

Discovery and Excavation in Scotland

Updated on 15/06/2007

LOCAL AUTHORITY:	Angus
PROJECT TITLE/SITE NAME:	Arbroath Abbey
PROJECT CODE:	HSCO-90018-2013-01
PARISH:	Arbroath and St Vigean
NAME OF CONTRIBUTOR:	David Murray
NAME OF ORGANISATION:	Kirkdale Archaeology
TYPE(S) OF PROJECT:	Minor excavation
NMRS NO(S):	NO64SW 18
SITE/MONUMENT TYPE(S):	Abbey
SIGNIFICANT FINDS:	
NGR (2 letters, 8 or 10 figures)	Centred c. NO 6430 4124
START DATE (this season)	9 January 2013
END DATE (this season)	16 January 2013
PREVIOUS WORK (incl. DES ref.)	
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>Four small trenches were excavated to assess the impact of root systems of apple trees recently planted in the Abbey grounds. They were all in the SW part of the abbey grounds, to the S and SW of the Little Cloister appended onto the S side of the main Cloister.</p> <p>A fairly clear sequence of increasing archaeological sensitivity from W to E was suggested. Trench 1 (to the W) in particular showed that this area has been raised substantially in the relatively recent past. However as we move E, closer to the Abbey ruins, we find probable medieval deposits at a relatively shallow depth, and consequently greater care needs to be taken here during any future ground-breaking works.</p>
PROPOSED FUTURE WORK:	
CAPTION(S) FOR ILLUSTRS:	
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ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS

**HISTORIC SCOTLAND PROPERTIES IN CARE
MINOR ARCHAEOLOGICAL WORKS 2013**

Arbroath Abbey • Excavations • January 2013

HS PIC Index Number: 90018

SITE: Arbroath Abbey, Arbroath

N.G.R.: Centred c. NO 6430 4124

DESCRIPTION: Excavation of trenches to assess the root impact of recently
planted apple trees

PROJECT CODE: HSCO-90018-2013-01

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JANUARY 2013

INTRODUCTION

Under the terms of its PIC call-off contract with Historic Scotland, Kirkdale Archaeology was asked to excavate four small trenches at Arbroath Abbey (Fig.1). The trenches were designed to assess the likely impact of the root systems of some apple trees recently planted in the Abbey grounds. They were all in the SW part of the abbey property, to the S and SW of the 'Little Cloister' appended onto the S side of the main Cloister.

