

Historic Scotland
Properties in Care
Minor Archaeological Works 2011

**Antonine Wall:
Rough Castle
Test Trenching
February 2011**

**HS PIC Index Number:
Project Code: HSCO-90013-2011-01**



**16th - 18th February 2011
Kirkdale Archaeology**

Site: Rough Castle, The Antonine Wall, near Bonnybridge.
N.G.R.: Centred c. NS 8431 7991
Project Description: Test trenching to characterise the nature of the Roman period ditch, prior to remedial drainage works.
Project Code: HSCO-90013-2011-01

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1.0 INTRODUCTION

Under the terms of its PIC call-off contract with Historic Scotland, Kirkdale Archaeology was asked to undertake the excavation of four test trenches within the ditch fronting the Antonine Wall at Rough Castle fort near Bonnybridge (Figures 1 and 2).

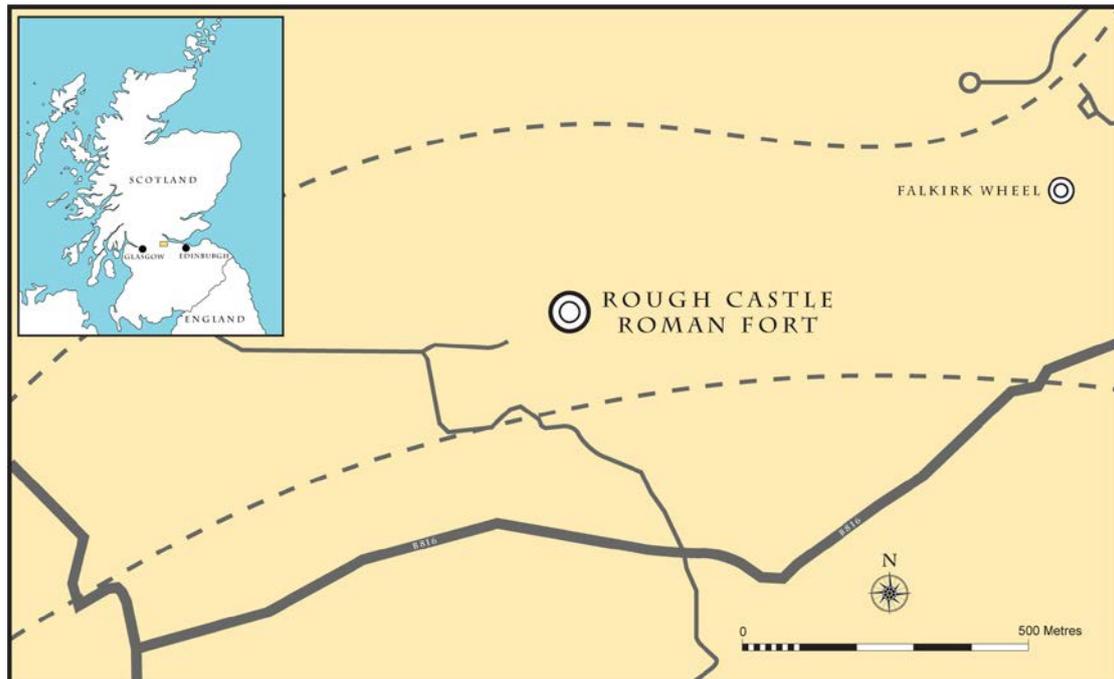


Figure 1: Location map of Rough Castle.

The test trenches were excavated to ascertain, where possible, the extent of the current drainage scheme and to characterise the extent of the *in situ* remains of the Roman ditch fabric.

The trenches revealed that a number of changes had been made to the earthwork by the drainage works of the 1960's.

Firstly, the ditch, originally V-shaped, had been stripped, truncated to the N and S, and excavated centrally. The excavated material was retained to be graded over the

installed drainage. This consisted of a central drainage channel (covered by a geotextile membrane) covered and fed by a central sump of pebbles, with further pebble beds stretching to the N and S, either to allow water to run into the drain from the slopes of the ditch, or simply as a bedding. These side channels were sealed with the retained excavated material (leaving the pebbles over the drain exposed centrally), and the whole area was re-turfed. This arrangement meant that the drain could draw water centrally down its length while water could also percolate in from the sides.

