

An Archaeological Investigation adjacent to the Refectory Undercroft, Glastonbury Abbey

Summary

A small archaeological investigation undertaken in connection with a boggy area of ground immediately NE of the Refectory Undercroft, exposed a stone-lined chamber. The feature, possibly a well or a water tank, could not be dated. The upper 0.6m-0.7m of rubble and clay filling the feature was removed so that a plastic tank could be inserted to act as a container for excess ground water.

1.0 Introduction

1.1 A more-or-less permanent boggy patch, situated immediately NE of the Refectory Undercroft, immediately E of the SE corner of the East Cloister Walk and to the SW of the site of the Chapter House, was first investigated through a small investigative trench in 2000¹. In that operation it was noted that a 19th or 20th century landfill drain, running downslope from the east, terminated at that location without any obvious conduit for any water that issued from the open-ended pipe.

1.2 The problem - permanently waterlogged ground within an area frequented by tourists and visitors - did not improve over the intervening years and the boggy area is now roped off to protect the public. The Trustees of Glastonbury Abbey, the Architectural Consultant to the abbey, Mr. Alan Thomas, and the Archaeological Consultant for the abbey, Mr. John Allen, decided to apply for Scheduled Monument Consent for a small, exploratory excavation so that a practical solution to the problem could be found.

1.3 Previous plans of the affected area, by Messrs. Bligh Bond and Bill Wedlake, in 1910 and 1935, respectively, depicted a small, stone-lined chamber immediately north of the 2000 investigation trench. This feature was described by Bond as a well and by Wedlake as a water tank. It was decided that this feature should be re-located and, if practicable, the upper 0.6m of fill would be removed archaeologically, so that a made-to-measure plastic tank could be inserted into the stone feature in order to capture and contain both rising ground water and run-off from the land drain.

¹ Unpublished C. and N. Hollinrake report number 200 carried out for the Trustees of Glastonbury Abbey.

1.4 A collection tank would help to both monitor the amount of water collecting in this location and also drain and dry out the boggy area, which by 2007 extended for a length of around 5m W-E and was up to 2m wide.

1.5 The Scheduled Monument Consent was for a two-phased archaeological investigation; Phase 1 consisting of a small, 2m square excavation trench placed over the assumed position of the stone tank and Phase 2 consisting of a larger, 'T-shaped' excavation/investigation trench situated immediately west of the Phase 1 square. The Phase 2 trench was designed to accommodate a new, permanent drain, leading from the boggy patch into the NE corner of the Undercroft, if required.

1.6 Mr. John Allen, for the Trustees of Glastonbury Abbey, commissioned C. and N. Hollinrake Ltd. to carry out the works. The Phase 1 investigation was undertaken between Weds 6th June and Fri 8th June 2007 by Faith Cairns, Arthur Hollinrake and Charles Hollinrake. The weather was warm and dry.

2.0 Topography and Geology

2.1 The boggy patch is situated within the area bounded by the site of the Chapter House/s to the NE, the Refectory Undercroft to the SW and the NE corner of the East Cloister Walk to the W at **grid reference** ST 501 388.

The surface of the ground is relatively level with a very gentle slope down to the Cloister Garth. East of the boggy area, however, the ground rises more steeply towards a sharp, N-S oriented, scarp and terrace.

The whole of the abbey enclosure has a gradual, E-W fall, sloping down from Chalice Hill and Chilkwell Street towards Magdalene Street. Chilkwell Street stands at approximately 33m - 34m above Ordnance Datum, and marks the eastern boundary of the precinct and Magdalene Street, standing at approximately 15m - 17m a.O.D., follows the western precinct boundary.

The archaeological investigation area stands at approximately 20m a.O.D.

Geologically, the whole of the abbey enclosure lies above Lower Lias Clay with Limestone of the Jurassic period.²

² British Geological Survey, Solid and Drift edition, 1:50,000 series, Sheet 296.

3.0 Archaeological Background - East Cloister Walk / Chapter House area.

This section is copied, with additions, from the 2000 report.

3.1 Two separate archaeological projects and an earlier compilation plan of the abbey provided relevant information that was relevant to the problem of the boggy patch [in 2000]. The first was a ground survey undertaken by C. and N. Hollinrake during a drought in 1986 which shows various parchmarks in this location, many of which appeared to be drains or culverts. This group of parchmarks was identified in 1986 as Group H, described then as *"a series of clear drains and/or water channels; these are shown by Bond in 1910"*. One of these features appeared to run through the wet area.