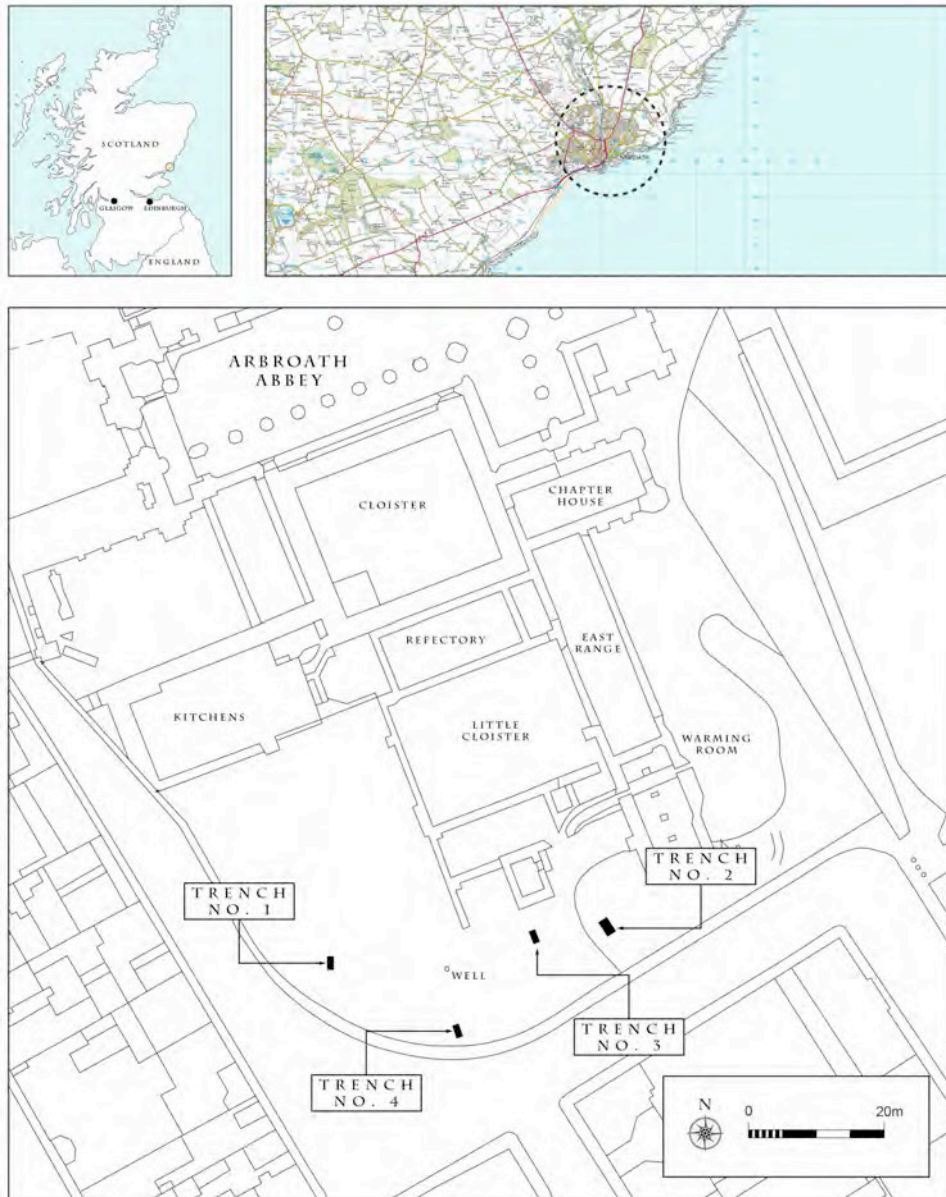


Figure 1: Plan showing the location of Arbroath Abbey and the four excavated trenches.
Inset No. 2 © Crown copyright. All rights reserved 2013. Licence number 100036933.

The Abbey was founded by William 1st in 1178 and dedicated to Thomas Becket under the auspices of the Tironensian order. Spectacular remains of the abbey church and outbuildings such as the gatehouse survive, albeit in a ruinous state; the cloistral ranges are little but footings.

Unusually, a secondary cloister has been appended on to the S side of the main cloister. Dubbed the 'Little Cloister' only fragments of two of its surrounding buildings survive. At the S end of its E range is a part sunken N/S building that straddles the abbey drain, which is surely the Reredorter. Roughly central to the S range is a smaller, more deeply sunken building, whose function is unclear. A door and set of steps at the N end of its E wall seem to imply access from outside the Little Cloister, and an arch built into the masonry of the W end of the S wall suggests that a structural feature, perhaps a further drain, runs under this wall, although with no matching feature in any other wall.

The ground to the S and W of the Little Cloister, in the area of the trenches, is currently covered in grass with a few scattered trees, with a well near the property's S boundary the only visible feature. The site slopes down gently from NE to SW, and the modern street running around the S and W sides of the abbey is at a noticeably lower level. At the SW corner of the property the street level is more than 1m below the grass, lessening progressively to the N and E from this point.

The abbey was subject to poorly recorded excavations during the nineteenth and early twentieth century, and what can be seen today is a product of restoration following this. In particular, most of the wall lines of the two cloisters are laid out by concrete slabs, presumably implying that little survived here. In the nineteenth century, buildings and a N/S road line are shown covering the area of the cloisters, explaining the apparently greater damage to the abbey complex here.

These post-medieval buildings were presumably cleared to facilitate the excavation and display of the abbey. The four excavation trenches were targeted to examine the site of some of these late buildings, to assess their survival. The work was undertaken between 9th – 16th January, 2013.

