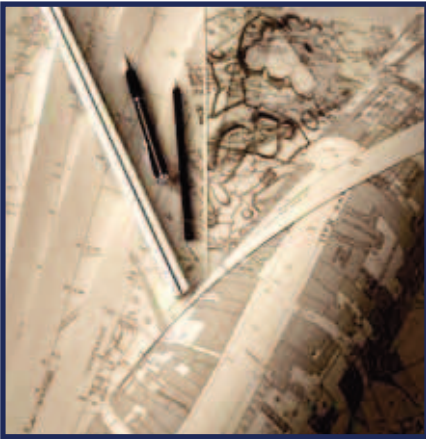
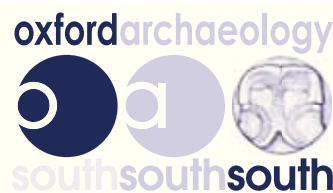


Firs Field Lightshaft Combe Down Bath



Archaeological Evaluation Report



May 2010

**Client: Bath and North-East
Somerset Council**

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Firs Field Lightshaft Combe Down Bath

ARCHAEOLOGICAL EVALUATION

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SUMMARY

On the 4th and 5th of March 2010, Oxford Archaeology (OA) carried out a field evaluation on the site of the Firs Field Lightshaft, Combe Down, Bath (NGR: ST 7598 6254) on behalf of the Bath and North-East Somerset Council. The evaluation revealed the truncated base of the enclosure wall around the top of the lightshaft and provided evidence for its construction and damage by tree roots. No evidence for any other significant archaeology was observed.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 On the 4th and 5th of March 2010, OA carried out a field evaluation on the site of the Firs Field Lightshaft, Combe Down, Bath (NGR: ST 7598 6254) on behalf of the Bath and North-East Somerset Council. The was undertaken in order to facilitate decisions about the display and potential renovation of the structure.
- 1.1.2 OA produced a Project Design showing how it would conduct an archaeological investigation in order to provide such information (OA 2010).

1.2 Location, geology and topography

- 1.2.1 The conurbation known as Combe Down is situated on the crest of a range of hills overlooking the eastern edge of Bath (Fig. 1). The area examined is located within Firs Field, a roughly triangular area of open green space measuring approximately 2 hectares located centrally within the modern village of Combe Down. Firs Field was used as the site for the main construction/temporary office compound for the Combe Down Mine Stabilisation project
- 1.2.2 Firs Field itself is sited directly above the Combe Down stone mine complex, an area of interconnecting stone mines extending for an area in excess of 25 hectares. The name “Firs Field” dates from the time the field was used to grow conifers in order to provide pit props for the underground workings. In the 20th century the area became open ground and has since been used as a playing field.
- 1.2.3 Mining has been undertaken there since the 18th-century, only terminating in the early 20th century, leaving large voids and passageways below ground. The subsequent urban encroachment into the area has highlighted the instability of these workings and has led to the now completed scheme to stabilise and infill these workings.
- 1.2.4 At the time of the excavation works the shaft was located within the main compound of the Combe Down Mine Stabilisation scheme, lying at the centre of the main compound roundabout (Plate 1). This roundabout will henceforth be referred to as ‘the site’ as it contained both the shaft and the remains of the potential surrounding wall feature which was the focus of the excavation and of this report.

1.2.5 The site contains a horse chestnut tree which would seem to have subsequently grown within or close to the outer limits of the former open shaft. The underlying geology is Bathstone overlying Fullers Earth.

1.3 Archaeological and historical background

1.3.1 Shafts of this size are commonly marked on OS and other maps as 'air shafts' and can be up to about 6 m in diameter. An adequate ventilation can be maintained by much smaller holes, several of which have been archaeologically assessed in quarries located underground below the Firs field. These tend to be up to diameters of 2 m. The larger shaft type have been described as 'Light Holes' in the Bath area and are also referred to as 'light shafts' on some early 19th-century quarrying deeds at Combe Down (OA 2009, unpublished report). They are thought to have been constructed for the provision of light for the quarrymen to work by underground, and would illuminate activities carried out in close proximity to the shaft itself. Shafts of this size are often located above and to the sides of underground cartways and the primary use must have been for subsequent lifting and the removal of stone from the quarries to the surface directly from the cartway, with a secondary use more likely to be for providing ventilation and/or light.