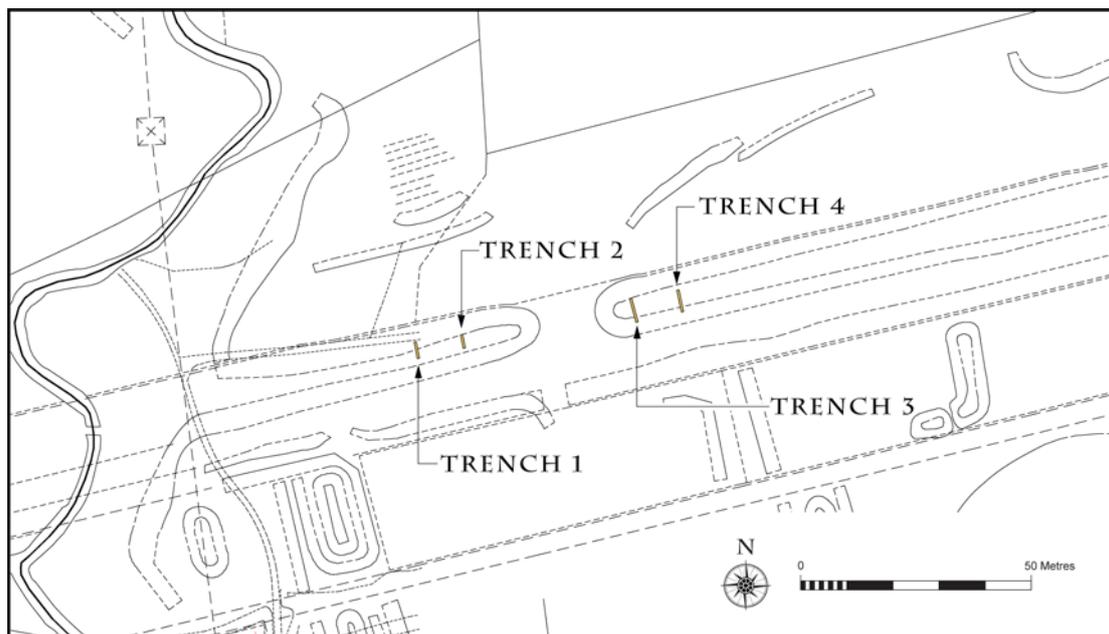


Figure 2: Location map of the four trenches.

As a result of the 1960s drainage works, the ditch now has a flat-bottomed U-shaped profile in this area – something uncharacteristic of the general appearance of the Antonine Wall. Also, it was noted that the present *Via Praetoria* – where it crosses the ditch - is a modern construction, replacing a footbridge shown in photographs taken as part of the 1960s work.

There were certain prohibitive elements which influenced the effectiveness of the present test-trenching exercise. In particular, the present drainage system had failed, which meant that within three of the trenches, the standing water made it impossible

to locate and expose the geo-textile membrane covering the drain. This could be located within Trench 3. Persistent heavy rain added to the already-inundated ditch-base, making working conditions difficult and proper recording of the trenches awkward, without the presence of a water pump (which will be crucial in any further remedial works).

Despite these difficulties, it was possible to characterise the various elements present. The 1960s drainage installation saw drastic alteration to the fabric of the ditch. The banks were cut and re-modelled and the basic shape of the base was modified to suit the nature of the drainage (rather than *vice versa*). To what extent the basal deposits of the ditch survive is not clear - they may have been entirely truncated or could be sealed below the drainage channel.

The work was carried out between the 16th - 18th February 2011.

