

Centre for Archaeological Fieldwork

School of Archaeology and Palaeoecology
Queen's University Belfast



Excavations at Abbey Lane, Co. Armagh

Data Structure Report: No. 81

AE/09/202

On behalf of

Data Structure Report: Theatre Extension, Abbey Lane, Armagh

Cormac McSparron

Grid Reference: Grid Ref. H87621 45009

License No.AE/ 09/ 202

CAF DSR No. 81

Contents

1.0	Summary	4
2.0	Introduction	5
3.0	Excavation	8
4.0	Finds	10
5.0	Discussion	11
6.0	Conclusions	12
7.0	Recommendations for Further Work	13
8.0	Bibliography	15
9.0	Appendices	
9.1	Appendix 1: Context Log	16
9.2	Appendix 2: Harris Matrices	17
9.3	Appendix 3: Photo Log	18
9.4	Appendix 4: Drawing Log	23
9.5	Appendix 5: Sample Log	24

9.6	Appendix 5: Finds List	25
-----	------------------------	----

Figure List

Figure 1:	Location of excavation site within Armagh	27
Figure 2:	Detailed location map	28
Figure 3:	Position of Abbey Theatre superimposed on 1 st edition OS Map.	29
Figure 4:	Plan of theatre and proposed extension showing initial Test Trenches.	30
Figure 5:	Plan of theatre and proposed extension showing Excavation Trench	31
Figure 6:	Plan of excavated features	32
Figure 7:	East section of excavation trench	33

Photo List

Photo1:	Excavation trench after removal of 19 th and 20 th century overburden	34
Photo 2:	Excavation trench after excavation showing waterlogged pits, gullies and cuts	35
Photo 3:	Cross section photo of gully 206 showing fills	36
Photo 4:	Cross section of Pit 221 showing fills	37

1.0 Summary

1.1 Test Trenches excavated at the site of the extension to the Abbey Theatre Group theatre, Abbey Lane, Armagh, (Grid Ref. H87621 45009) in 2010, identified archaeological deposits on the footprint of the proposed building.

1.2 As a consequence the CAF conducted, at the request of the Northern Ireland Environment Agency, an excavation, directed by Cormac McSparron and funded by the Northern Ireland Environment Agency. It was carried out under license number AE/09/202.

1.3 A trench measuring 5m, east-west by 4m north-south, was excavated. Under a thick layer of 19th and 20th century rubble and earth, and a 19th century cobbled surface in the northeast of the site a series of Early Medieval features were uncovered. The oldest features were a set of gullies cut into a relic topsoil and the natural subsoil. These features were waterlogged and contained animal bone. A single artefact, a fragment of a bone comb, was found from the fills of these features. Cut into one of these gullies was a probable cess pit. It was waterlogged also and had an organic rich lower fill. The upper layers filling this pit were deliberate layers of backfill deposited in the pit after it passed out of use. These backfill layers contained some fragments of amber and pottery. A third, possible gully, and some patches of charcoal rich burnt clay may have been contemporary with this cess pit.

1.4 It is recommended that a programme of post-excavation is conducted, in order to complete the excavation and bring the project to completion and publication.

2.0 Introduction

The CAF was asked by NIEA to carry out an archaeological evaluation at a proposed extension to the Armagh Theatre Group theatre at Abbey Lane, Armagh. The excavation commenced on Monday 8th February 2010 and finished on Tuesday 3rd March 2010. The site was mechanically backfilled on 10th March 2010. Two evaluation trenches were excavated using a mechanical excavator. These evaluation trenches revealed archaeological deposits and it was decided that further excavation was justified. A single trench measuring 5m north-south and 4m east-west was excavated inside the footprint of the theatre extension.

2.1 Location

The Abbey Theatre Group's theatre is located in the centre of Armagh just off Abbey Lane, at an O.D. of approximately 70m (Grid Ref: H87621 45009) (Figure 1 and 2). The site is approximately 200m west of St Patrick's cathedral on a plateau extending west from Cathedral Hill. The proposed extension is to the east of the existing building and measures approximately 8m by 6m.

