	W end of the S wall. **V2.3.002**.	N	24/01/07
6	V2	Bottom of the E edge of doorway into V3. **V2.3.001** and **V2.3.002**.	N	24/01/07
7	V2	Top of the E edge of doorway into V3. **V2.3.001** and **V2.3.002**.	N	24/01/07
8	V2	Top of the E wall. **V2.2.001** and **V2.2.002**.	W	29/01/07
9	V2	Bottom of the E wall. **V2.2.001** and **V2.2.002**.	W	29/01/07
10	V2	E end of the N wall. **V2.1.001**, **V2.1.003** and **V2.1.005**.	S	29/01/07
11	V2	Bottom of centre part of the N wall. **V2.1.004**.	S	29/01/07
12	V2	Top of the W end of the N wall. **V2.1.001**.	SE	29/01/07
13	V2	Bottom of the E end of the N wall. **V2.1.006**, **V2.1.008** and **V2.1.010**.	SE	29/01/07
14	V2	Top of **V2.5.001** in the E of the room.	SW	29/01/07
15	V2	E edge of **V2.5.002**.	SE	29/01/07
16	V2	Wall **V2.5.002** and **V2.5.001** over it.	NW	29/01/07
17	V3	W wall. **V3.4.001**.	E	29/01/07
18	V3	Upper face of wall **V3.5.001**.	N	29/01/07
19	V3	Upper face of wall **V3.5.001**.	N	29/01/07
20	V3	SE face of wall **V3.5.001+2**.	SE	29/01/07
21	V4	Junction of SW and NW walls. **V4.3.007**, **V4.3.008**, **V4.3.011**, **V4.4.002** and **V4.4.006**.	NE	06/02/07
22	V4	The top of **V4.3.010**, **V4.4.001**, **V4.4.003** and **V4.4.006**.	E	06/02/07
23	V4	Deposits in trench 3. **V4.5.002**, **V4.5.003** and **V4.5.004**.	E	06/02/07
24	V4	Junction of SW and S walls. **V4.3.001**, **V4.3.002**, **V4.3.007** and **V4.3.009**.	NE	06/02/07
25	V2	View along wall **V2.5.001**.		06/02/07
26	V6	The bottom part of the W wall. **V6.4.001**.	E	06/02/07
27	V6	The top part of the W wall. **V6.4.001**, **V6.4.002** and **V6.4.003**.	E	06/02/07
28	V6	The bottom part of the N wall. **V6.1.001**.	SE	06/02/07
29	V6	The top part of the N wall. **V6.1.002**.	SE	06/02/07
30	V2	E end of roof. **V2.6.001**.	W	06/02/07

#	Room	Description	From	Date
31	V2	W end of roof. **V2.6.001**.	E	06/02/07
32	V3	W end of roof. **V3.6.001**.	E	06/02/07
33	V3	E end of roof. **V3.6.001**.	W	06/02/07
34	V4	Junction of the NW and N wall. **V4.3.001**, **V4.3.002**, **V4.3.007**, **V4.3.010** and **V4.3.011**.	SW	06/02/07
35	V3	Deposits in the NW corner. **V3.5.006**, **V3.5.007** and **V3.5.008**.	E	06/02/07
36	V3	Upper face of the wall in the NW corner of the vault. **V3.5.011**.	NE	06/02/07
37	V2	Wall **V2.5.002**.	NE	06/02/07
38	V2	Junction of walls **V2.5.001** and **V2.5.002** with deposits **V2.5.011-014** showing under **V2.5.002**.	S	06/02/07
39	V2	Junction of walls **V2.5.001** and **V2.5.002**.	E	06/02/07
40	V2	Detail of **V2.5.002** with **V2.5.012** and **V2.5.013** below.	SE	06/02/07
41	V2	Detail of **V2.5.002** with **V2.5.012** and **V2.5.013** below.	S	06/02/07
42	V2	Close up of the junction of **V2.5.002** with **V2.5.011**, **V2.5.001** is also seen.	S	06/02/07
43	V2	Bottom part of the S wall. **V2.3.003**, **V2.3.004**, **V2.3.008**, **V2.3.009**, **V2.3.010** and **V2.3.011**.	NE	06/02/07
44	V2	Bottom part of the S wall, deposits over **V2.5.001**. **V2.3.012**, **V2.3.013**, **V2.3.014** and **V2.3.015**.	N	06/02/07
45	V2	Bottom part of the S wall, deposits to the W. **V2.3.006**, **V2.3.009**, **V2.3.010** and **V2.3.011**.	NE	06/02/07
46	V2	Deposits at the bottom part of the W end of the N section. **V2.1.009** and **V2.1.010**.	SE	06/02/07


V:1.4.001
V:1.5.002
V:1.1.002
V:1.3.001
V:1.1.002
V:1.5.002
Vault 1
V:1.5.001
V:1.5.004
V:1.5.003
V:1.1.001
V:1.5.007
V:1.5.005
V:1.5.006
Vault6
V:6.5.004
V:6.5.005
V:6.5.004
V:6.5.003
V:6.5.001
V:6.5.002
Vault 5
V:4.5.004
V:4.5.003
V:4.5.001
V:3.5.011
V:2.3.006
V:2.1.010
V:3.5.004
V:2.1.008
V:2.5.002
V:3.5.001
V:3.5.002
V:2.5.003
V:2.1.007
V:2.1.004
V:2.5.001
V:2.1.005
Edinburgh Castle Gatehouse Vaults
Vault 4
Vault 3
Vault 2
0
1 Metre