These parchmarks are shown on **figure 3**.

3.2 The second project was the report by Bligh Bond on his work in 1910. Included in that report was a plan which showed a culvert running through the affected area. Although Bond's text does not specifically mention the culvert, it is described on the plan as a "conduit of squared freestone and indications of wall over same." This feature appeared to be identical to the parchmarks in group H, recorded in 1986, and in 2000 it was therefore assumed that the problem arose from a broken medieval culvert. Bond's plan also showed a small, square, stone well adjacent to the culvert.

3.3 The third reference is a composite plan of the abbey showing, among other features, a series of water drains, conduits or culverts. This plan was produced in 1935 by Mr. Bill Wedlake who acted as supervisor for many of the abbey excavations in the 1920s and 1930s and later through the 1950s and 1960s. On his plan he shows the same culvert as that drawn by Bond, although Wedlake described it as a 'watercourse'. Mr. Wedlake appears not to have investigated the area within which the boggy patch is situated but he did excavate the east end of the Chapter House where he recorded a series of drains or culverts. His plan shows the drain splitting in two directions to the east of the culvert shown on Bond's plan, with the major line running to the east, up the slope, with a secondary spur running into it from the NE (This is shown on the 1986 parchmark survey as group G3). Mr. Wedlake also described the well shown by Bond as a water tank; another, similar feature appears on his plan situated south of the SE corner of the Chapter House. Mr. Wedlake's plan is stored in the abbey museum.

3.4 The 2000 investigation identified an open-ended land drain, terminating in the affected area. Water seeping through the drain had, over some years, soaked the surrounding area to the extent that it was completely waterlogged. A number of recommendations were attached to the 2000 report, one of which was to attach a flexible pipe to the land drain and direct the water into the Refectory Undercroft or Vault, where it would eventually drain away along existing channels at the base of that structure.

The 2000 investigation also recorded a section of rough walling which was assumed to be the south wall of the well, or water tank. A small amount of rubble-fill was also removed from inside this structure, apparently confirming that it was the well/water tank feature depicted on the 1910 and 1935 plans.

4.0 The 2000, Phase 1, Archaeological Investigation Trench - Methods

4.1 The archaeological specifications stipulated that a 2m square investigation trench should be positioned above the assumed location of the stone well or tank. If this structure was present then the upper 0.60m of its fill was to be removed so that a plastic tank or container could be fitted inside the walls in order to collect both rising ground water and any run-off from the open-ended land drain.

4.2 The location of the 2m square was determined by measuring off from the wall of the West Cloister Walk and the square was marked out on the ground with string.

4.3 Photographs were taken of the general area prior to the excavation. Levels above Ordnance Datum were also taken prior to the excavation and subsequently throughout the excavation, using a temporary bench mark (tbm) that had been established in 2000 on an adjacent stone block immediately east of the East Cloister Walk. The surface of this stone block has a value of 20.38 metres above Ordnance Datum (aOD).

4.4 Single Context Recording was employed for all archaeological deposits and features, commencing with context number [200] for the turf and topsoil.

Context descriptions were entered onto *pro-forma* context sheets. All datum levels were also entered onto *pro-forma* recording sheets.

4.5 The turf and topsoil - context [200] - was removed by spade and stored appropriately to the south of the excavation square. Some of the turf was so waterlogged that it could not properly be retained. Immediately after the turf was removed, water started to flow through the SE portion of the excavation square.

The base of the topsoil - [202] - was then removed by hand-trowelling. All spoil was subsequently stored on a large plastic sheet immediately east of the excavation square.

Finds and artefacts recovered from the topsoil included posttery sherds ranging from the medieval period through to the 20th century, bone and glass fragments and brick and tile fragments.

4.6 Removal of the base of the topsoil exposed three, linear stone settings, apparently marking the tops of the E, W and N walls of the stone tank. The S wall was not visible.

Green, horticultural mesh was visible towards the SE corner of the square. This material was put in place at the end of the 2000 archaeological works in order to define the excavated area.

The square was then planned at a scale of 1:20 - see **figure 10**.

4.7 Due to the increasing amount of water entering the square, the excavation area was then extended by ca.50cms to the south, in order to allow the water to enter this area. A small, temporary earth bund was then formed along the original S side of the square to retain the water to the S. The extension was located over the 2000 excavation trench and was not emptied or planned.

4.8 Removal of the topsoil, [200], also exposed deposits [201], [204], [206] and [207] and a small strip of [202] within [201]. It was obvious that [201] and [207] were the backfill deposits from the 2000 excavation and that [204] was the remaining fill of the stone feature (part of which had been removed in 2000).