2.0 DESCRIPTION AND INTERPRETATION

Trench 1

Trench 1 (see Figures 3 and 4) was located in the central part of the W side of the ditch. In plan, the trench measured 3.24m N/S x 0.5m wide E/W. The maximum depth achieved was 0.4m due to persistent water inundation. The trench ran from the centre of the ditch up its sloping S bank. The fills consisted of a c. 80mm thick turf (101) flattening towards the ditch base, overlying a stoney mid-brown introduced topsoil (102), up to 200mm thick. In the S portion of the trench, below (102), the S ditch bank was exposed. This was a steeply sloping bank of compact yellow clay (103), the face of the original Roman ditch cut. This had been truncated to the N by (105), the original cut to install the drainage. The extent and shape of the cut were not exposed as it had been backfilled to the S by a re-deposited mixture of yellow clay, brown peat and sub-angular sandstone fragments (104). This layer constituted the material that was truncated during the 1960s works. The waterlogged nature of the

ditch base meant that over a long period of time peaty deposits would have formed and accrued over the V-shaped yellow clay base. The drainage infrastructure and flattening of the base meant the truncation of the S and N margins of the N and S ditch banks (respectively), as well as the excavation of the accumulated siltation deposits of the ditch base. It is this material (104) that was re-deposited as part of the ditch fill, possibly because its impervious nature would direct water to the central drainage channel. Within (104) was SF001 (see Figure 6), a rim sherd from a Samian Ware bowl. To the N of (104) was the S end of the fill covering the central drainage channel. This fill (106) consisted of medium sized sub-rounded pebbles, generally less than 50mm in size, and was excavated (accompanied by rapid bailing out of the trench) to a depth of 400mm without sign of the geo-textile membrane over the drainage channel. The trench had to be stopped at this level due to water inundation.

Trench 2

Trench 2 (see Figures 3 and 4) was located in the E portion of the W side of the ditch. In plan, the trench measured 3.10m N/S x 0.5m E/W. The maximum depth achieved was 350mm due to persistent water inundation. The trench ran from the centre of the ditch up its sloping S bank. The fills consisted of a c. 80mm thick layer of turf (201), flattening towards the ditch base, overlying a stony mid-brown introduced topsoil (202), up to 150mm thick. In the S portion of the trench, below (202), the S ditch bank was exposed. This was a steeply sloping bank of compact yellow clay (203), the face of the original Roman ditch cut. This had been truncated to the N by (205), the original cut to install the drainage. The extent and shape of the cut were again not exposed as it had been backfilled to the S by a re-deposited mixture of yellow clay, brown peat and sub-angular sandstone fragments (204). This layer, as in (104), constituted the material that was truncated and re-deposited during the 1960s drain installation. To the N of (204) was the S end of the fill covering the central drainage channel. This fill, (206), consisted of medium sized sub-rounded pebbles, generally less than 50mm in size, and was excavated (again accompanied by rapid bailing out

of the trench) to a depth of 350mm without sign of the geo-textile membrane over the drainage channel. The trench had to be stopped at this level due to water inundation.