1.3.2 The shaft located beside the horse chestnut tree represents the second in a line of four contemporary shafts, all of which were sunk or located over a single length of underground cartway. The length of cartway was located underground in the vicinity of the Hadley Arms public house, and finally terminated at a shaft which was used as the main Firs Mine entrance. All four of the aforementioned shafts were infilled with ash and general rubbish derived from the Combe Down village in the years after the ending of quarrying. It is likely that the shafts were all largely full to surface level by the mid twentieth century.

1.3.3 The shaft located beside the horse chestnut tree formerly had a low circular wall surrounding it, and this is believed to have been still standing to a height of about one metre in the early 1960s. The period in which the wall was constructed is uncertain; it may have been built during the quarry extraction period as a barrier to stop quarryman falling down the shaft during operations, (although this may have hindered the easy movement of the block stone at the top of the shaft) or it may have been constructed post-quarrying for similar reasons of maintaining a barrier to the open shaft.

1.3.4 There is little evidence for the remains of the wall on the surface at present but a raised circular platform area with a diameter of approximately 10 m is located on the southwestern edge of the horse chestnut tree and marks the location of the shaft.

1.3.5 The shaft area has been recognised and previously discussed by the Combe Down Heritage Society who prepared an entry for the Bath Heritage Environment Record. The feature was recorded in the late 1990s prior to the Mine stabilisation project commencing and the subsequent construction of the compound roundabout.

- 1.3.6 The description at the time states: *'The overall diameter of the bank is 10.5 m and the distance across its top 6 m. It rises 0.7 m above the surrounding field. The uneven surface within is almost filled with earth, it is said locally, by miscellaneous debris, and is occupied over at least a third of its area by the roots of a mature horse chestnut tree. It is also said that the wall was pushed inwards to partly fill the shaft. There is the partially rotted stump of a second tree against the inside of the wall to the south. Projecting from the bank are several pieces of undressed local stone, the largest at least 0.8 x 0.4m, and other stones from the wall are elsewhere in Firs Field'*.
- 1.3.7 A photograph (which may date from the 1970s) taken by Philip Wooster, a local amateur historian and mines expert, shows a much more prominent and (it would appear) more extensive mound suggesting that the feature suffered some damage and reduction during the latter part of the last century. The Wooster photograph shows the presence of two chestnut trees within the area of the shaft, although only one now remains. It is uncertain which of the two Wooster trees remains in situ.
- 1.3.8 As part of the present infilling scheme the site has been accessed from below (in 2002) when a stabilisation roadway was driven underground beneath the shaft. This roadway passed beneath the shaft, removing shaft materials and infilled soil below the level of root penetration from the tree. The roadway still exists beneath the shaft, with the top of the timber roadway supporting the remaining soil and shaft debris. The areas of quarrying located either side of the roadway below the shaft have been subsequently stabilised to the roof level with foam concrete.

2 EVALUATION AIMS

- 2.1.1 The evaluation was focused upon the level platform area and the intention was to examine this in order to reveal and investigate any surviving remains of the Light Shaft wall (henceforward referred to as 'the feature'). The primary aims of the investigation were to:
- Establish the nature and extent of the feature.
 - Establish the condition of the feature.
 - Carry out a preliminary record of the feature sufficient to allow decisions about its further display, and (as necessary) repair or reconstruction to be made.

3 EVALUATION METHODOLOGY

3.1 Scope of fieldwork

- 3.1.1 The evaluation consisted of two trial pits each measuring approximately 1.8 m square located across opposite sides of any visible remains of the feature, while avoiding any potential damage to the root system of the standing horse chestnut tree (Fig. 2).

