

British Waterways
Minor Archaeological Works 2010

Forth and Clyde Canal

Lock 17 Spoil Removal

October 2010



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Kirkdale Archaeology

Site : A section of the Antonine Wall, on the S bank of the Forth and Clyde Canal, to the SE of Lock 17.

N.G.R.: NS 8053 7897

Project Description : Removal of spoil from the Antonine Wall, on the S canal bank to the SE of Lock 17.

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Fieldwork: Completed between 25th and 29th of October 2010

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1.0 INTRODUCTION

In October 2010, Kirkdale Archaeology was asked by British Waterways to monitor the removal of spoil from a section of the Antonine Wall on the S bank of the Forth and Clyde Canal, to the SE of Lock 17 (see Figure 1).

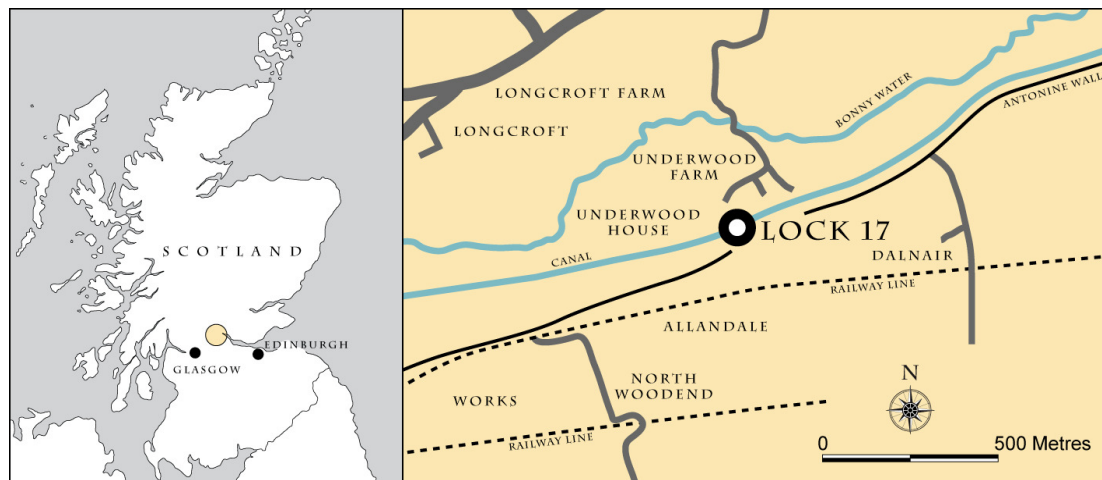


Figure 1: Location map of Lock 17.

The spoil consisted of a mixture of clay and stone (containing reinforcing mesh), wooden stakes and blaise. A metal tooth from a ditching bucket was also present.

While the W portion of the site had been disturbed to such an extent that it could not be restored, the E portion was relatively undisturbed and it was decided to restore the original ground profile by removing the spoil that had been graded over the top of it.

Two test trenches, dug prior to the spoil removal, had established the line of the original ground surface. The spoil removal was to be carried out initially by Morrison Construction staff using a digger with a flat bladed ditching bucket, and thereafter to be cleaned by hand onto the previous ground surface.

The work was carried out between the 25th and 29th of October 2010.

2.0 SPOIL REMOVAL

In consultation with Morrison Construction, it was decided that the most appropriate method of removing the spoil was to dig from the E and cast back to form a spoil heap to the W. In this way the overburden and the spoil heap would be cast back as the dig progressed from E to W. This meant that there was no need for an additional vehicle to run the spoil to the W end of the site, something that would minimise additional impact on the monument.



Plate 1: The spoil being removed.

The overburden (001) consisted of a re-deposited mixture of pale brown silt and clay, rich in red blaise and stone inclusions of varying shapes and sizes including Type 1 aggregate, pea gravel and large chunks of sandstone (see Figures 2 and 3). Within the layer were pieces of wooden fence posts, reinforcing mesh, glass and modern detritus such as plastic cups and paper waste. At the E end, the spoil was up to 1m deep, while to the W it was at least 150mm deep. The overburden peeled off onto a flattened, blackened turf line (009) – a moderately compact dark brown to black coloured silt with roots and flattened vegetation throughout, covered in thick leaf mulch, especially on the N side of the *glacis*. This layer represented the original

modern ground surface prior to the spreading of the spoil in 2009. Trees had been removed from, or flattened into, this surface, and within these tree boles a compact deposit (011) was exposed. This was comprised of 60% pale brown silty clay with 40% small rounded pebbles, and represented the upcast from the *ditch*, which formed the *glacis*.