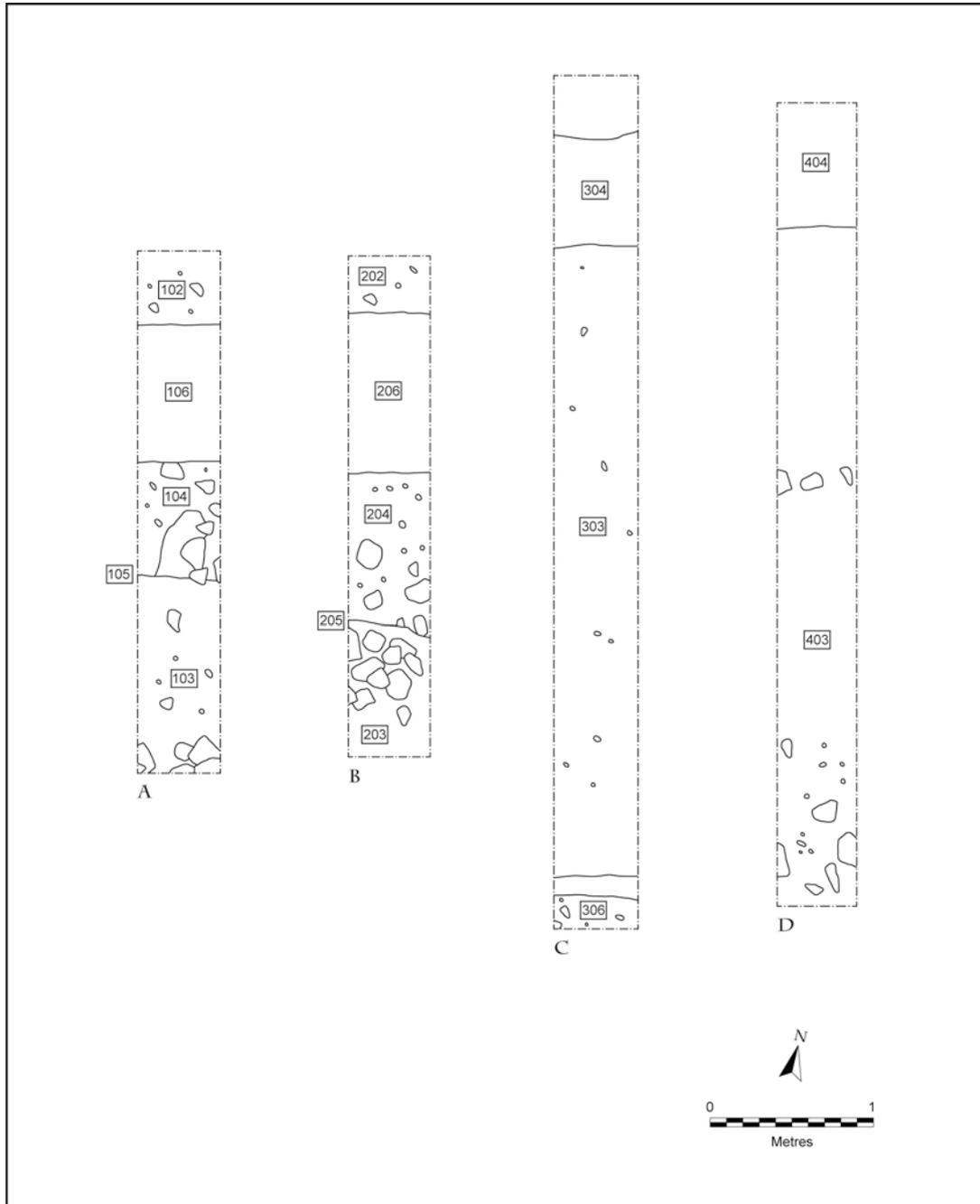


Figure 3: Post-excavation plans of Trench 1 (A), Trench 2 (B), Trench 3 (C) and Trench 4 (D).

Trench 3

Trench 3 (see Figures 3 and 5) was located at the W end of the E side of the ditch. In plan, the trench measured 5.30m N/S x 0.5m E/W. This was the only trench where it remained dry enough to allow the exposure of the geo-textile membrane overlying the drainage channel. The trench ran from the centre of the ditch up the sloping S bank of the ditch. The fills consisted of a *c.* 60mm thick layer of turf (301) flattening towards the ditch base, overlying a stony mid-brown introduced topsoil (302), up to 200mm thick. In the S portion of the trench, below (302), the S ditch bank was exposed. This was a steeply sloping bank of compact yellow clay (306), the face of the original Roman ditch cut. This had been truncated to the N by (305), the original cut to install the drainage. The extent and shape of the cut were again not exposed as it had been backfilled to the S by a re-deposited mixture of yellow clay, brown peat and sub-angular sandstone fragments (303). This layer, as in (104), constituted the material that was truncated and re-deposited during the 1960s drain installation. It overlay a layer of medium sized sub-rounded pebbles (308), generally less than 50mm in size, although this layer was not exposed to its full depth. This was again part of the 1960s drainage works, probably a layer carrying water from the S bank to the central drainage channel. To the N of (303) was the S end of the fill covering the central drainage channel. This fill (304) consisted of medium sized sub-rounded pebbles, generally less than 50mm in size and was excavated until the geo-textile membrane (307) over the drainage channel was exposed, at a depth of 400mm from the ground surface.