Excavation proceeded by hand, in spits until the base of the standing remains of the feature were exposed. Excavation continued next to the wall until the undisturbed natural deposits were revealed.

3.2 Fieldwork methods and recording

3.2.1 The trial pits were cleaned by hand and any revealed features investigated, recorded and sampled to determine their extent and nature, and to retrieve finds. Plans of each trial pit were drawn at a scale of 1:20 (Fig. 3, Plan) and any recorded sections were drawn at a scale of 1:20 (Fig. 4, Sections). These have been reproduced/redrawn for this report at scales of 1:20 (Fig 2) and 1:25 (Figs 3 and 4). The trial pits, any features and the recorded sections were photographed using digital photography, colour slide and black and white print film. Recording followed procedures laid down in the *OA Field Manual* (ed D Wilkinson, 1992).

3.3 Finds

3.3.1 Finds were recovered by hand during the course of the excavation and bagged by context.

3.4 Palaeo-environmental evidence

3.4.1 No deposits suitable for palaeo-environmental sampling were encountered during the course of the evaluation.

3.5 Presentation of results

3.5.1 The results of the evaluation are presented by a written description of the features and deposits observed, followed by an overall discussion and interpretation.

4 RESULTS: GENERAL

4.1 Soils and ground conditions

4.1.1 No evidence of modern intrusions such as services or substantial truncation of the ground was encountered during the course of the evaluation, although as discussed below (para 5.1.7) there was some evidence that the wall itself had been damaged and truncated in places. Both trial pits were excavated down to undisturbed natural deposits.

4.2 Distribution of archaeological deposits

4.2.1 The majority of the archaeologically significant deposits were roughly uniform between the two pits.

5 RESULTS: DESCRIPTIONS

5.1 Description of deposits

Trial Pit 1 (Plate 2)

- 5.1.1 This was located on the southern side of the evaluation area, straddling a high point within the enclosed area (Fig. 2).
- 5.1.2 A layer of yellow-brown clay silt containing small fragments of sub-angular limestone (4) was encountered approximately 0.4 m below the current ground level (Fig. 3, Plan 10 and Fig. 4, Section 10). This was overlaid by a 0.15 m deep layer of dark grey-brown silt loam (3) which contained shards of transfer printed pottery and fragments of bottle glass.
- 5.1.3 Cutting this layer to a depth of 0.2 m and a width of 0.85 m was a curvi-linear flat bottomed trench (5). Built within this trench was a drystone constructed wall 0.8 m wide (6). This was constructed using roughly dressed blocks of the local Bath stone laid in courses with a rubble core. Only two full courses of this wall survived in situ, with fragments of the core extending above these in places.
- 5.1.4 Sealing the truncated wall was a layer of grey-brown clay silt (2), up to 0.2 m in depth. This deposit contained fragments of earthenware, creamware and transfer printed pottery, together with fragments of brick, corroded tin cans and screw top bottle glass. This was sealed below a layer of dark grey-brown silt loam (1), the present day topsoil and turf.

Trial pit 2 (Plate 3).

- 5.1.5 This was situated on the north-eastern corner of the evaluation area (Fig. 2).
- 5.1.6 A continuation of the layer of yellow-brown clay silt (22) was encountered 0.3 m below the current ground level (Fig. 3, Plan 20 and Fig. 4, Section 21). This was overlaid by a layer of dark grey-brown silt loam, 0.15 m deep, (21) which produced fragments of transfer printed pottery and brick.
- 5.1.7 Built directly upon this deposit was a curved 0.8 m wide wall (23). This was built using drystone construction with roughly dressed blocks of the local Bath stone laid in courses with a rubble core. Only two courses of this wall survived in situ, with evidence of robbing or truncation reducing this in places.
- 5.1.8 Butting up, and also sealing the truncated remains of the wall, was a layer of dark grey-brown silt loam (20), the present day topsoil and turf. This deposit produced fragments of transfer printed pottery, screw top bottle glass and corroded metal cans.