The turf was truncated by cuts (004), (005), (007) and (008) and was still buried under (001) and (002) within the confines of the *ditch*. Within the *ditch*, (002) was a compact pale greyish-brown clay with blaise mixed in throughout, and rich in stone – a mixture of sub-angular sandstone and dolerite. The stone could be seen at the edges of the *ditch*, and it appeared that a raft of rubble had perhaps been laid in the *ditch* before it was sealed with clay. The layer could be traced along a strip 9m long x (at least) 3m wide, running from the *ditch* in the E part of the site S/N towards the canal, where it lay within cut (008).

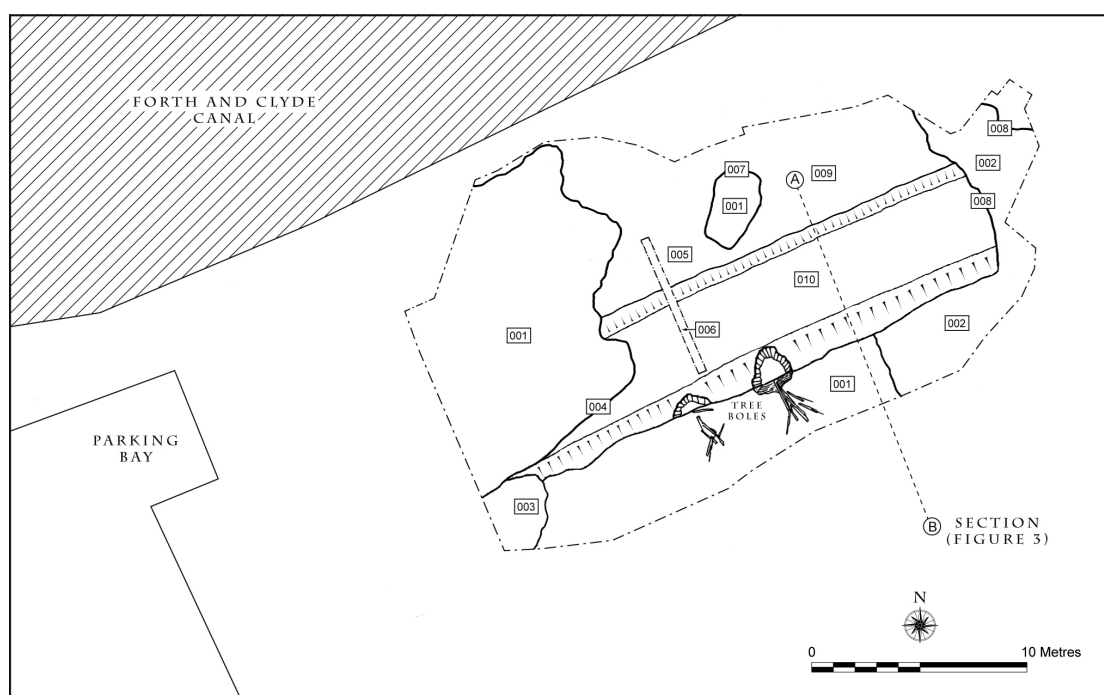


Figure 2: Post-excavation plan of the E area.

It appeared that when the *ditch* was infilled (c.2002), a channel to the canal had to be cut (008) in order to manage the water accumulating in the *ditch*. This channel, like

the *ditch*, was then sealed with clay. As this work pre-dated the 2009 spread of spoil, the channel was not excavated.