DESCRIPTION

Trench 1 measured 2m N/S by 1m E/W, and was close to the property's W boundary. Topsoil **100**, a black silty clay with few inclusions, proved to be 120mm thick. Below this **101** was looser dark grey silt rich in sandstone and mortar fragments 0.25m - 0.3m thick. Context **101** sealed **102**, loose dark grey silt with a significant (c.30%) component of apparent crushed reddish sandstone, giving the layer an orange hue. Both **101** and **102** produced a mixed assemblage of pottery, glass and metalwork of late nineteenth or early twentieth century date.

At the base of trench 1 was **103**, a mass of rubble, mostly reddish sandstone, with no trace of mortar or any tool marks. The stones were of all sizes, and were jumbled up and mixed in with similar soil to **102** above. A sondage 0.35m deep dug into **103** failed to locate its base and produced no finds.

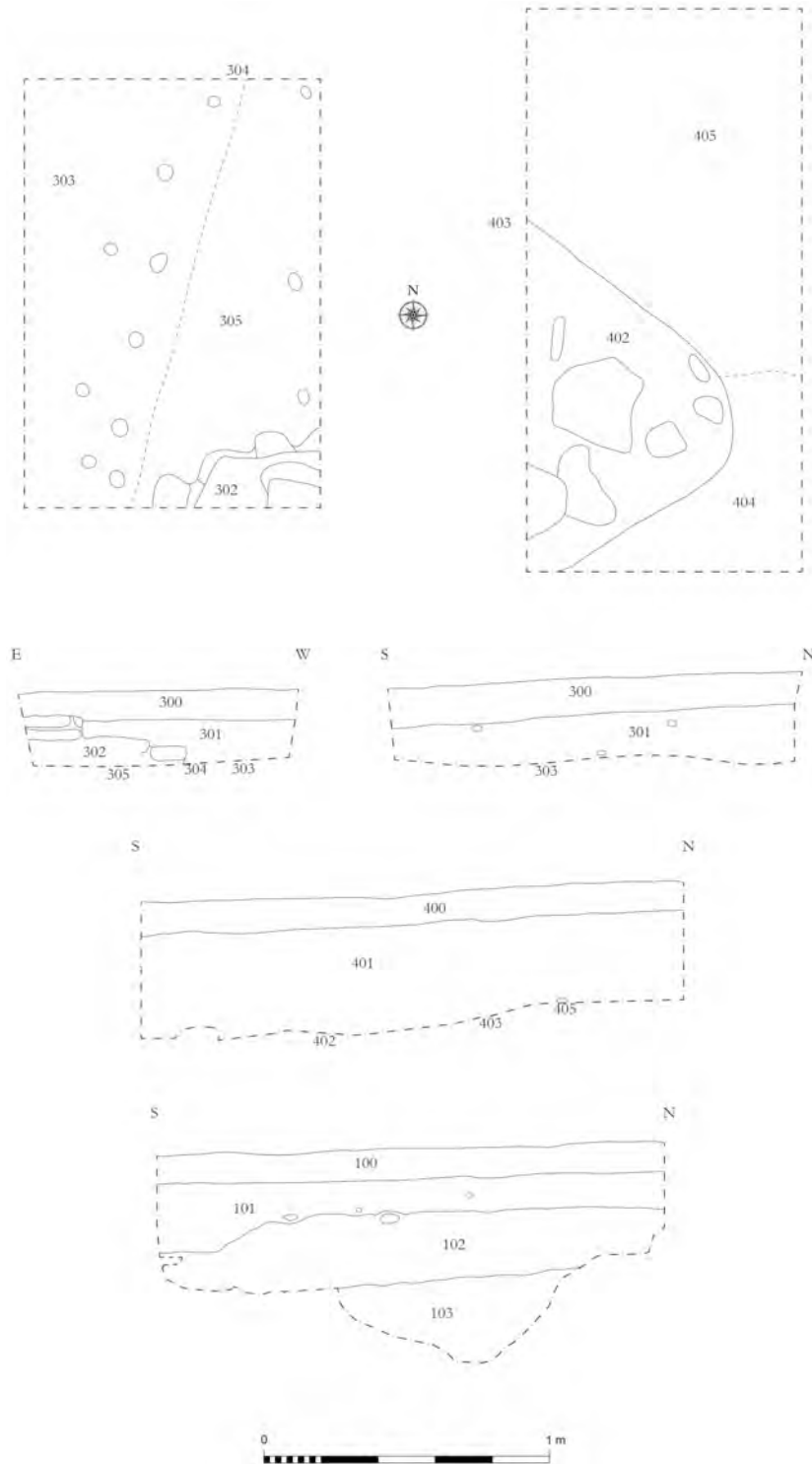


Figure 2: From top to bottom, left to right: Post-excavation plan of Trench 3; Post-excavation Plan of Trench 4; N-facing section of Trench 3; E-facing section of Trench 3; E-facing section of Trench 4; E-facing section of Trench 1

Trench 2 was the easternmost trench, near the S limit of the site, and some 15m SW of the Reredorter whose drain runs off towards the general location of this trench. An area 2.5m N/S by 1.5m E/W was opened up, but extensive roots across the trench meant that a strip 0.5m wide down the E side was only

dug through topsoil. This topsoil **200** was a black silty clay 0.12m thick that sealed **201**, looser dark grey silty clay full of sandstone chunks and mortar flecks. Context **201** was 200mm thick and produced a small assemblage of late nineteenth or early twentieth century finds, along with what appears to be a copper alloy lace end.



Plate 1: Trench 1 E-facing section

Below **201** a couple of probable cut features were recorded. Cut **203** in the NW corner of the trench was excavated and proved to be a shallow, but steep sided and flat-based feature, whose fill **202** was identical to **201** above it. Context **204** against the W side of the trench was partly under a large tree root and was left unexcavated.

Both these small features were dug into **206**, a very compact deposit of reddish brown sandy clay rich in sandstone with some mortar and charcoal throughout, which filled the trench. A sondage was dug through **206** to a depth of 0.25m without revealing its base; this produced a small assemblage (7 sherds) of medieval pottery, a piece of slag, a further copper alloy lace end and a small assemblage of bone, all seemingly animal not human.