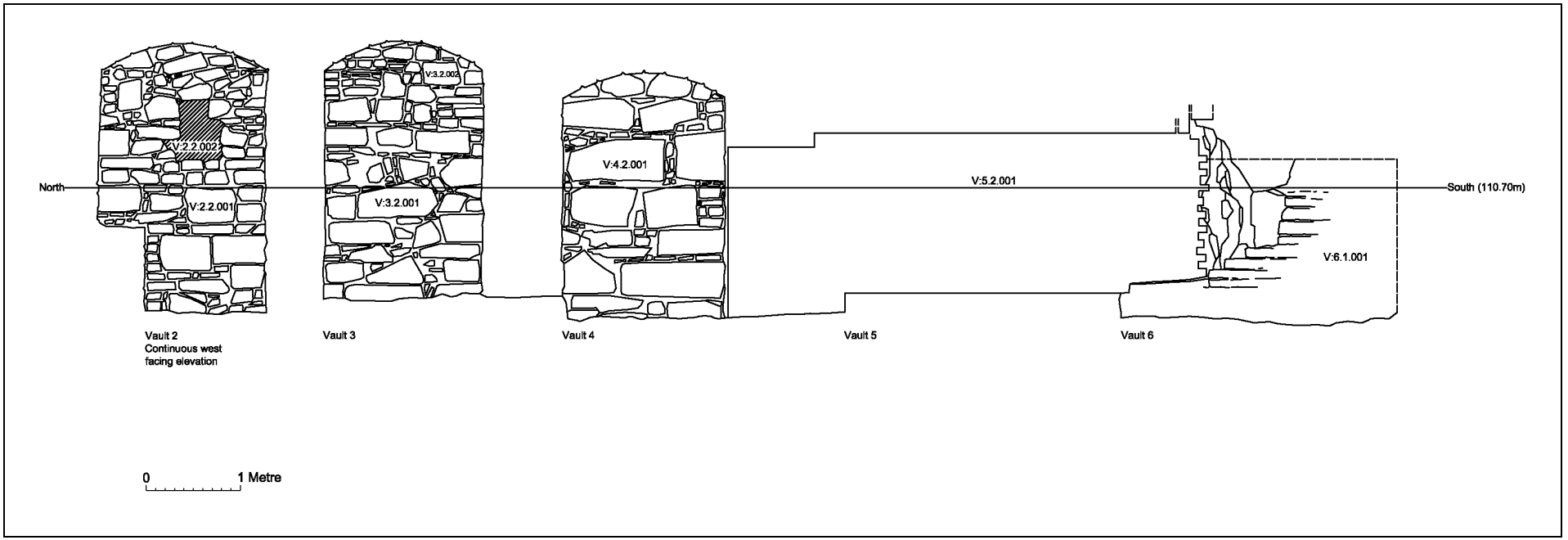


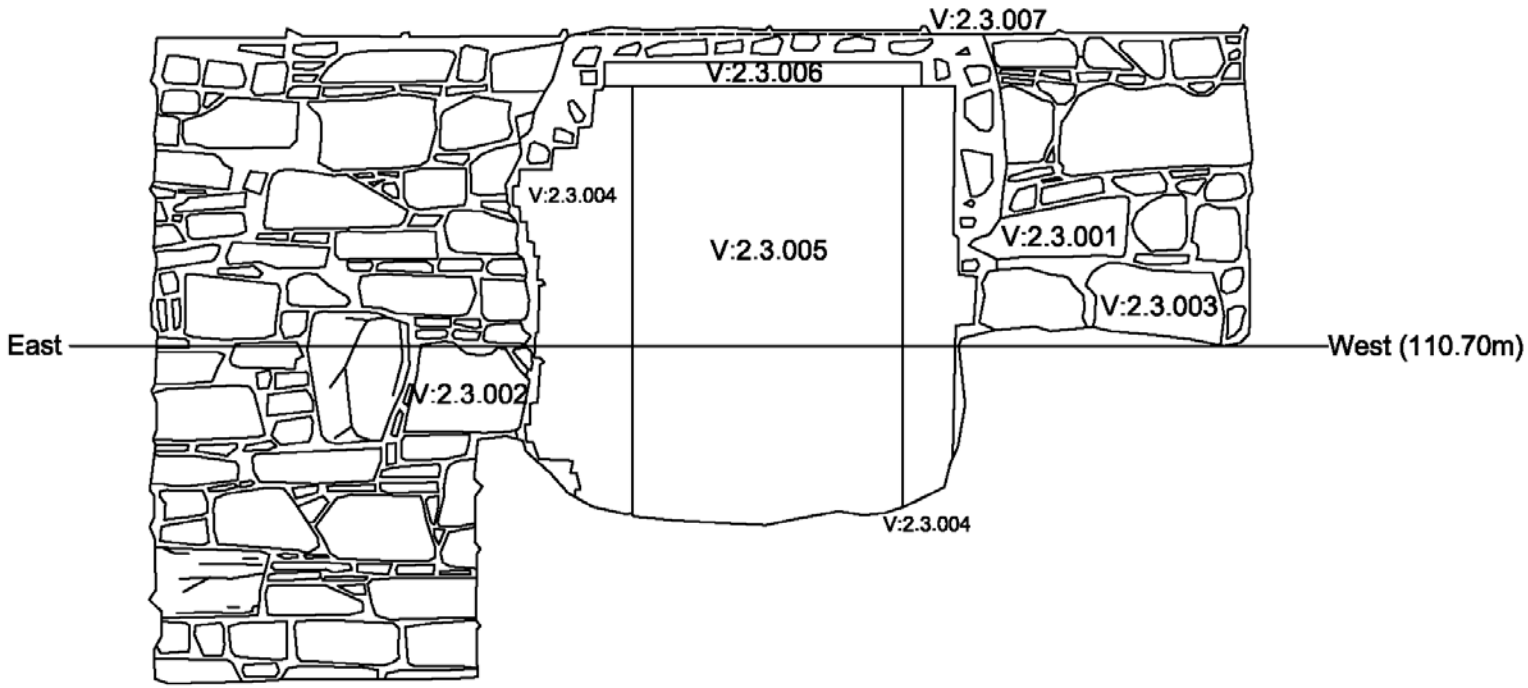
Guardhouse Plan



Vault 1
North facing elevation

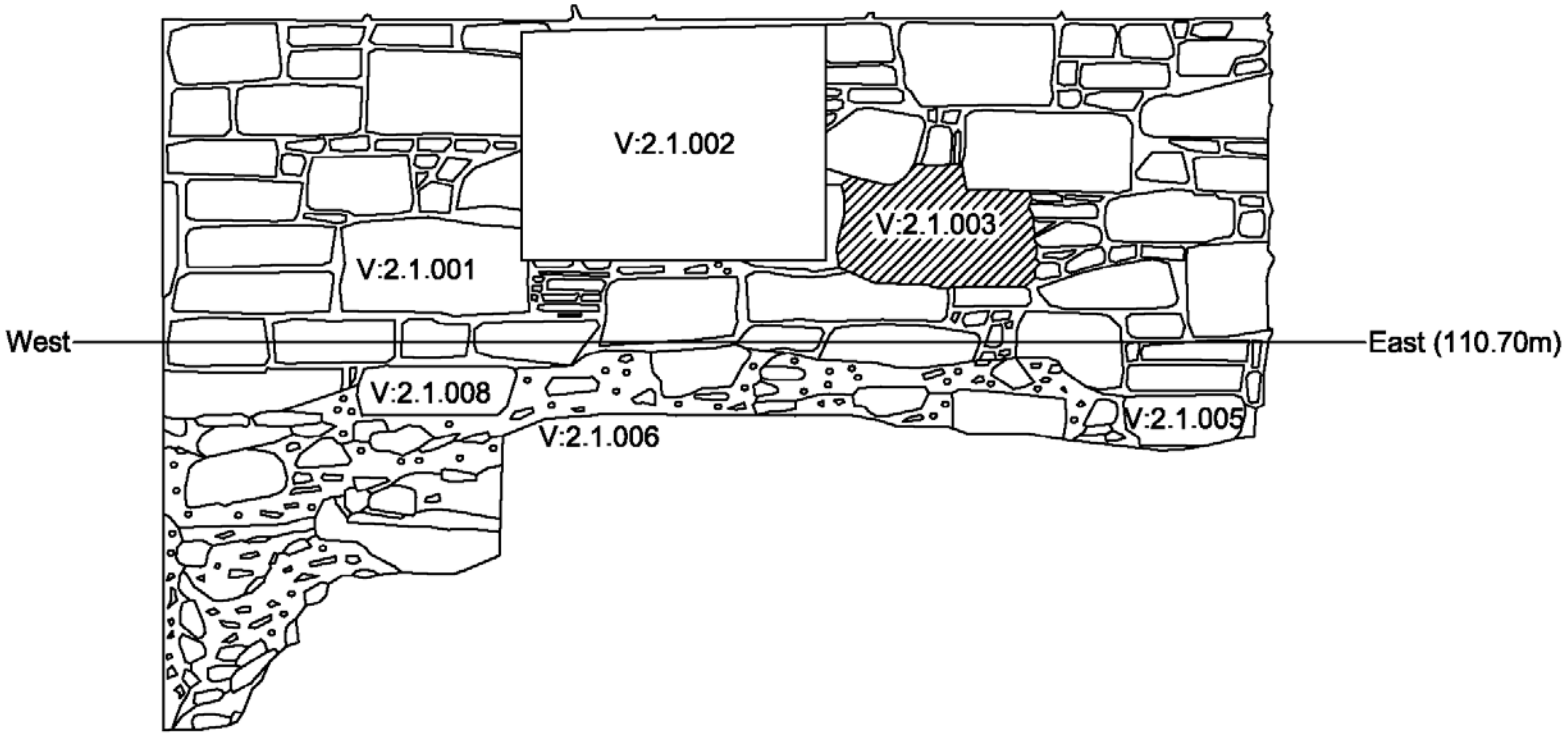
0 1 Metre


North
South (110.70m)
V:2.2.002
V:2.2.001
V:3.2.002
V:3.2.001
V:4.2.001
V:5.2.001
V:6.1.001
Vault 2
Continuous west
facing elevation
Vault 3
Vault 4
Vault 5
Vault 6
0
1 Metre