Once the E part of the site was free of the majority of the overburden, hand cleaning of the remaining spoil commenced. To the SW of the site, the remains of (003), the blaize dam (spread in 2002) was exposed lying over the *ditch*. This was comprised of a mix of 80% red blaize, 10% pale brown silty clay and 10% small sub-angular and sub-rounded stones. The layer was exposed but not excavated as it pre-dated the 2009 works. The dimensions of the exposed area were approximately 2.5m N/S x (at least) 3.4 m E/W, where it was cut by (004). This cut was again filled by re-deposited spoil (001), but this was not excavated as the ground surface below was disturbed. The area to be restored was essentially the area to the E of this cut.

Two further cuts were exposed in the E portion. The first of these (005) was a long thin rectangular cut, related to a test trench that had been dug in 2009 to establish the depth of the overburden. This cleared down onto the buried topsoil (009) and had been backfilled with re-deposited overburden (006). The second cut (007) lay in the S part of the E portion of the site, and consisted of a large rectangular cut running 3.7m SW/NE x 2.05m NW/SE. This had been filled by overburden (001). The purpose of (007) was not clear, and the fill was not excavated.

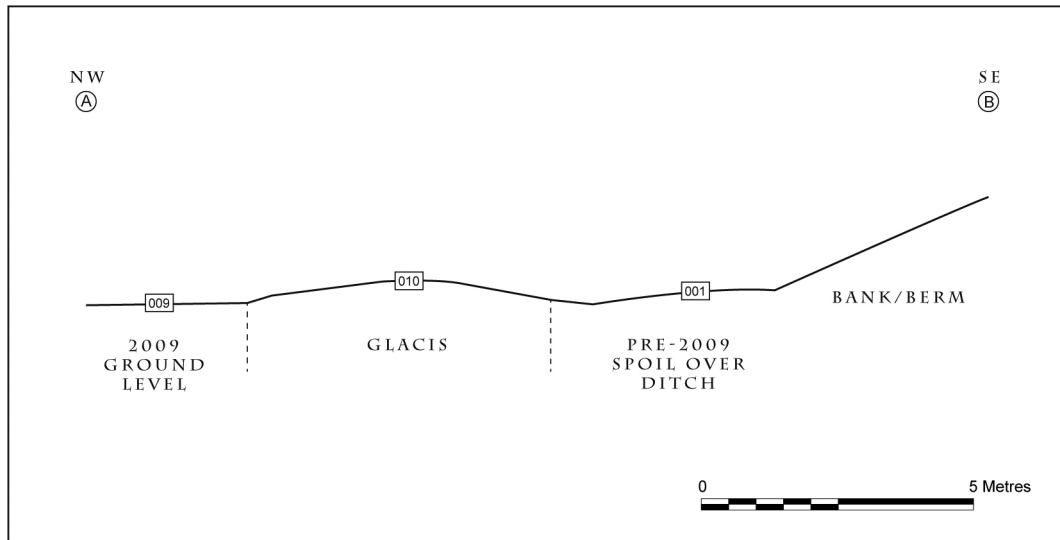


Figure 3: Section A-B across the E area showing general profile of Roman remains after clearance work.

3.0 CONCLUSIONS

The *glacis* was shown to be a low angled mound 5.40m to 5.60m wide and up to 600mm thick (centrally), with a sharp sloped 600mm wide lip to the N (although it was not excavated). Its surface was formed by turf (002), and the tree boles showed its internal fabric was formed from upcast silt and pebbles (011). As the *glacis* was covered in turf (and this was not excavated) it was not possible to ascertain the exact point at which the *glacis* stopped and the *ditch* started. The *ditch* was not exposed and its exact dimensions could not therefore be determined, however its width would appear to have been in the region of 3m to 4m N/S. Along the S edge of the *glacis*, two trees had been pushed over into the *ditch*. These were left *in situ* as their removal would have entailed damage to the *glacis*.

This phase of work represents the removal of spoil from *Area III* as suggested in March 2010 (Kirkdale Report: BW-FC17-2009-02) following a period of test trenching and survey in August/September 2009. The excavation of most of the overburden by machine, with the remainder being manually cleaned off by the archaeologists, was effective in removing the spoil deposited in 2009 to the E of Lock 17.