2.2 Historical Background

The location of the site within the medieval town is uncertain. The site seems to be outside the triana into which Medieval Armagh is subdivided. Bartlets map of 1601 shows the ruinous remains of the medieval town. It shows some extant settlement to the north or possibly northwest of St Patrick's Cathedral. To the south and east there seem to be the remains of land subdivisions and clusters of stone which could be interpreted as the rubble remains of collapsed housing. Dependant on whether the ruined church to the southeast of St Patrick's cathedral is Tempulnaferta, the site at Abbey lane may be within this area . The site does not appear to have been subjected to redevelopment during the Post-Medieval Period and is depicted on several eighteenth century maps as being free from buildings (McCullough and Crawford 2007). In a survey carried out by Livingstone, at the behest of the Archbishop of Armagh in 1766 the boundaries of plots of land and their owners was recorded. This showed the land upon which the site is located in the ownership of Thomas Ogle, who also owned a house and offices close by (*ibid*). Ogle had proposed that a new street should be constructed in Armagh to allow better flow of traffic through the town. Thomas Street and Ogle Street were constructed and named after him, In John Rocque's map of 1790 Thomas Street and Ogle Street had been constructed. However there is still no evidence for buildings to the area east of Thomas Street and south of Scotch Street. The land at the site is divided into small plots, with a different map symbol, apparently a small plant, probably indicating vegetable gardens differentiating these plots from nearby plots with rows of trees which seem likely to have been orchards (McCullough and Crawford 2007). By 1810 in a painting by James Black, now in the Armagh County Museum, the area of the site still appears to have been free from buildings (McCullough and Crawford 2007). Construction of Dobbin street seems to have commenced in 1811 (*ibid*) and at Linenhall Street a flax and linen market, later the butter market, was constructed by 1820. At this time the population of Armagh was expanding rapidly. In 1770 a census of Armagh calculated the population at 1948 people in 499 dwellings, by 1831 a similar census calculated that Armagh had a population of 9470 in 1570 houses (McCullough and Crawford 2007). Not only is this a significant increase in population but it is a significant increase in population density with an average of 3.9 persons per dwelling rising to 6.03 persons per dwelling by 1831.

The first edition Ordnance Survey Map confirms the buildup of housing in this area and shows the excavation site to be located in garden plots to the rear of houses in Abbey Lane and Dobbin Street (Figure 3).

2.3 Earlier archaeological research in Armagh

There have been a number of significant excavations carried out in Armagh since the 1960's.

At 39-41 Scotch Street Chris Lynn found a late Neolithic circular ditch, 12m in diameter, 0.8m wide and 1.1m deep (Lynn 1988). A large amount of Neolithic pottery, flint and animal bone was found. Two radiocarbon dates centering around 2800BC were obtained from charcoal rich fills of the ditch. The excavator, while not ruling out a domestic origin for the site believed a ritual explanation more likely (*ibid*, 10).

The earliest Medieval remains at Armagh were uncovered during excavations by Chris Lynn and Jackie McDowell at 48 Scotch Street (Lynn 1988 and Lynn and McDowell 1988) (ARM 012:097). There they uncovered a small charcoal and ash filled pit which produced a fifth century radiocarbon date. The Pit was cut by a burial which was part of a cemetery, burials from which were detected at other excavations at 43 Scotch Street, 39-41 Scotch Street, 46-56 Scotch Street (ARM 012:097) and sporadically at 16 Scotch Street (*ibid*, 59).

Excavations at Cathedral Hill produced evidence for a large ditch, apparently encircling the hill (Brown and Harper 1984). Radiocarbon dates from the base of the ditch suggested construction between the third and the sixth century AD. A short time after the ditch was dug it was backfilled using the material from its bank and was covered by an Early Medieval industrial horizon, artefacts including metalworking waste, moulds, slag and crucibles and E ware pottery. Later, possibly eighth to ninth century, clay mould and trial pieces were also found.

Significant evidence for industrial activity was uncovered during the excavations at 50-56 Scotch Street. These excavations revealed waste from glass and lignite production, sawn antler and antler combs and hundreds of amber fragments. This activity was dated to around the 10th century (Lynn and McDowell 1988, 60)

Two rectangular stone lined wells were also found at 16 Scotch Street (ARM 012:059). The more southerly well silted slowly over centuries having begun to silt in the later part of the Early Medieval era and not completely filling up until the 16th century (Lynn and McDowell 1988, 60). Artefacts found within it included a twelfth century bronze stick pin, Greek porphyry, medieval masonry, occasional human remains, and from the uppermost fill a sixteenth century coin. (*ibid*).

Excavations at English Street by Chris Lynn and Norman Crothers revealed later Medieval and Early Medieval features and artefacts (Lynn 1989 and 1990, Crothers 1991). A large ditch was also found filled with Early Medieval artefacts although the excavator concluded that the artefacts were redeposited making dating of the ditch difficult (Crothers 1991)

Excavations at Abbey Street revealed Early Medieval gullies and a ditch as well as later 18th and 19th century ditches, garden features and drains (Hurl 2003). The ditch was dated from a piece of unidentified charcoal to between the seventh and tenth centuries, however the apparent absence of Souterrain Ware from the artefacts found *might* indicate that the actual date is closer to the earlier portion of the potential date range.