5.2 Finds

- 5.2.1 Fragments of transfer printed pottery, together with fragments of earthenware and creamware were recovered from layers 1, 2, 3, 20 and 21. Fragments of bottle glass were also recovered from these deposits. Fragments of corroded metal cans together with an aluminium ring pull tab were recovered from layers 1 and 20.

5.2.2 All the dating evidence recovered could be dated to the 19th and 20th centuries, but was not considered to be diagnostic. The presence of the artifacts was recorded but they were not retained.

6 DISCUSSION AND INTERPRETATION

6.1 Reliability of field investigation

6.1.1 The trial pits represents a trial trenching sample of approximately 10% of the total length of the wall, which is considered to be a good representation of the feature as a whole, while the location of the pits provided a sample across the width of the identified feature. The underlying natural was exposed in both of the pits.

6.2 Overall interpretation

Summary of results

6.2.1 Layers 4 and 22 are the top of the undisturbed natural, formed by the weathering of the underlying stone strata.

6.2.2 Layers 3 and 21 represent a buried soil horizon, most probably the original topsoil surrounding the top of the shaft. Along the southern edge of the evaluation area this deposit had been cut by the foundation trench for Wall 6, while on the northern side of the area the wall, 23, had been directly constructed on top of the topsoil. Both the sections of wall exposed within the trial pits appear to be part of the same contiguous structure (established by probing), a distorted circular feature with an internal diameter of approximately 7.5 m. This wall had been constructed using the local stone, possibly salvaged from the waste material (deads) from within the mine itself. This took the form of a 0.8 m wide wall formed of two roughly dressed faces with a rubble core laid using drystone construction. The wall shows evidence of having been truncated, with the material possibly used to backfill the shaft.

6.2.3 The difference in construction techniques recorded in the two trial pits, one with a foundation trench excavated down to the undisturbed nature and the second with the wall constructed directly on top of the topsoil may be evidence of different techniques employed by separate gangs of labourers or possibly may just reflect haste to finish the job.

6.2.4 No definitive evidence was recovered to date the construction of the wall, or to place the time of construction in relation to the excavation of the shaft. It may have been enclosed as the working face of the quarry moved to the north-east and the later shafts were dug. It is possible that it was constructed when the quarry ceased working to prevent access by the public. The similarity of its construction to some features underground suggests that it was built by the quarrymen themselves rather than an outside agency.

- 6.2.5 The truncated remnants of the wall had been sealed below layers of modern made ground, (layer 2), and covered by a landscaping layer of topsoil and turf (layers 1 and 20). This probably occurred during the post-war reclamation of the site.
- 6.2.6 The dimensions of the wall suggest that it had been built stepped back roughly 1 m from shaft itself, which would have typically have been 5 m to 6 m in diameter, and therefore the wall does not appear to have formed part of the shaft lining. No evidence for the shaft itself was encountered in either of the trial pits, although a depressed area, indicative of possible slumping, was visible within the centre of the evaluation area (Fig. 2).

Discussion and recommendations

- 6.2.7 The trial pits have shown that the base of the wall surrounding the lightshaft has survived in situ, allowing the line and extent of the wall to be established. The roots from the horse chestnut tree do not appear to have damaged or dislodged the wall within the two sections exposed within the trial pits.
- 6.2.8 The top of this truncated wall was encountered directly below the turf in places and it may be possible to expose the wall simply by reducing the ground level locally (the existing ground level itself appears to rise within the area surrounding the horse chestnut tree). The disposition of the site at the time of the excavation can be seen on Plate 4.
- 6.2.9 The wall itself was of drystone construction which may prove problematic if exposed to the wear and tear of pedestrian traffic. It may be necessary to stabilise its structure (ie with mortar) in order to provide a more durable monument.