Trench 3 was excavated to the S of the sunken building in the Little Cloister and measured 2m N/S by 1m E/W in plan. Topsoil **300** was again a black silty clay which sealed **301**, a pale grey silty clay rich in sandstone fragments. Although producing some fairly modern finds, three sherds of (probable) medieval pottery, and a fragment of a narrow bore clay pipe stem, were also recovered. A setting of stones **302** in the SE corner of this trench consisted of three 'courses' of unbounded flat slabs 0.2m high; all were small sandstone blocks, except for a single piece of cement. The top stone of **302** was flush with the top of **301**, although apparently sealed by it.



Plate 2: Trench 2 as finished

Below **301** lay the probable fill **303**, a compact red sand full of sandstone and mortar, covering the W side of the trench; it was not excavated. Only part of its N edge **304** was within the excavation, and this was orientated roughly NE/SW, running towards the SW corner of the sunken building. Context **304** was at least 1.6m long by 0.7m across, and had been dug against **305**, a compact dark brown silty sand with some small stones, mortar and charcoal flecks throughout. Deposit **305** was also not excavated.



Plate 3: Trench 3 as finished, showing cut 304

Trench 4 was opened up 6.5m S of the well, just to the W of the line of the W range of the Little Cloister; it measured 2m N/S by 1m E/W. The two uppermost deposits were the familiar topsoil **400** overlying a

looser dark grey silty clay **401**, rich in sandstone and mortar inclusions. Context **401** covered the trench and was 0.3m thick, producing a large assemblage of late nineteenth or early twentieth century finds.

Excavation stopped with the removal of **401**, with two apparent layers and a probable cut feature exposed. Context **402**, against the W section, was an area of black silt with four stones laid flat to give a roughly level upper surface. Voids were visible between these stones, and **402** covered an area of 0.65m N/S by 1.2m E/W. Although unexcavated this is interpreted as the fill of a cut, **403**. This was dug through two layers, whose relationship to each other is unknown. Context **404** in the SE corner was a compact mix of clayey silt, fine reddish sand, mortar patches and small chunks of sandstone. Context **405** to the N of **403** was a similar clayey silt, with fewer inclusions.