4.9 Deposit [206], the surface deposit around the N, W and E sides of the stone feature, was not disturbed further. It would appear to be a trample layer, probably of earlier 20th century date and visible inclusions included mortar, tile/brick, slag and roof slate fragments, these all appear to indicate that this area had been exposed during the 20th century.

4.10 [201] - the 2000 backfill deposit - was removed, exposing more of the green mesh. The vertical face of the 2000 trench, cut [203] was noted and the mesh also covered and defined the top of the south wall of the stone feature, context [208] - see **figure 11**.

4.11 Full removal of [201] was followed by the excavation and removal of context [204], the upper fill of the stone tank. [204] was relatively loose and consisted of a dark grey clay loam with rubble stone. Pottery sherds on the surface of [204] were of 19th or 20th century date and sherds of a 19th or 20th century, factory-made blue-transfer ware pot were also recovered from within the fill, as well as glass, bone and mortar fragments. Slag fragments were also recovered including one large fragment with possible oven lining attached. [204] was 0.30m-0.40m thick.

4.12 Below [204] was a dump deposit - context [209]. This had formed a dome, higher in the centre than around the inside of the tank, and obviously represented a dumped deposit.

[209] consisted of a mass of rubble stone, mainly local Torr Burr, used for infilling walls and for foundations during the medieval period, within a matrix of redeposited, natural, clean, yellow Lias clay.

There were few finds within [209] apart from some slag fragments, one of which was large, and, like the fragment from [204], appeared to have lining attached, and small quantities of bone and mortar.

4.13 Dump deposit [209] was not completely removed; the requirement was to remove ca.0.60m of fill from the stone tank and after excavation of the upper part of [209], a depth of ca.0.70m of fill (measured from the top of the three, higher walls) from the tank had been achieved.

Probing of the remainder of [209] was unsuccessful due to the large numbers of rubble stones within the deposit.

4.14 After the necessary amount of fill had been removed, the stone tank was left open and was then covered by a wooden pallet that was supplied by the ground staff, and weighed down with rubble stone.

5.0 Discussion

5.1 The stone tank depicted on plans by both Bligh Bond and Bill Wedlake was located and partially excavated. The tank does not resemble a well: The walls appear to be too thin, not well-enough bonded, if at all, and do not seem to have been sealed or lined with clay. It may have been a water tank, as suggested by Wedlake, but, having no obvious lining, would probably not have functioned very well for that purpose either (although Bill Wedlake must have had a reason for his suggestion).

5.2 The tank has not been dated. The backfill deposit [209] appears to be either post-medieval or modern and might derive from excavation spoil. It was obviously a recognisable feature during the earlier part of the 20th century but whether it was uncovered during excavations, as seems probable, or was a post-Dissolution feature cannot be known with any confidence.

5.3 The top of the south wall of the stone tank - [208] - is up to 0.30m-0.35m lower than the tops of the other three walls. It also seems to have a slightly more solid construction and appears to butt up to, or is butted by, the other walls. It is possible that the south wall may have been re-built, possibly when the area was uncovered and examined in the early 20th century: traces of grey cement, presumably modern, were noted on the exterior of the south wall in 2000.

An alternative theory is that all of the walls were originally at roughly the same height as the top of the existing south wall, but the other three walls were then heightened for some reason. Examination of the photographs of the wall faces shows that the upper two courses of the N, W and E walls seem to be formed from slightly larger stones than the other courses.

6.0 Archive

The site archive, consisting of photographs, context sheets, levels sheets, day book, field plans and inked plans will be deposited in the Abbey Museum after it is known that there will be no further archaeological works on the site.

The finds and artefacts recovered will be placed in the Abbey Museum after completion of the archaeological works. Finds and artefacts will be marked with:

GLSGA:07/9/[context number]/individual number.

7.0 Levels above Ordnance Datum

The following levels above Ordnance Datum were recorded and are presented for future reference:

1	Tbm on top of large stone immediately east of the W. Cloister Walk -	20.38m
2	Ground surface of 2m excavation square	NW corner 19.96m
		NE corner 20.00m
		SW corner 19.91m
		SE corner 19.98m
3	Top of North Wall of 205	c.19.93m
	Top of West Wall of 205	c.19.84m
	Top of East Wall of 205	c.19.91m
	Top of South Wall - 208	c.19.62m

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Charles and Nancy Hollinrake

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