APPENDICES

APPENDIX 1 ARCHAEOLOGICAL CONTEXT INVENTORY

<i>Context No</i>	<i>Type</i>	<i>Width</i>	<i>Depth</i>	<i>Comments</i>	<i>Finds</i>	<i>Date</i>
<i>Trial Pit 1</i>						
1	Layer	-	0.15 m	Modern landscaping layer of topsoil and turf	Iron, brick, pottery, glass	C20th
2	Layer	-	0.15 m – 0.2 m	Modern made ground	Pottery, glass	C20th
3	Layer	-	0.15 m	Buried soil horizon, probable original topsoil	Pottery, glass	C19th
4	Layer	-	> 0.1 m	Undisturbed natural	-	-
5	Cut	0.85 m	0.2 m	Construction cut for wall 6	-	C19th
6	Structure	0.8 m	0.22 m	Sector of enclosure wall around lightshaft	-	C19th
<i>Trial Pit 2</i>						
20	Layer	-	0.15 m	Modern landscaping layer of topsoil and turf	Iron, pottery, glass	C20th
21	Layer	-	0.15 m	Buried soil horizon, probable original topsoil	Pottery, glass	C19th
22	Layer	-	> 0.05 m	Undisturbed natural	-	-
23	Structure	0.8 m	0.3 m	Sector of enclosure wall around lightshaft	-	C19th

APPENDIX 2 BIBLIOGRAPHY AND REFERENCES

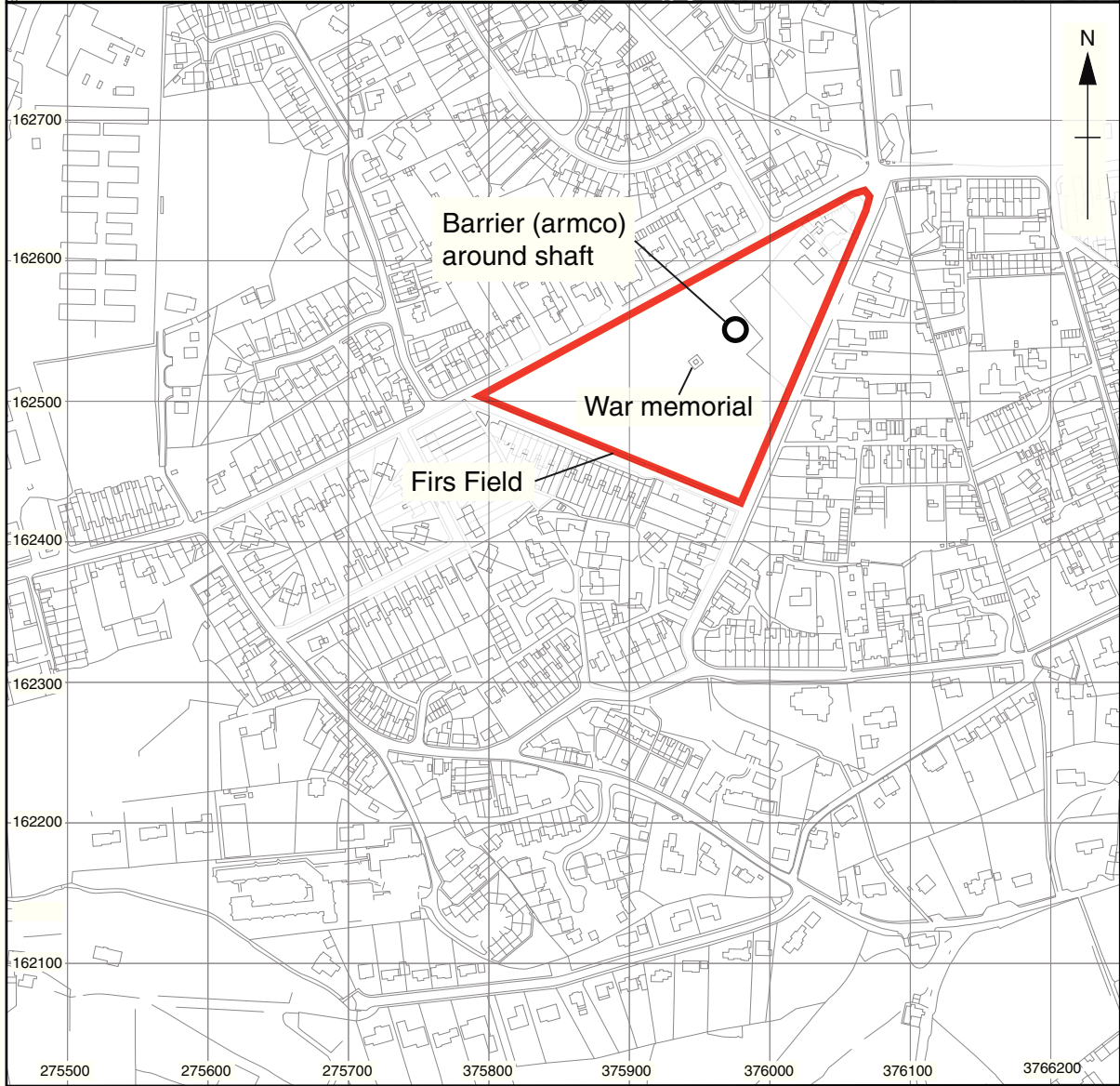
IFA, 2008 *Standard and Guidance for archaeological evaluations*