Plate 4: Trench 4 as finished

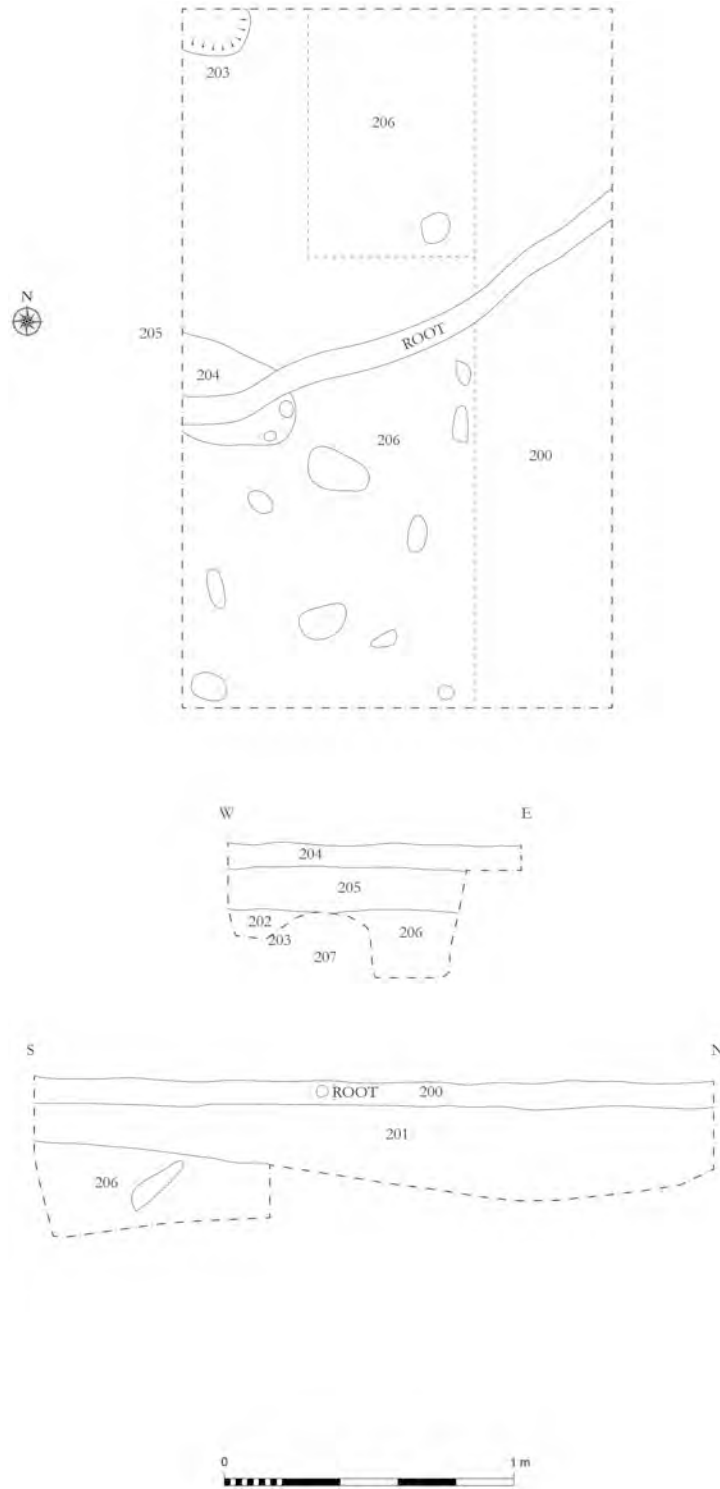


Figure 3: From top to bottom, left to right: Post-excavation plan of Trench 2; S-facing section of Trench 2; E-facing section of Trench 2;

CONCLUSIONS

These four small trenches proved highly informative archaeologically. Although the exact age and function of some deposits is speculative, the overall aim of assessing the archaeological survival at the site was successful. The trenches will be considered in turn, before considering their combined significance.