2.4 Methodology

An initial evaluation excavation was conducted at the site which has previously been reported (McSparron 2010). A 5m by 2m trench and a 7m by 2m trench were excavated across the proposed theatre extension using a back acting mechanical excavator equipped with a toothless "sheugh" bucket. As this trial

excavation encountered archaeological strata it was decided to widen the scope of the excavation. A single trench 5m by 4m was opened across the footprint of the extension.

Initial removal of 19th and 20th century topsoil and rubble layers from this new trench was carried out by a back acting mechanical excavator equipped with a toothless “sheugh” bucket, working under archaeological supervision. After the removal of most of the topsoil and rubble overburden, mechanical excavation was paused. Two box sections were excavated into the dark organic rich layer immediately below the overburden, which contained some post-medieval and later artefacts, to establish if there were archaeological features within this layer. Once it was apparent that there were no structural remains associated with this layer it was decided to remove this layer mechanically using the mechanical excavator.

From that point all excavation at the site was conducted by hand and all archaeological finds and features were recorded using the standard context recording system supplemented by digital photography, scale drawings and soil samples.

2.5 *Acknowledgements*

I would very much like to thank Ruth Logue and Brian Sloan who worked solidly, accurately and without complaint in *very* poor conditions. I would also like to thank Harry Welsh who was able to deputise for me during the backfilling of the site at very short notice.

3.0 The excavation

3.1 *The excavation of the evaluation trenches*

Initially two evaluation trenches, Trench 1 and Trench 2, measuring 5m by 2m and 5m by 7m respectively, were excavated, using mechanical assistance (Figure 4). These two trenches demonstrated that under a considerable amount of overburden there were strata of archaeological interest. Consequently a more substantial excavation was planned across the footprint of the proposed theatre extension site. This trench, subsequently called the Main Trench, measured approximately 5m by 4m.

3.2 *Main Trench* (Figures 5, 6 and 7; Photos 1, 2 and 3))

This trench measured approximately 5m by 4m and was orientated with its long axis approximately east-west. The Main Trench was not completely regular for a number of reasons. Firstly the archaeological strata were covered by approximately 1.5m of topsoil and rubble. Because of staffing and time constraints mechanical assistance was employed to remove this overburden. Secondly it was not possible to completely straighten the section walls because of the very friable nature of the rubble and earth overburden, which tended to collapse into the trench. To avoid this the digger driver was able to chamfer the edges of the trench at an angle of approximately 60 degrees, avoiding any danger of trench wall collapse, but making the sides of the trench somewhat irregular. It was also impossible to dig the entire footprint of the proposed theatre extension as to do so would have undermined the existing north wall of the theatre, and the walls of the adjoining garage and carpark.

The numbering system for the strata in this trench is the same as that employed for the evaluation trench, Trench 2 (McSparron 2010). For a complete list of the strata excavated during this excavation please see Appendix 1. The description of the excavation of this trench should be read in conjunction with the Harris Matrix in Appendix 2

Most of the overburden was removed mechanically from the Main Trench consisted of a mix of building rubble and garden soil (201). In the north west of the trench it sat above a layer of rough cobbling (202) associated with mid to late 19th century finds. In the rest of the trench it was located immediately above the dark grey, organic rich, silty loam (203). The cobbling 202 was also located immediately above this silty loam (203). Loam 203 covered the entire trench at this level and was up to 0.3m thick at the south of the trench but only about 0.15m thick at the north end. This layer was partially waterlogged and when a box section was excavated to the bottom of this layer it filled with water over a number of hours. When first encountered many finds including brown ware, black ware and cream ware were found in the upper 0.10m of this layer. However as the layer was excavated the number of finds rapidly diminished. It seems as if the finds in the upper part of this layer may have been rubbish thrown into partially waterlogged waste land at the back of the 19th century houses located along Dobbin street and Linenhall Street.

There were two irregular depressions (210) and (219), both located in the west of the trench, filled with mid to late 19th century rubbish, stones and rotting wood pressed into the archaeological strata below. The smaller (210) measured approximately 0.60m north-south and 0.70m east-west and cut into the upper fill (227) of the pit (221). It was filled by the organic silty loam (218) which contained late 18th or more likely 19th century transfer printed pottery. The slightly larger pit (219) measured 0.8m east-west by

0.6m north-south and cut the upper fill (231) of the curving gully (230). It was filled by a dark organic, silty loam (220), which contained 19th century pottery.