Trench 4

Trench 4 (see Figures 3 and 5) was located in the central portion of the W end of the E side of the ditch. In plan, the trench measured 4.90m N/S x 0.5m E/W. The trench ran from the centre of the ditch up the sloping S bank of the ditch. The fills consisted of a layer of *c.* 70 mm thick turf (401) flattening towards the ditch base, overlying a stony mid-brown introduced topsoil (402), up to 350 mm thick. In the S portion of the trench, below (402) was a re-deposited mixture of yellow clay, brown peat and sub-

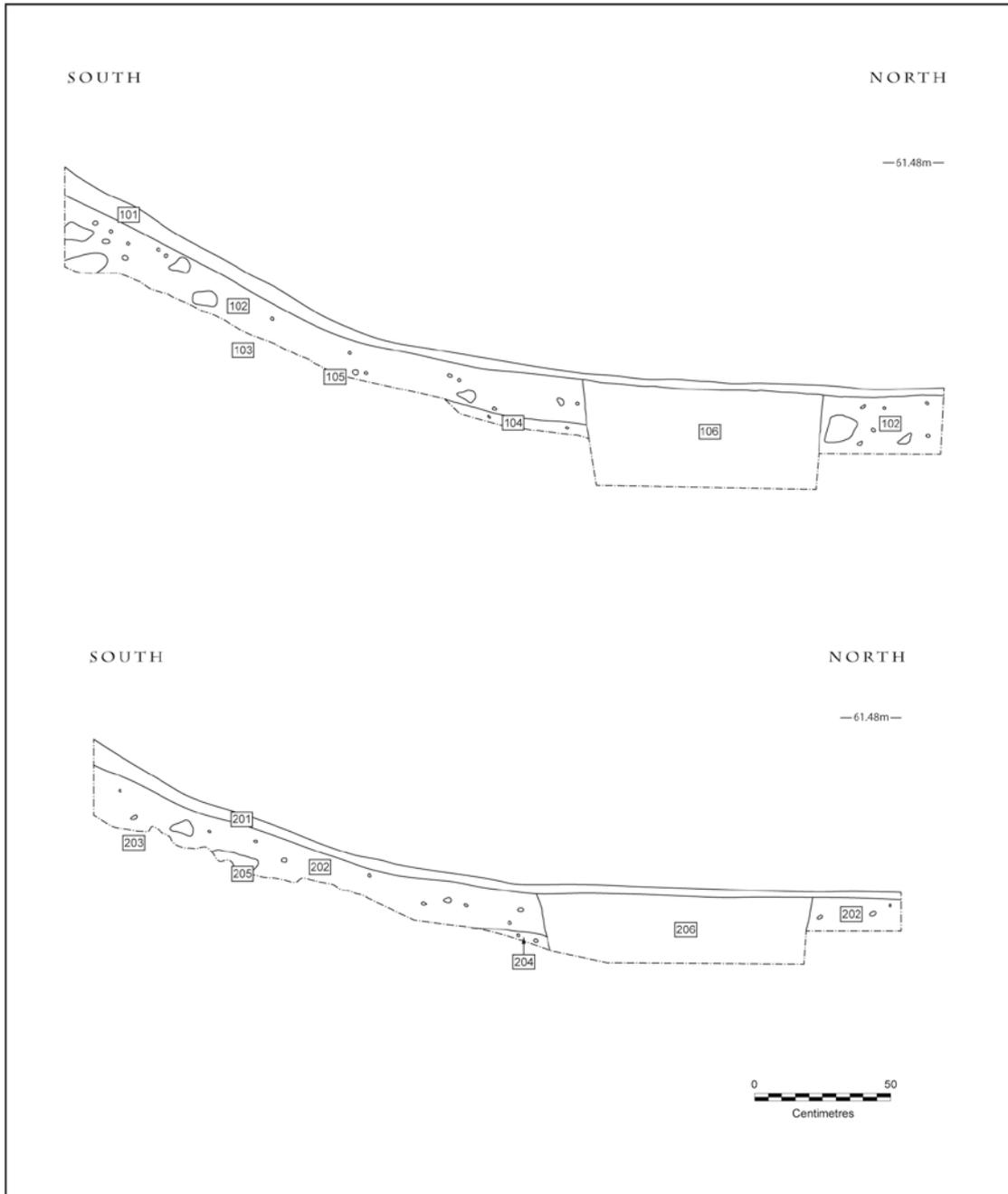


Figure 4: East-facing sections in Trench 1 (top), and Trench 2.