OA, 2000 *Oxford Archaeology Environmental Sampling Guidelines*

OA, 2010 *Firs Field Lightshaft: Archaeological Investigations – Project Design*

OAU, 1992 *Fieldwork Manual* (ed. D Wilkinson)

APPENDIX 3 SUMMARY OF SITE DETAILS**Site name:** Firs Field Lightshaft, Combe Down, Bath**Site code:** COLIGT 10**Grid reference:** ST 7598 6254**Type of evaluation:** Two 1.8 m square hand dug trial pits**Date and duration of project:** 4th and 5th March 2010, 2 days**Area of site:** 255 m²**Summary of results:** The investigation exposed two sectors of the wall enclosing the top of the lightshaft within the centre of the Firs Field site.**Location of archive:** The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with an appropriate museum in due course.



Scale 1:5000

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Figure 1: Site location

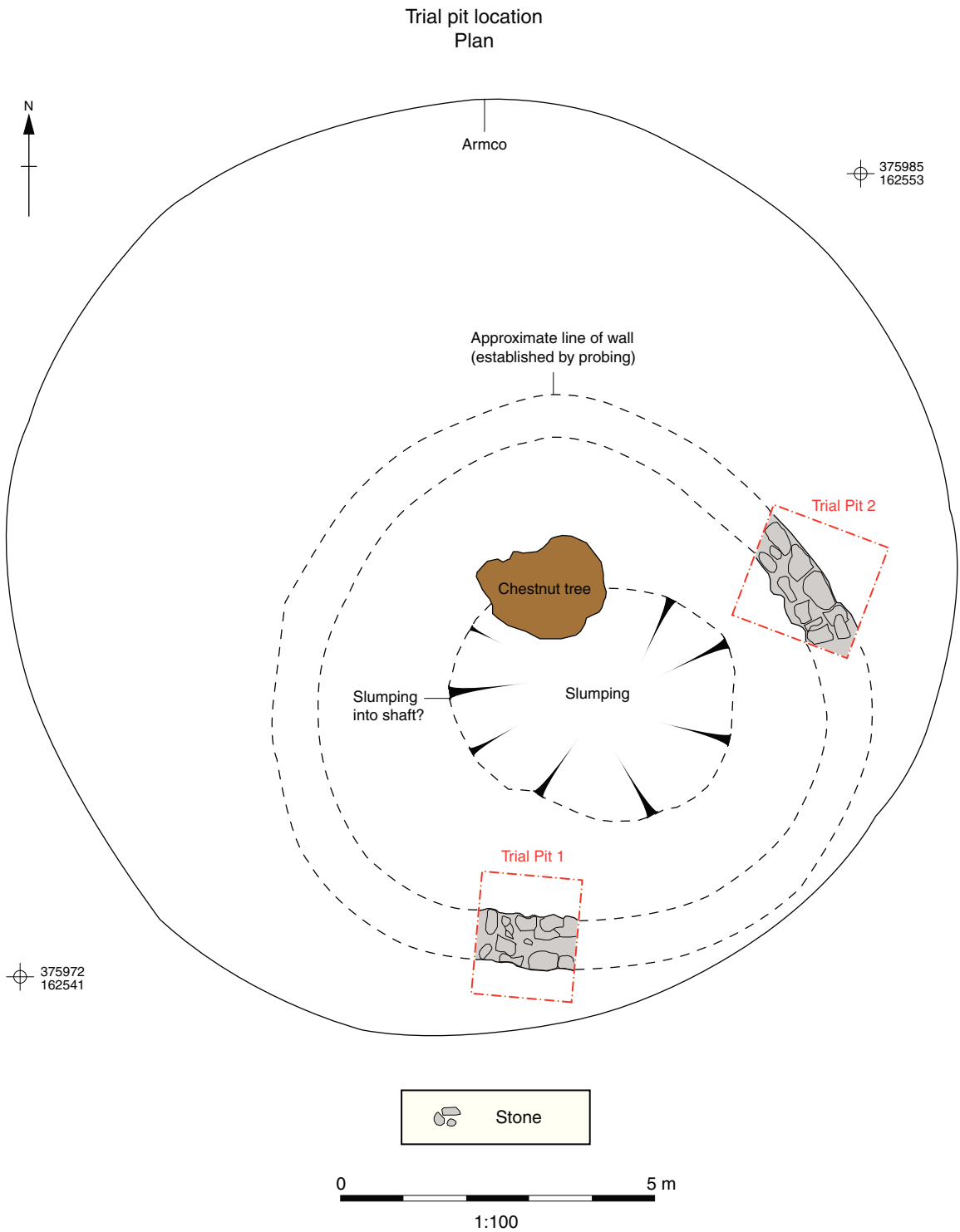


Figure 2: Trial pit location plan

Trial Pit 1 Plan 10

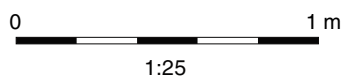
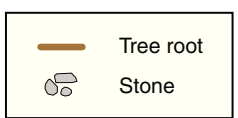
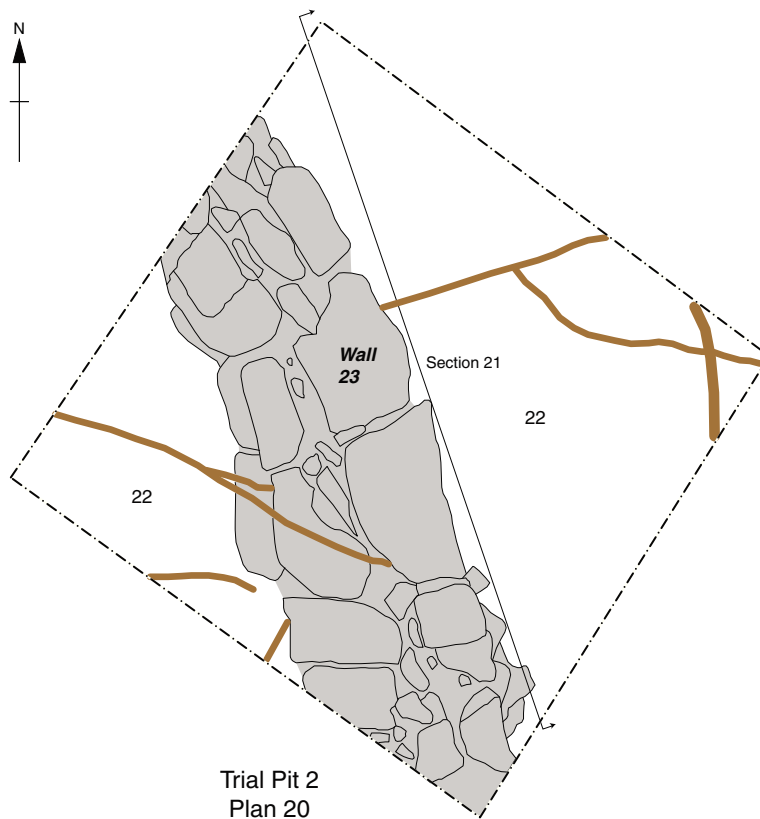