Beneath the 19th century depression (210) to the northeast of the site was a large sub-rectangular, waterlogged pit (221), which measured approximately 1.2m north-south, 1.3m east-west and 0.5m deep. It was filled by a number of distinct fills. The basal fill of the pit was a very organic dark brown loam (232), which was 20cm deep. It was beneath a layer of what was initially believed to be wood but which was in fact shown on excavation to be compressed vegetable matter set within a very dark brown organic loam (222), similar to the underlying (232). To the south side of the pit there was a deposit of orange sandy clay (223) immediately above 222, which may have been redeposited subsoil. Immediately above this sand layer and extending across the pit was a mid brown silty loam (224). A small lens of orange clay loam (226) separated the brown silty loam (224), which contained one fragment of amber, from the light brown silty clay loam (227), the upper fill of 221 which contained several fragments of amber and some sherds of coarse pottery, probably Souterrain Ware.

Stratified immediately below (220), the other 19th century depression, was the curving cut (230) found in the extreme south of the site. It had a light grey brown clay (233) at its base which was below a mid grey / brown silty loam upper fill (231) which contained quite a lot of animal bone.

The pit (221) and the curving cut (230) both cut the waterlogged gully (206). This gully ran northwest to southeast and was 4.20m long, up to 1.0m wide and 0.55m deep at its deepest. It appeared to get shallower towards its northwestern end and may have been coming to an end although it is difficult to be certain because of the disturbance of the later pit (221). This gully had two fills, a light to mid brown compact loam basal fill (211), and a darker silty loam upper fill (207) which contained a lot of charcoal. There were a number of patches of burnt clay (228) sitting on (207), especially at the southern end of the gully, these may have been the remnants of later burning which had contributed to the high charcoal content of this layer. The gully (206) cut into a grey brown loam relic topsoil layer (204).

A second waterlogged cut (208) running between the west and north sections in the extreme northwest of the trench, also cut through this relic topsoil. It was at least 2.0m long, in excess of 1.0m wide and at least 0.5m deep. It had two fills, a light brown compact clay loam fill (212) which contained one fragment of an early Medieval bone comb and a mid to dark brown clay loam (209) which contained both burnt and unburnt bone.

The relic topsoil (204) which both these gullies (206) and (208) cut was extant in most of the central and southern area of the trench between these gullies. It was above the blue / green firm clay subsoil (205).

4.0 The Finds

The artefacts from the topsoil layers, (201, 202 and 203) at Abbey Lane all probably dated to the late 17th / 18th and 19th centuries, with one exception, a tranchet arrowhead which is probably Neolithic. The other finds were typical of post-Medieval finds from an Ulster town. Blackwares were common, with a few sherds of Brownware, one fragment of Mottled Ware and various undecorated Stonewares. There were quite a few Creamware type sherds, mostly plain but with a couple of underglaze painted examples. There were also a number of fragments of bottle glass, dark green, light green and clear, with varying degrees of patination. A few iron nails and a few pieces of animal bone were found also. In general the artefacts in the topsoil and rubble layers at Abbey Lane are consistent with the dumping of rubbish from the end of the seventeenth or early eighteenth century into the nineteenth century.

The basal fills of pit (221) were rich in environmental material but artefact free. Its upper fills contained bone found in context (222), coarse pottery, probably Souterrain Ware, from context (227), a piece of a lignite bracelet also from context (227) and five fragments of amber from contexts (224 and 227). A broken fragment of a possible bullaun stone was found sitting on the compressed fibrous layer (222).

The curving gully (230) had a considerable amount of bone in its upper fill (231) although its lower fill (232) was free of finds.

Both the pit (221) and the curving gully (230) cut the linear gully (206). The upper fill of this gully (207) contained slag and animal bone. Linear cut (208) contained a single fragment of a Medieval bone comb from its fill (212). This appears to be an example of Dunleavy's Type B, which may appear in Ireland as early as the third century AD but which was manufactured for an extended period of time, possibly as late as the tenth century (Dunleavy 1988, 253-6).

5.0 Discussion

The excavation site is located close to Scotch Street which, it has been established by a series of excavations by Chris Lynn and Jackie McDowell, was a centre of Early Medieval activity in Armagh. Evidence for an Early Medieval cemetery, dating to the fifth or sixth century was found at Scotch Street (Lynn 1988 and Lynn and McDowell 1988, 60). Later Scotch Street became an industrial area, probably in the tenth century, with evidence for amber and glass production, lignite fragments, pieces of crucible and sawn antler fragments, the waste from comb manufacture (*ibid*).