angular sandstone fragments (403). This layer, as in (104), constituted the material that was truncated and re-deposited during the 1960s drain installation. To the N was a layer of sub-rounded pebbles (404), generally less than 50mm in size, although this layer was not exposed to more than 100mm depth due to rapid and persistent

water inundation. Context (404) represented the central fill over the drainage channel.

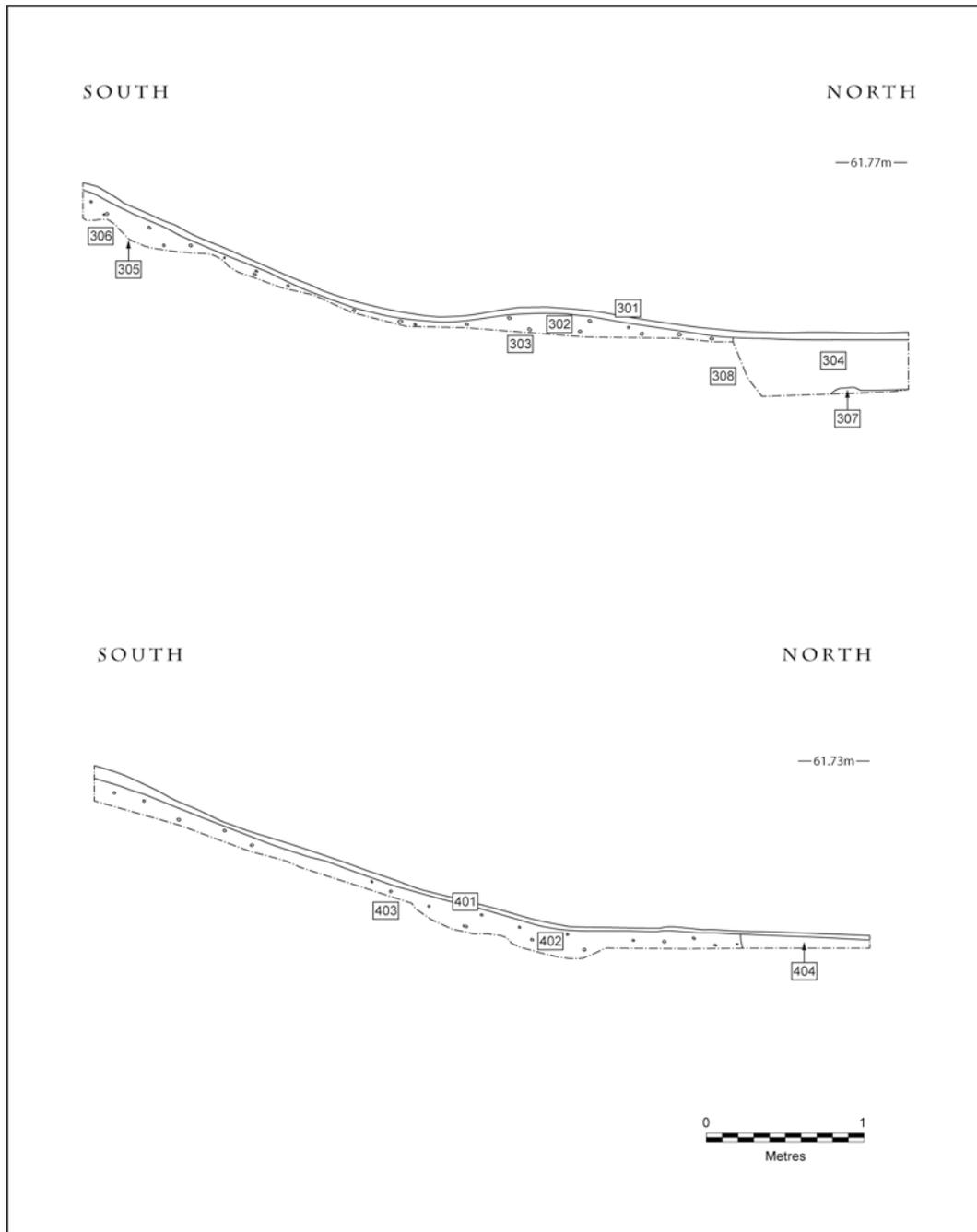


Figure 5: East-facing sections in Trench 3 (top) and Trench 4.