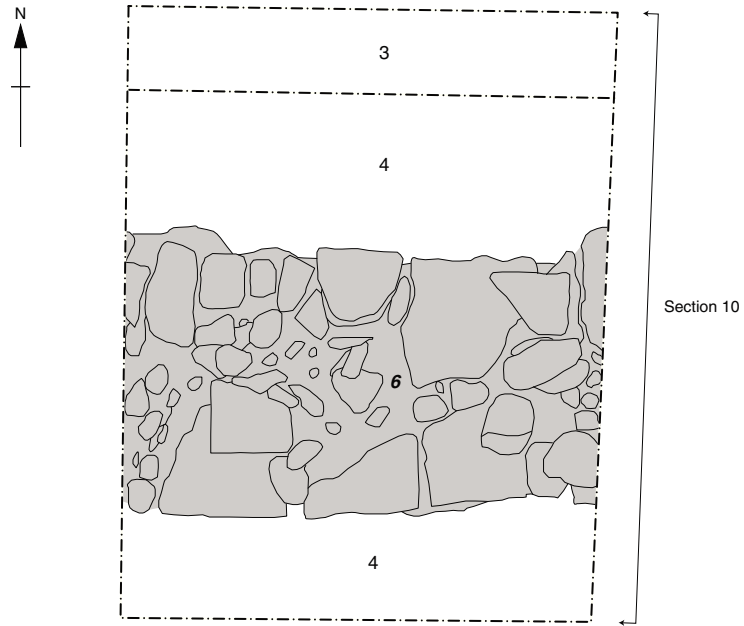
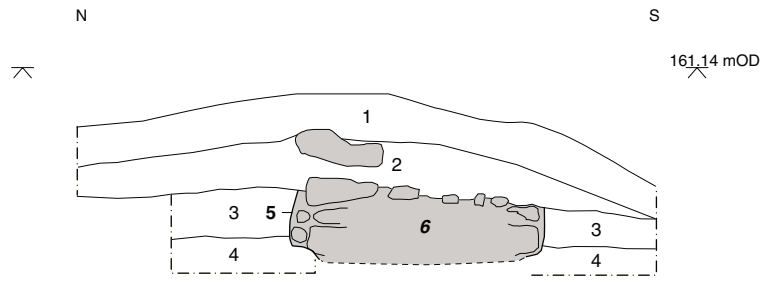


Figure 3: Trial pit plans

Trial Pit 1 Section 10



Trial Pit 2 Section 21

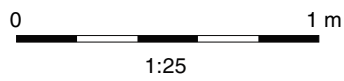
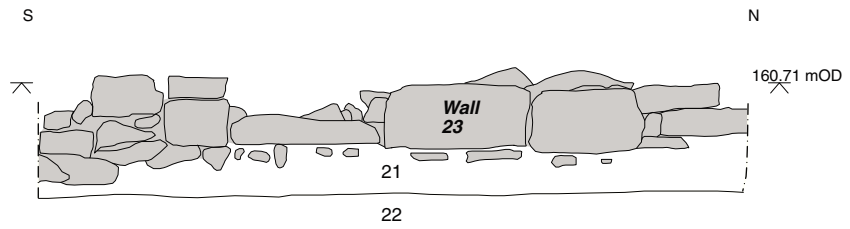


Figure 4: Trial pit sections



Plate 1 : Site location



Plate 2: Trial pit 1. Details of the wall feature



Plate 3: Trial pit 2. Details of the wall feature



Plate 4: Trial pit 2. (After reinstatement) showing current disposition of the site



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