Evidence for a similar industrial horizon has been uncovered at Abbey Lane. The range of artefacts found in the upper fills of pit (221) at Abbey Lane closely matches the artefact types found at 50 – 56 Scotch Street. This implies that similar industry was happening at Abbey Lane at the time of the deposition of the upper fills of this pit. The presumption must be that the industrial activity at the two sites is likely to be fairly contemporary. The lower fills of the pit were artefact free but rich in organic remains, a possible indication of its use as a cess pit. The absence of a layer of scattered industrial debris across the whole of the site may indicate that an industrial horizon was removed by truncation at a later date.

The date of the digging and use of the possible cess pit (221) is uncertain because of the absence of datable artefacts within it. However it must predate the industrial activity. The presence of a cess pit at Abbey Lane indicates that there may have been actual occupation in this part of the town prior to the episode of industry. It is stratigraphically in a similar position to the burnt earth and charcoal layers (228) above the fill of the gully (206). It is possible that the cess pit (221) and the burnt charcoal rich clay (228) are remnants of an occupation horizon deposited prior to the use of this part of the town for industry.

Pit (221) cut the gully (206) and its fills. As this gully was artefact free, apart from animal bone, there is no indication of the interval of time between these features. This gully (206) was also cut by the curving gully (230), although there was no linking stratigraphy to ascertain whether (230) was earlier, later or contemporary with pit (221). A third cut (208) was found in the east corner of the trench. It extended outside the excavated area and only one edge of the feature was detected inside the excavated area,, nevertheless the excavated edge appeared to run parallel to gully (206) and also cut the same relic topsoil layer, (204), as gully (206), which *might* indicate that it was broadly contemporary with the other gully. A bone comb fragment from the base of this gully is of a type which may have been in use for a considerable period of time: it has been suggested that this comb type was introduced into Ireland in the later Iron Age (Dunlevey1988, 354) and stayed in production for much of the Early Medieval period. If the cut (208) is a gully parallel to and contemporary with gully (206) then it seems reasonable to suggest that they significantly predate the, now destroyed, industrial horizon implied by the waste material in the upper fills of pit 221, which itself cuts gully (206).

The function of the gullies at Abbey Lane is obscure. They may have been intended to channel water away from a nearby occupation area, or they may have been connected with industrial activity. The animal bone found within the fills of the gullies seems to be mainly cattle bone, the product of domestic butchery (*pers comm*. Emily Murray).

6.0 Conclusions

The excavation at Abbey Lane uncovered several phases of Early Medieval archaeological remains. The earliest phase was the linear gully (206) and its possible match (208). The only datable artefact found in either of these features was the fragment of bone comb, which has a wide date range having been manufactured in Ireland from possibly as early as the later Iron Age through much of the Early Medieval period (Dunleavy 1988, 254). Later than these gullies was the possible cess pit (221) which was capped by the industrial debris, similar to that found at Scotch Street.

The great significance in these finds lies in their location in the centre of Armagh, close to the heart of the Medieval town. The earliest evidence from the site contrasts with the evidence found at the excavations at nearby Scotch Street where a single pit of approximately 5th century date was superseded by human burials, finally capped with an industrial horizon around the tenth century (Lynn and McDowell 1988, 60). The finding at Abbey Lane of gullies filled by butchery waste, followed by a cess pit and evidence for later industry is an important addition to our knowledge of early settlement there with implications for the sequence, dynamics and dating of urbanisation at Armagh.

Although the artefactual remains from the site provide an outline chronological framework for the sequence at the site it is uncertain whether the archaeological remains represent one brief, intense series of occupation and use around the tenth century or a succession of episodes of use over a much longer period. Vital to our fuller understanding of these features, their interaction and interpretation is their absolute chronology and a comprehensive programme of radiocarbon dating of the various phases of activity at Abbey Lane is imperative.

One further fact of great importance is that the gullies and most of the cess pit were waterlogged when found and are likely to have been waterlogged for much, if not all, of their history. This raises the possibility of superlative preservation of organic remains in these deposits. This has the potential to greatly enhance our understanding of the environment of early medieval Armagh and, in the case of the cess pit, the diet and possibly even the parasites infesting the inhabitants of the town.