Note

The Historic Scotland plan accompanying the work showed several manholes on the E and W sides of the ditch. One was located at the E end of the W side of the ditch and was centred 10m E from (the centre of) Trench 2. It was composed of a rough angular slab over rubble. A similar cover could not be located on the E side of the ditch.



Figure 6: The piece of Samian Ware recovered from Trench 1.

3.0 CONCLUSIONS

The drainage works of the 1960s involved a highly invasive, damaging and largely ineffective scheme, and an unfortunate side-effect of the work was the loss of the original ditch profile. The 'before' photos show the ditch as it should be with its distinctive V-shaped profile, a dramatic addition to the Roman defences complimented by the Glacis bank to the N and Berm and Rampart to the S. Although this profile has been lost, the process is essentially reversible and it may be desirable at some future point to restore the ditch profile - especially given its context as part of the most complete and definitive fort-and-wall complexes found anywhere along the Antonine Wall.

In terms of the installation of the fin drain filters, these are likely to impact upon the archaeological contexts (104), (204), (303) and (403) - the layers representing the re-deposition of material removed from the banks and base of the ditch when the present drainage was installed in the 1960s. These have been shown to contain pottery, albeit one sherd, which is interesting considering that these layers were not fully excavated, since excavation terminated at this first archaeological horizon.

The excavation works necessary to facilitate the insertion of the fin drains may throw more light upon the damage caused to the ditch, as well as providing an opportunity to recover artefacts and develop a better understand the monument. It is recommended therefore that an archaeological excavation precedes, or a watching brief accompanies, the intended remedial works.

4.0 APPENDIX 1: LIST OF DIGITAL PHOTOGRAPHS

No.	Description	Facing	Date
1	Pre-excavation shot of the W side of the ditch.	W	16/2/2011
2	Pre-excavation shot of the W side of the ditch.	NW	16/2/2011
3	Pre-excavation shot of the W side of the ditch.	SW	16/2/2011
4	Pre-excavation shot of the W side of the ditch.	W	16/2/2011
5	Manhole at the E end of the W side of the ditch.	S	16/2/2011
6	Manhole at the E end of the W side of the ditch.	S	16/2/2011
7	Trench 1 work in progress – standing water.	W	17/2/2011
8	Trench 1 work in progress – standing water.	SW	17/2/2011
9	Trench 1 work in progress – standing water.	SW	17/2/2011
10	Post-excavation shot of Trench 1.	S	17/2/2011
11	Post-excavation shot of Trench 1 E-facing section, N end.	W	17/2/2011
12	Post-excavation shot of Trench 1 E-facing section, S end.	W	17/2/2011
13	Post-excavation shot of Trench 1.	SE	17/2/2011
14	Post-excavation shot of Trench 1.	S	17/2/2011
15	Trench 2 work in progress – standing water.	S	17/2/2011
16	Post-excavation shot of Trench 2.	S	17/2/2011
17	Post-excavation shot of Trench 2.	SW	17/2/2011
18	Post-excavation shot of Trench 1 E-facing section, N end.	W	17/2/2011
19	Post-excavation shot of Trench 1 E-facing section, S end.	W	17/2/2011
20	Trench 2 work in progress – standing water.	SW	17/2/2011
21	Post-excavation shot of Trench 2.	S	17/2/2011
22	Post-excavation shot of Trench 2, S end.	SE	17/2/2011
23	General shot of W side of ditch and Trenches 1 and 2.	E	18/2/2011
24	General shot of W side of ditch and Trenches 1 and 2.	E	18/2/2011
25	General shot of W side of ditch and Trenches 1 and 2.	W	18/2/2011
26	General shot of W side of ditch and Trenches 1 and 2.	SW	18/2/2011
27	Pre-excavation shot of the E side of the ditch.	E	18/2/2011
28	Pre-excavation shot of the E side of the ditch.	SE	18/2/2011
29	General shot of W side of ditch.	W	18/2/2011
30	Pre-excavation shot of the E side of the ditch.	NE	18/2/2011