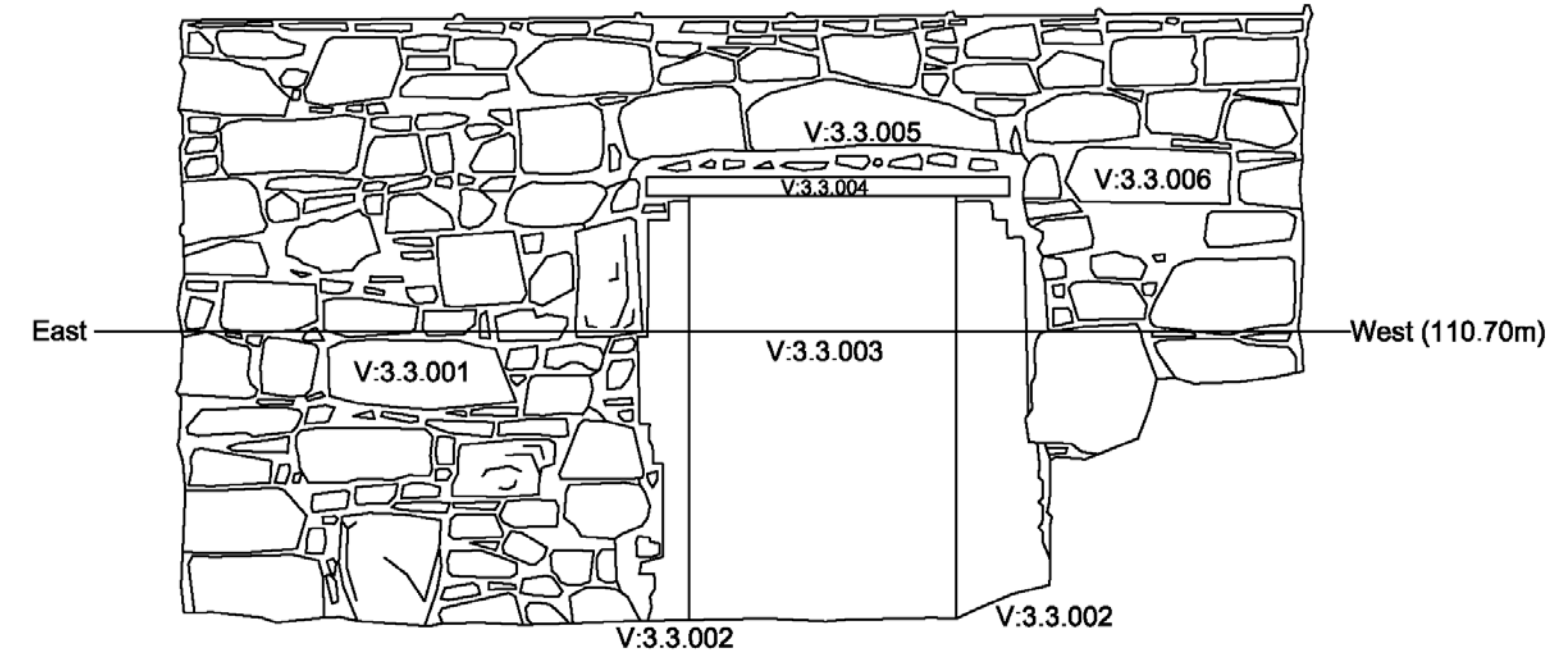
Vault 2
North facing elevation

0 1 Metre



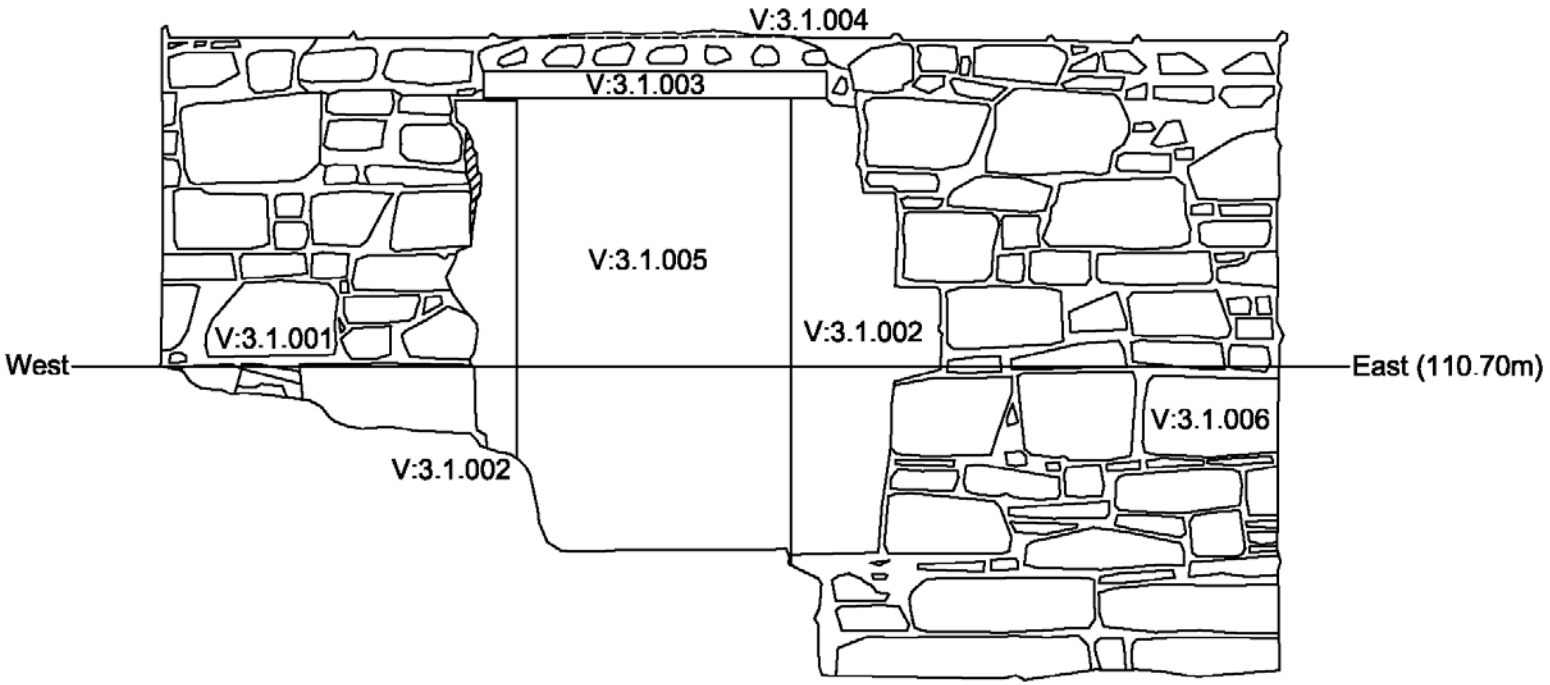
Vault 2
South facing elevation

0 1 Metre



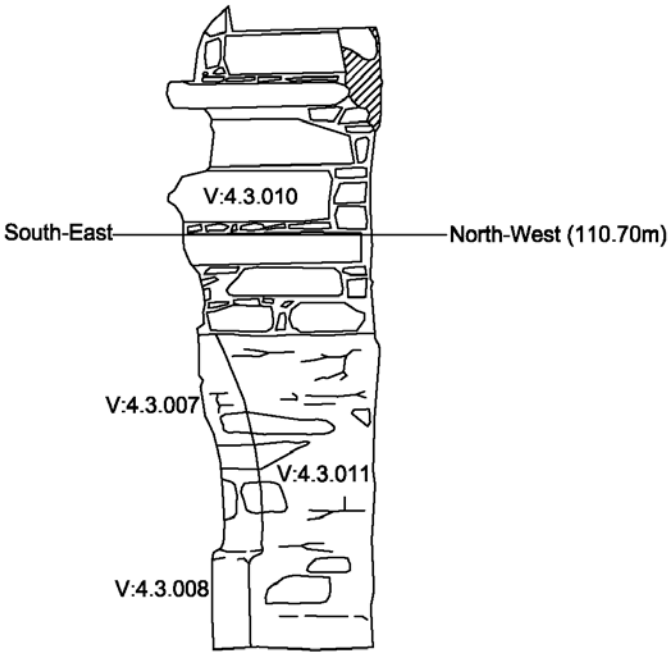