7.0 Recommendations for Further Work

7.1 *Soil Sample processing*

Nineteen separate soil samples, totaling 128.6kg were taken from contexts at the Abbey Lane site. These samples must now be processed. It is envisaged that the samples be split into three groups and processed separately; soil samples for standard wet sieving and flotation, soil samples for the extraction of insect remains and soil samples for the extraction of pollen.

7.2 *Macrofloral and pollen examination*

The excavation at Abbey Lane provides a unique opportunity to gather environmental and dietary information about Early Medieval Armagh and its inhabitants. Plant macro fossils recovered during soil sample processing have the potential to provide much of this. These remains need to be examined, identified and their significance assessed by a specialist. In addition, if present in the soils, plant pollen needs to be identified and assessed. It is envisaged that Dr Gill Plunkett of the School of Geography, Archaeology and Palaeoecology, possibly supervising a student, would carry out this work.

7.3 *Insect remains*

Preserved remains of insects and other invertebrates can indicate much about the type of environment, possibly indentifying areas of human or domestic animal habitation. Preserved insect remains extracted from the waterlogged deposits need to be examined, identified and their significance assessed. It is envisaged that Dr Nikki Whitehouse of the School of Geography, Archaeology and Palaeoecology, possibly supervising a student, would carry out this work.

7.4 *Animal Bones*

A large quantity of animal bone has been found in the waterlogged gullies. This has been provisionally identified as butchery waste, mainly of cattle, by Dr. Emily Murray. Further work to identify the exact species, their frequencies relative to each other, their sizes, ages and pathologies and assessing the significance of this assemblage is necessary. It is envisaged that Dr. Emily Murray of the Centre for Archaeological Fieldwork, School of Geography, Archaeology and Palaeoecology would carry out this work.

7.5 *Radiocarbon dating*

Although the general era of the archaeological remains at Abbey Lane is known from the artefactual remains found during the excavation there appears to be a succession of activity over several chronological phases. This excavation presents an opportunity to use the more sophisticated AMS radiocarbon dating and Bayesian modeling techniques which have emerged in recent years to more tightly date an archaeological sequence in Armagh than ever before. This would allow a well defined radiocarbon chronology of this part of Early Medieval Armagh to be developed which would also be informative for the other excavations carried out in Armagh before these techniques were available. For the purposes of radiocarbon dating the site should be considered as three probable phases.

- The earliest phase, the two cuts (206) and (208),
- succeeded by the lower levels of pit (221), the possible cess pit, the curving cut (230) and the burnt clay layer (228)
- capped by the industrial debris backfilling pit (221) with its pottery and amber chips.

Each of these phases is composed of several separate contexts. Each of these contexts may represent successive deposition over a period of time, a single radiocarbon date from each phase, or even each feature, may only, at best, give a single spot date within a wider period of activity and at worst may simply reflect the date of residual material redeposited from earlier phases. Consequently it is suggested that several radiocarbon dates be obtained from each main feature in each phase. This will allow residual dates to be identified,

especially in the upper phases, the integrity of the identification of the components of each phase to be tested and the beginning and end dates of each phase and any intervals between phases to be estimated.

It is estimated that 21 radiocarbon dates would be required for this analysis.

8.0 Bibliography

Brown, C.G. and Harper, A.E.T, "Excavations on Cathedral Hill, Armagh", *Ulster Journal of Archaeology*, 47, 1984, 109-160

Dunleavy, M., 1988 "A Classification of Early Irish Combs" *Proceedings of the Royal Irish Academy, Section C: Archaeology, Celtic Studies, History, Linguistics, Literature*, Vol 88C, 341-422.

Crothers, N., 1991 "English St., Armagh City" in I. Bennett (ed), *Excavations Bulletin 1991*, Wordwell.

Hamlin, A and Lynn, C.J. 1988 *Pieces of the Past: Archaeological Excavations by the Department of the Environment for Northern Ireland*, HMSO, Belfast

Hurl, D.P. 2003 "Excavations in Abbey St., Armagh", *Ulster Journal of Archaeology*, 62, 97-115.

Lynn, C.J. 1988 "Excavations at 46-48 Scotch Street, Armagh, 1979-80", *Ulster Journal of Archaeology*, 51, 69-84.

Lynn, C.J. 1988 "Armagh in 3000BC: 39-41 Scotch Street", in A. Hamlin and C. Lynn (eds) 1988.

Lynn, C.J., and McDowell, J.A. 1988 "The oldest City in Ireland: Armagh", in A. Hamlin and C. Lynn (eds) 1988.