4.0 APPENDIX 1: LIST OF DIGITAL PHOTOGRAPHS

No.	Description	Facing	Date
01	Pre-excavation shot.	NW	25/10/2010
02	Pre-excavation shot.	E	25/10/2010
03	Pre-excavation shot (from road).	N	25/10/2010
04	Work in progress, E end.	W	25/10/2010
05	Work in progress, E end.	W	25/10/2010
06	Work in progress, cleaning the <i>ditch</i> .	W	25/10/2010
07	Work in progress, cleaning the <i>ditch</i> .	SW	25/10/2010
08	Work in progress, E end.	W	25/10/2010
09	Work in progress, cleaning the <i>ditch</i> .	W	25/10/2010
10	Work in progress, cleaning the <i>ditch</i> .	W	25/10/2010
11	Location shot from the bridge at Lock 17.	ESE	25/10/2010
12	Work in progress, site from the towpath.	SE	25/10/2010
13	Site from the road.	NNE	25/10/2010
14	Site from the road.	NW	25/10/2010
15	E End of the site from the road.	N	25/10/2010
16	Work in progress, grading of the spoil heap.	E	25/10/2010
17	E End of <i>glacis</i> and <i>ditch</i> .	ESE	25/10/2010
18	Disturbed tree on <i>glacis</i> bank.	NW	25/10/2010
19	Work in progress, cleaning the <i>ditch</i> .	W	25/10/2010
20	General shot of <i>glacis</i> bank.	SW	25/10/2010
21	Spoil removal.	NE	26/10/2010
22	Spoil removal.	N	26/10/2010
23	E test trench.	S	26/10/2010
24	Work in progress, W end.	SW	26/10/2010
25	Work in progress, W end.	W	26/10/2010
26	<i>Ditch</i> and <i>glacis</i> bank, W end.	W	26/10/2010
27	Hand cleaning of <i>glacis</i> bank.	W	26/10/2010
28	Cleared site.	E	26/10/2010
29	Cleared site.	E	26/10/2010
30	Disturbed W portion and cleared E end.	E	26/10/2010
31	Disturbed W portion and cleared E end.	E	27/10/2010
32	Detail of disturbed W portion.	E	27/10/2010
33	Cleared <i>glacis</i> W end.	N	27/10/2010
34	Cleared <i>glacis</i> and <i>ditch</i> W end.	NE	27/10/2010
35	Cleared <i>glacis</i> and <i>ditch</i> E end.	N	27/10/2010
36	Cleared <i>glacis</i> and <i>ditch</i> E end.	W	27/10/2010
37	Cleared <i>glacis</i> and <i>ditch</i> E end.	W	27/10/2010
38	Cleared <i>glacis</i> and <i>ditch</i> E end.	E	27/10/2010
39	Detail of N side of <i>glacis</i> E end.	E	27/10/2010
40	Disturbed ground on N side of <i>glacis</i> .	NW	27/10/2010

No.	Description	Facing	Date
41	Detail of disturbed ground on N side of <i>glacis</i> .	NW	27/10/2010
42	Cleared glacis W end.	S	27/10/2010
43	Disturbed ground on E side of <i>glacis</i> .	W	27/10/2010
44	Disturbed ground on E side of <i>glacis</i> .	W	27/10/2010
45	Post-excavation shot, taken from the road.	SE	27/10/2010
46	Post-excavation shot, taken from the road.	SE	27/10/2010
47	Post-excavation shot.	E	28/10/2010
48	Post-excavation shot.	E	28/10/2010
49	Post-excavation shot.	E	28/10/2010
50	Post-excavation shot.	E	28/10/2010
51	Post-excavation shot.	E	28/10/2010

5.0 APPENDIX 2: LIST OF CONTEXTS

No.	Description
001	Spoil overburden.
002	Earlier clay infill of <i>ditch</i> .
003	Blaize.
004	Cut across W end of site, infilled by (001).
005	Cut for E test trench.
006	Re-deposited infill of (005).
007	Rectangular cut, infilled by (001).
008	Cut across E end of site.
009	Buried topsoil.
010	<i>Glacis</i> bank.
011	Gravel.

6.0 APPENDIX 3: LIST OF DRAWINGS

No.	Description	Scale
001	Post-excavation plan of the cleared area.	1:100
002	SW-facing profile through the <i>ditch</i> and <i>glacis</i> .	1:50