Vault 3
North facing elevation

0 1 Metre

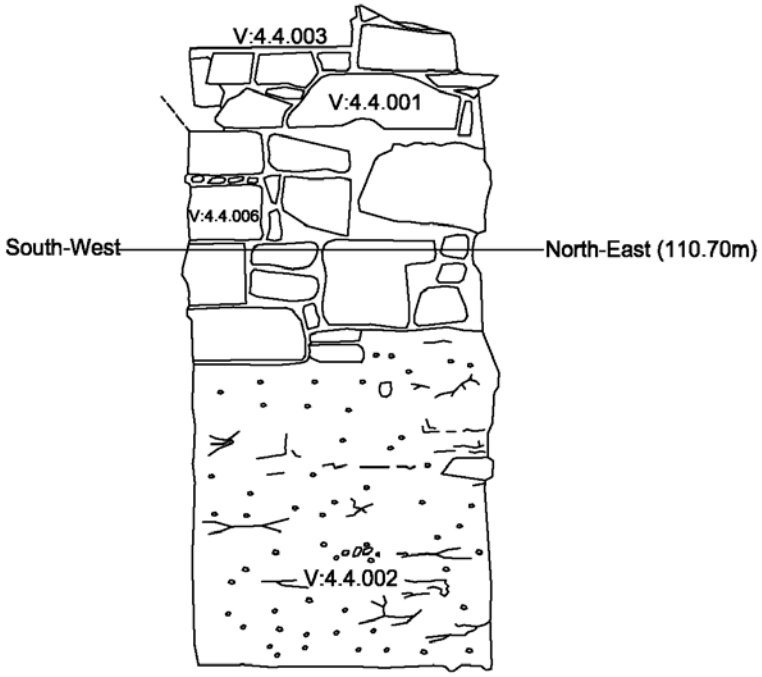


Vault 3
South facing elevation

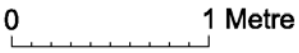
0 1 Metre

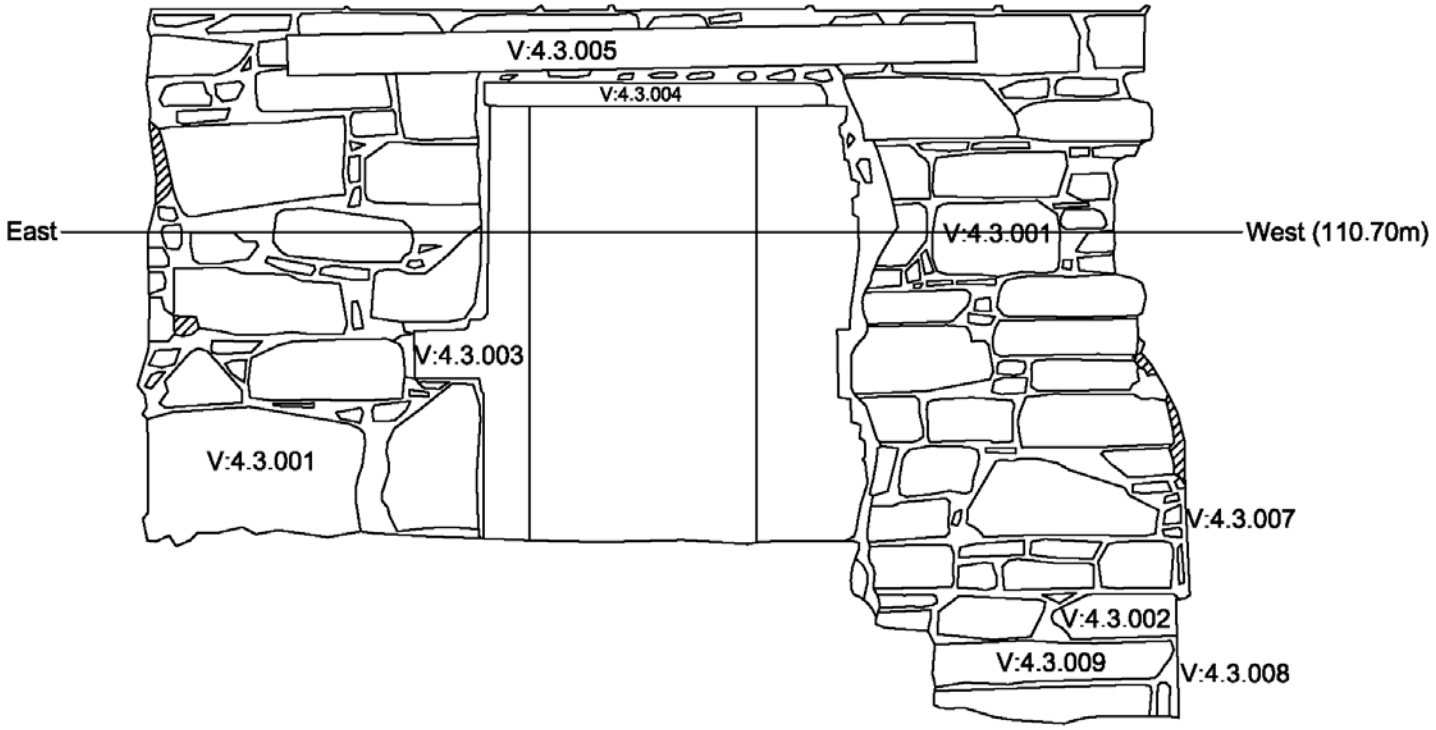