Lynn, C.J., 1989 "English St., Armagh City", in I. Bennett (ed), *Excavations Bulletin 1989*, Wordwell.

Lynn, C.J., 1990 "English St./Market Sq., Armagh City" in I Bennett (ed), *Excavations Bulletin 1990*, Wordwell.

McCullough, C. and Crawford, W.H., 2007 *Irish Historic Towns Atlas: No. 18, Armagh*

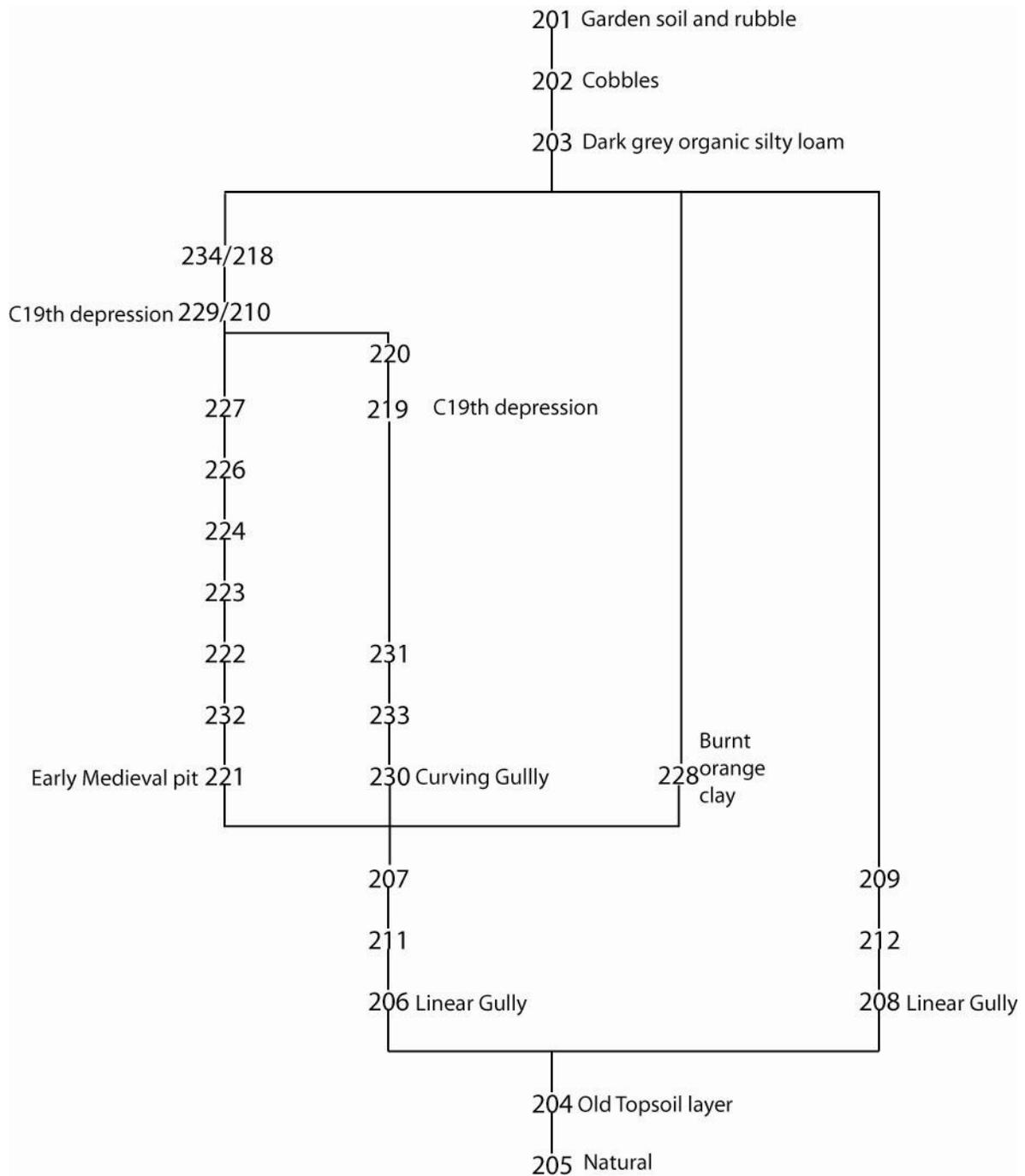
McSparron, C. 2010 *Monitoring Report No. 109: Abbey Theatre Group, Abbey Lane, Armagh*, CAF, Queen's University Belfast.