No.	Description	Facing	Date
31	Trench 4 work in progress.	N	18/2/2011
32	Trench 4 work in progress.	S	18/2/2011
33	Post-excavation shot of Trench 4.	S	18/2/2011
34	General shot of Trenches 3 and 4.	SW	18/2/2011
35	General shot of exposed clay on slipped bank.	S	18/2/2011
36	Post-excavation shot of Trench 4 with standing water.	N	18/2/2011
37	Post-excavation shot of Trench 4 with standing water.	N	18/2/2011
38	Trench 3 work in progress.	N	18/2/2011
39	General shot of Trenches 3 and 4.	E	18/2/2011
40	General post-excavation shot of W side of ditch.	W	18/2/2011
41	General shot of Trenches 3 and 4.	W	18/2/2011
42	General post-excavation shot of W side of ditch.	E	18/2/2011
43	Trench 3, exposed drain fill.	S	18/2/2011
44	General shot of Trench 3.	S	18/2/2011
45	Trench 3, exposed drain fill.	S	18/2/2011
46	Re-deposited peat in Trench 3.	S	18/2/2011
47	Re-deposited peat and clay in Trench 3.	S	18/2/2011
48	Truncated clay bank in Trench 3.	S	18/2/2011
49	Truncated clay bank in Trench 3.	S	18/2/2011
50	General shot of Trench 3.	S	18/2/2011
51	General shot of Trenches 3 and 4.	SE	18/2/2011
52	Re-deposited peat overlying pebble layer in Trench 3.	S	18/2/2011
53	Re-deposited peat overlying pebble layer in Trench 3.	S	18/2/2011
54	Post-excavation shot of Trench 3.	N	18/2/2011
55	Exposed geo-textile membrane over drain in Trench 3.	S	18/2/2011
56	Exposed geo-textile membrane over drain in Trench 3.	S	18/2/2011
57	Post-excavation shot of Trench 3.	S	18/2/2011
58	Post-excavation shot of Trench 3.	S	18/2/2011
59	Exposed geo-textile membrane over drain in Trench 3.	W	18/2/2011
60	General shot of W side of ditch.	E	18/02/2011

5.0 APPENDIX 2: LIST OF CONTEXTS

No.	Description
101	Turf.
102	Mid- brown silty topsoil.
103	Yellow clay ditch bank.
104	Re-deposited clay, stone and peat.
105	Cut for drainage.
106	Central pebble fill over drain.
201	Turf.
202	Mid- brown silty topsoil.
203	Yellow clay ditch bank.
204	Re-deposited clay, stone and peat.
205	Cut for drainage.
206	Central pebble fill over drain.
301	Turf.
302	Mid- brown silty topsoil.
303	Re-deposited clay, stone and peat.
304	Central pebble fill over drain.
305	Cut for drainage.
306	Yellow clay ditch bank.
307	Geo-textile membrane over central drain.
308	Layer of pebbles below 303.
401	Turf.
402	Mid- brown silty topsoil.
403	Re-deposited clay, stone and peat.
404	Central pebble fill over drain.

6.0 APPENDIX 3: LIST OF DRAWINGS

No.	Description	Scale
01	E-Facing section of Trench 1.	1:10
02	Plan of Trench 1.	1:20
03	E-Facing section of Trench 2.	1:10
04	Plan of Trench 2.	1:20
05	E-Facing section of Trench 4.	1:10
06	Plan of Trench 4.	1:20
07	E-Facing section of Trench 3.	1:10
08	Plan of Trench 3.	1:20

7.0 APPENDIX 7: LIST OF SMALL FINDS

No.	Description	Type
SF001	Rim sherd from a Samian Ware bowl.	Pottery