Vault 4
North-East facing elevation



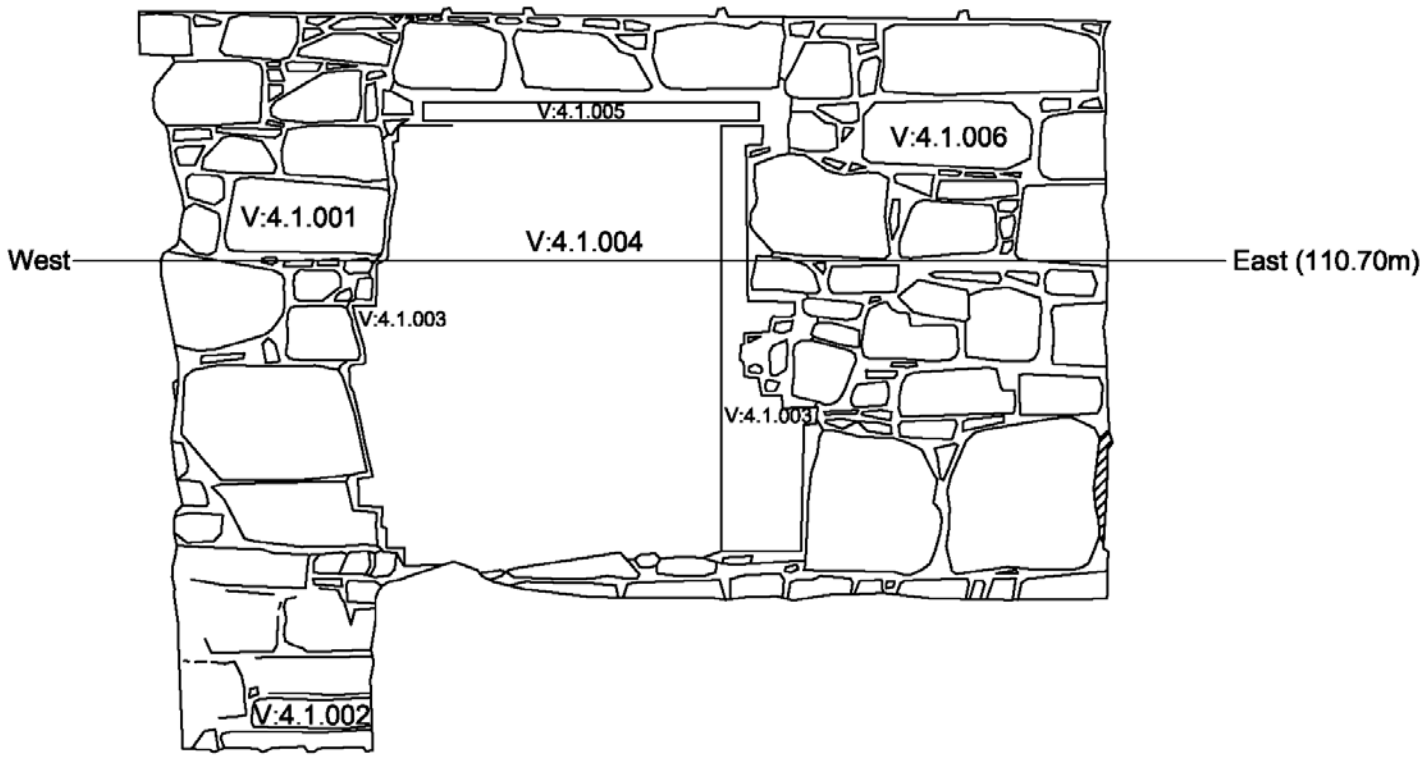
Vault 4
North-West facing elevation



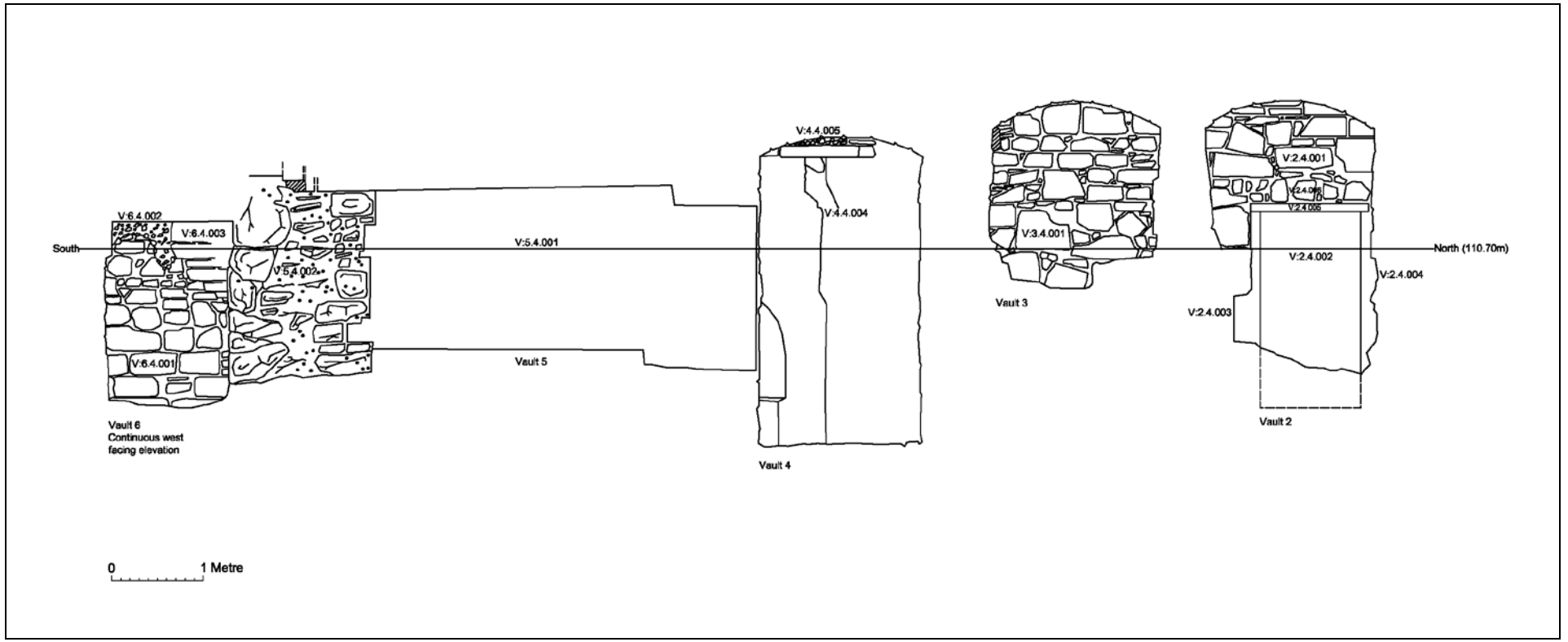


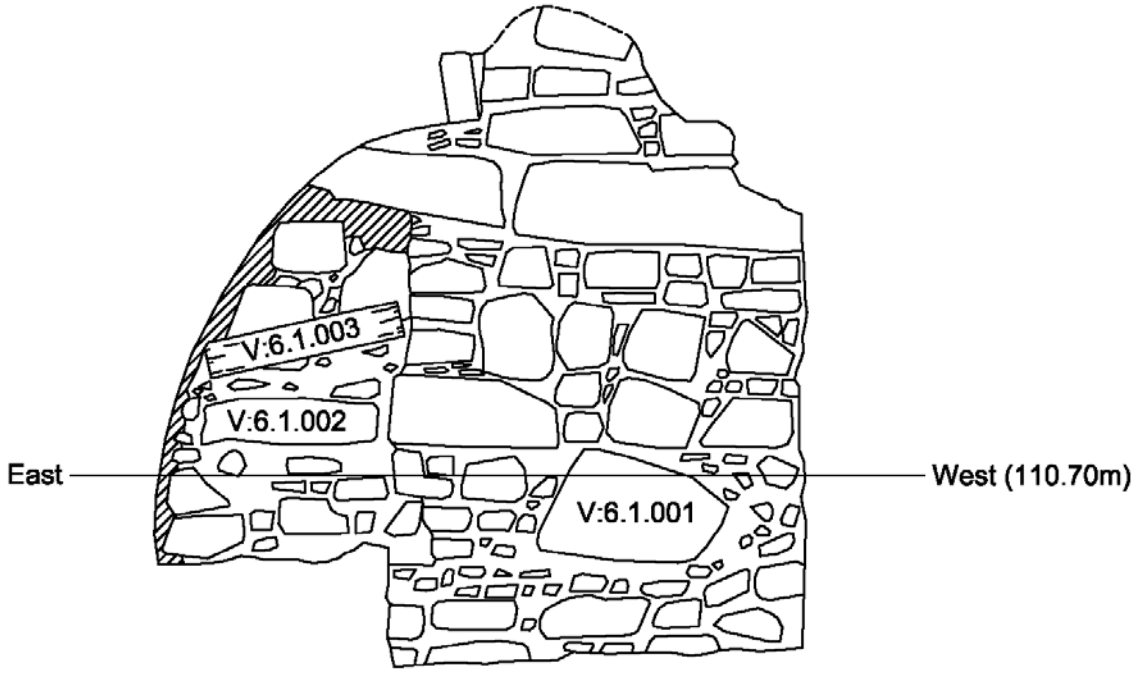
Vault 4