Trench 1, the furthest to the W, produced no evidence for medieval deposits. Below the topsoil and mixed deposit **101** was **102**, a loose deposit rich in apparently crushed sandstone, itself overlying **103**, a substantial deposit of rubble. All these layers seemed late in date, and are likely to represent levelling, with rubble and possible construction or demolition waste poured in to raise the ground level. This operation presumably relates to the current layout of the site, with the road line to the W significantly lower than the Abbey grounds.

Trench 2, the furthest to the E, produced evidence below the familiar topsoil and sandstone rich deposit **201**, for two cut features. Only one of these was excavated, and it produced no finds, however its fill (**202**) was so similar to **201** above that suggests that the cut **203** represents a feature that was removed immediately prior to the introduction of **201**. These were dug into **206**, a very compact deposit that was the only excavated horizon to produce exclusively medieval finds. Context **206** resembled subsoil, apart from the finds and inclusions, and may well be simply re-deposited. This could represent the backfill of a substantial Abbey drain entirely within the confines of the trench, or could be a more general layer. Context **206** lay only 0.2m – 0.25m below the current ground level.

Trench 3 produced an identical sequence of topsoil over rubble rich **301**, together only some 0.3m thick. Below this, **302** was a pile of stones whose upper surface was flush with the top of **301**. Cement within this indicates a late feature, possibly the site of a ministry of works signboard or other feature. At the base of the trench **303** was interpreted as the fill of a substantial cut **304**, running SE/ NW across the trench. This line takes it to the SW corner of the sunken building some 3.6m to the NE. The SE side of **304** seemed to line up well with the E side of the arch referred to in the introduction (in the sunken building). It is suggested that **304** is the cut of a second substantial drain, one whose construction must have been contemporary with the sunken building. Context **305**, which this is cut against, must obviously be older.

Trench 4, near the S boundary of the site, again produced topsoil over a rubble rich layer **401**, although here they were up to 0.5m thick. Below these a probable fill **402** is interpreted as a drain cover, due to the flat slabs and voids between. This appears to start within the trench and heads off to the SW. Although unexcavated this is suggested to be post-medieval, relating to the demolished structures across the site, principally due to its insubstantial nature. The two layers (**404** and **405**), which it is dug through, are of unknown date and function, and their relationship to each other is unknown.

Together these trenches produced remarkably similar uppermost deposits. The high quality topsoil is probably imported to the site. The sandstone and mortar rich layer inevitably found below the topsoil seems to be a consistent levelling layer across this part of the site, varying only in thickness. As little evidence was found for post-medieval buildings, it is suggested that this deposit represents their levelling and subsequent landscaping.

Trench 1 to the W produced further substantial evidence for levelling with a massive dump of rubble and coarse sand, itself probably derived from crushed sandstone. Although no sign of mortar or tool marks was noted this could be construction debris from an early stage in the process. Whatever its origin it suggests massive landscaping at a late date, and implies that the earlier ground level dropped significantly here. This could mean well-preserved medieval deposits in this area below this infill.

Trench 4, the next to the E from Trench 1, showed a greater thickness of infill **401** than the two trenches to the E. Here structural evidence was recorded in the form of a probable drain running off to the SW. This is thought to be post-medieval due to its insubstantial nature, and provides further evidence that the housing shown in the nineteenth century has been swept away, leaving only sunken features such as this drain. The deposits it is dug through could well be medieval in date.

The two trenches to the E (3 and 4) both produced evidence for what are interpreted as medieval features at relatively shallow depths. Trench 3 seems to have run across the line of a probable substantial drain, to the W of that already exposed on the site, which seems to be contemporary with the construction of the sunken floored building. Trench 4 more speculatively was entirely within the backfill of the main Abbey drain. It is noticeable that these are both negative cut features, and it is unclear without further work whether the medieval ground surface has been truncated or not.

A fairly clear sequence of increasing archaeological sensitivity from W to E can be suggested. Trench 1 in particular showed that this area has been raised substantially in the relatively recent past. However as we move E, closer to the Abbey ruins, we find probable medieval deposits at a relatively shallow depth, and consequently greater care needs to be taken here during any future ground-breaking works.