North facing elevation

0 1 Metre



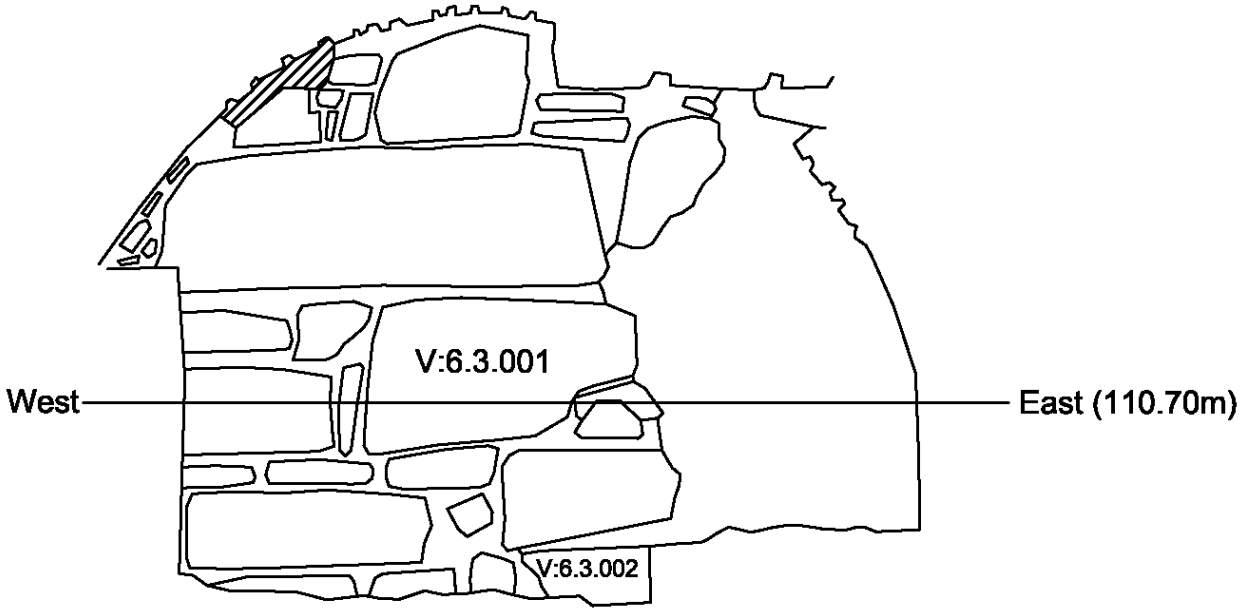
Vault 4
South facing elevation


South
North (110.70m)
V:6.4.002
V:6.4.003
V:6.4.001
V:5.4.002
V:5.4.001
Vault 5
Vault 6
Continuous west
facing elevation
V:4.4.005
V:4.4.004
Vault 4
V:3.4.001
Vault 3
V:2.4.001
V:2.4.005
V:2.4.002
V:2.4.004
V:2.4.003
Vault 2
0
1 Metre



Vault 6
North facing elevation

0 1 Metre



Vault 6
South facing elevation

0 1 Metre