LIST OF CONTEXTS

Trench 1

Context No.	Description
100	Topsoil
101	Stone rich silty clay below 100
102	Mixed deposit: silty clay and powdered sandstone
103	Substantial rubble and silty clay deposit

Trench 2

Context No.	Description
200	Topsoil
201	Stone rich silty clay below 200
202	Fill of 203
203	Cut in NW corner of trench
204	Fill of 205
205	Cut against W edge of trench
206	Orangey, slightly clayey sand

Trench 3

Context No.	Description
300	Topsoil
301	Stone rich silty clay below 300
302	Slab and concrete setting in SE corner of trench
303	Reddish sand and sandstone fill of 304
304	Cut running NE/SW across trench
305	Dark brown silty sand cut by 304

Trench 4

Context No.	Description
300	Topsoil
301	Stone rich silty clay below 400
302	Flat slab fill of 403
303	Unexcavated cut in SW corner of trench
304	Inclusion rich dark grey clayey silt in SE corner of trench
305	Dark grey clayey silt in N end of trench

LIST OF DRAWINGS

No.	Type	Description	Scale
1	Plan	Trench 4 as finished	1:20
2	Section	E-facing section, Trench 2	1: 10
3	Section	E-facing section, Trench 1	1: 10
4	Plan	Trench 3 as finished	1:20
5	Section	N-facing section, Trench 3	1: 10
6	Section	E-facing section, Trench 3	1: 10
7	Plan	Plan of trench 2 as finished	1:20
8	Section	S-facing section, Trench 2	1: 10
9	Section	W-facing section, Trench 3	1: 10
10	Plan	Location plan for trenches 2 and 3	1: 50

LIST OF DIGITAL PHOTOGRAPHS

No.	Description	From	Date
1	General view of area of trenches pre-excavation	E	09/01/2013
2	General view of area of trenches pre-excavation	N	09/01/2013
3	General view of area of trenches pre-excavation	N	09/01/2013
4	General view of area of trenches pre-excavation	E	09/01/2013
5	Trench 4, 401 exposed	S	09/01/2013
6	Trench 4, 401 exposed	S	09/01/2013
7	Trench 1, 101 exposed	S	09/01/2013
8	Trench 1, 101 exposed	E	09/01/2013
9	Trench 1, 101 exposed	E	10/01/2013
10	Trench 1, 101 exposed	N	10/01/2013
11	Trench 4, detail of stones in 401	E	10/01/2013
12	Trench 1, 102 exposed	E	10/01/2013
13	Trench 1, 102 exposed	N	10/01/2013
14	Trench 4 as finished	E	10/01/2013
15	Trench 4 as finished	S	10/01/2013
16	Trench 4 as finished, detail of S end	N	10/01/2013
17	Trench 4, detail of 402	W	10/01/2013
18	Trench 4, detail of 402	W	10/01/2013
19	Trench 4, E-facing section	W	11/01/2013
20	Trench 4, E-facing section, detail of S end	W	11/01/2013
21	Trench 4, E-facing section, detail of N end	W	11/01/2013
22	Trench 4 backfilled	S	11/01/2013
23	Sunken building in S side of Little Cloister	S	11/01/2013
24	Detail of arch in W end of S wall of sunken building	S	11/01/2013
25	Trench 3, 301 exposed	N	11/01/2013
26	Trench 3, 301 exposed	N	11/01/2013
27	Trench 3, 301 exposed	W	11/01/2013
28	Trench 3, 301 exposed, detail of S end	N	11/01/2013
29	Trench 1 as finished	W	11/01/2013
30	Trench 1, E-facing section, detail of S end	W	11/01/2013
31	Trench 1, E-facing section, detail of N end	W	11/01/2013
32	Trench 1 as finished, detail of S end	E	11/01/2013
33	Trench 1 as finished, detail of N end	E	11/01/2013
34	Trench 1 as finished	E	14/01/2013
35	Trench 1 as finished, detail of N end	E	14/01/2013
36	Trench 1 as finished, detail of S end	E	14/01/2013
37	Trench 1, E-facing section	W	14/01/2013

No.	Description	From	Date
38	Trench 1, E-facing section, detail of S end	W	14/01/2013
39	Trench 1, E-facing section, detail of N end	W	14/01/2013
40	Trench 3, 303/305 exposed	N	14/01/2013
41	Trench 3, 302, 303 and 305 exposed	N	14/01/2013
42	Trench 3, 302, 303 and 305 exposed	E	14/01/2013
43	Trench 3, 302, 303 and 305 exposed, detail of S end	N	14/01/2013
44	Trench 3, 302, 303 and 305 exposed, detail of N end	S	14/01/2013
45	Trench 3, showing relationship of cut 304 with the sunken building	S	14/01/2013
46	Trench 3, showing relationship of cut 304 with the sunken building	S	14/01/2013
47	Trench 3, E-facing section	W	14/01/2013
48	Trench 3, E-facing section, detail of S end	W	14/01/2013
49	Trench 3, E-facing section, detail of N end	W	14/01/2013
50	Trench 3, N-facing section	S	14/01/2013
51	Sunken building in snow	S	15/01/2013
52	General shot of cloisters in snow	SE	15/01/2013
53	General shot of excavation	SE	15/01/2013
54	General shot of Abbey Church	E	15/01/2013
55	Trench 2, 201 exposed in the NW quadrant	W	15/01/2013
56	Trench 2, 201 exposed in the SW quadrant	W	15/01/2013
57	Trench 2, 202 exposed in the NW quadrant	W	15/01/2013
58	Trench 2, 202 exposed in the NW quadrant	N	15/01/2013
59	Trench 2, 203 emptied	W	15/01/2013
60	Trench 2, S-facing section	N	15/01/2013
61	Trench 2, 203 emptied	N	15/01/2013
62	Trench 2, 203 emptied	W	15/01/2013
63	General shot of Abbey Church	W	15/01/2013
64	Trench 2, 206 in the SW quadrant	W	15/01/2013
65	Trench 2 as finished	N	16/01/2013
66	Trench 2 as finished	S	16/01/2013
67	Trench 2 as finished, detail of N end	E	16/01/2013
68	Trench 2 as finished, detail of S end	E	16/01/2013
69	Trench 2, S-facing section	E	16/01/2013
70	Trench 2, W-facing section	E	16/01/2013
71	Trench 2, W-facing section, detail of N end	E	16/01/2013
72	Trench 2, W-facing section, detail of S end	E	16/01/2013

SMALL FINDS

Context No.	Quantity	Description
100	1	Sherd of modern crockery
101	6	Animal bone fragments
101	2	Oyster shells
101	5	Sherds of china / crockery from plates or cups
101	2	Fragments of a clear glass vessel
101	1	Copper disc (unmarked)
101	1	Piece of lead slag
102	17	Animal bone fragments
102	4	Oyster shells
102	4	Brick fragments
102	4	Fragments of a clear glass vessel
200	3	Sherds of a clear glass bottle
200	2	Animal bone fragments
201	1	Copper alloy lace tag
201	8	Sherds of miscellaneous crockery
201	1	Piece of wire
201	4	Sherds of a clear glass bottle
206	6	Medieval pottery sherds (2 buff coloured, unglazed body sherds; 1 unglazed rim sherd; 1 basal unglazed sherd; 2 green glazed reduced ware body sherds)
206	4	Animal bone fragments
206	1	Large cockle shell
206	1	Fragment of slag
206	1	Copper alloy lace tag
300	3	Medieval pottery sherds (1 unglazed rim sherd; 2 unglazed body sherds)
301	2	Unglazed body sherds of medieval pottery
301	3	Animal bone fragments
301	1	Fragment of a clear glass bottle
301	1	19 th century stoneware sherd
401	20	Miscellaneous sherds of 20 th century crockery
401	1	Cartridge case (.303 calibre)
401	2	Animal bone fragments
401	4	Iron nails
401	4	Fragment of a clear glass bottle
402	8	Miscellaneous sherds of 20 th century crockery
402	2	Brick fragments
402	1	Broken iron pan base
402	4	Fragment of a clear glass bottle
402	1	Pipe clay (?) decorated tube