9.0 Appendices

9.1 Appendix 1: Context Log

101	Mixed rubble and garden soil – same as 201
102	Dark grey silt – same as 203
201	Mixed rubble and garden soil – same as 101
202	Cobbled surface, late 19 th to early 20 th century
203a	Dark grey silt layer, quite a lot of post-medieval finds
203b	Lower variant of 203a, blacker, more organic, fewer finds
204	Grey /brown loam relic topsoil
205	Green / blue clay subsoil
206	Gully running approximately north-south across site, about 0.8m wide
207	Dark brown silty loam upper fill of 206, lots of charcoal
208	Gully at west corner of site
209	Mid to dark brown clay loam upper fill of 208, contains burnt and unburned bone
210	19 th century pit in northwest of site cutting upper fill pit 221.
211	Light / mid brown compact loam fill of 206, below 207
212	Light brown compact clay loam fill of 208, beneath 209.
213	Deleted
214	Deleted
215	Deleted
216	Deleted
217	Deleted
218	Black organic silty loam fill of 210, transfer printed pottery and rotten wood, mid to late 19 th century.
219	Irregular 19 th century cut in north-east of trench
220	Black organic silty loam fill of 219, contains rotten wood.
221	Early medieval cess pit cut into earlier gully 206
222	Dark brown organic loam fill of 221 with pads of very compact vegetable matter.
223	Orange sandy clay fill of pit 221
224	Brown sandy loam fill of pit 221
225	Not-used
226	Orange / brown clay loam fill of pit 221
227	Light to medium brown silty clay loam fill of pit 221
228	Patchy orange clay spread, above subsoil 207, to south east of site
229	Post-med disturbance cut into the upper fill of pit 221 – same as 210?
230	Slightly curving cut at western edge of the site, cuts 206
231	Mid grey / brown silty loam fill of 230, contains bone.
232	Brown, organic loam primary fill of 221.
233	Light grey brown basal fill of gully 230
234	Bark organic silty loam and stones fill of 229, 19 th century.

9.2 Appendix 2: Harris Matrices



9.3 Appendix 3: Photo Log

Site Code	Photo Number	Photo description
ARMT	1	Theatre Car-park prior to excavation.
ARMT	2	Theatre Car-park prior to excavation .
ARMT	3	Theatre Car-park prior to excavation.
ARMT	4	Theatre Car-park prior to excavation.
ARMT	5	Theatre Car-park prior to excavation.
ARMT	6	Theatre Car-park prior to excavation.
ARMT	7	Theatre Car-park prior to excavation.
ARMT	8	Theatre Car-park prior to excavation.
ARMT	9	Theatre Car-park prior to excavation.
ARMT	10	Theatre Car-park prior to excavation.
ARMT	11	Test Trench 1 north section showing Post-Medieval pottery.
ARMT	12	Test Trench 1 north section showing Post-Medieval pottery.
ARMT	13	Test trench 1 showing top of dark grey organic silty loam 102.
ARMT	14	Test Trench 1 north section showing top of dark grey organic silty loam 102.
ARMT	15	Test Trench 1 after excavation, from east.
ARMT	16	Test Trench 1 after excavation, from east.
ARMT	17	Test Trench 1 after excavation, from east.
ARMT	18	Test Trench 2 from east showing cobbles 202 and dark grey organic silty loam 203.
ARMT	19	Test Trench 2 from south showing cobbles 202.
ARMT	20	Test Trench 2 from west showing cobbles 202 and dark grey organic silty loam 203.
ARMT	21	Main trench, from south, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	22	Main trench, from south, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	23	Main trench, from south, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206), upper fill (209) of gully (208) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	24	Main trench, from west, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	25	Main trench, from northwest, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	26	Main trench, from west, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th

		century depressions (210), (219) and their respective fills (218) and (220).
ARMT	27	Main trench, from west, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	28	Main trench, from west, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	29	Main trench, from west, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	30	Main trench, from west, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	31	Main trench, from west, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220).
ARMT	32	Main trench, from northwest, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220). Disturbed 19 th century depression (219) and its fill (220) particularly visible in this photo.
ARMT	33	Main trench, from northwest, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220). Disturbed 19 th century depression (219) and its fill (220) particularly visible in this photo.
ARMT	34	Main trench, from northwest, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220). Disturbed 19 th century depression (219) and its fill (220) particularly visible in this photo.
ARMT	35	Main trench, from northwest, after removal of topsoil and cobbles showing subsoil (205) and relic topsoil (204) with upper fill (207) of gully (206) and disturbed 19 th century depressions (210), (219) and their respective fills (218) and (220). Disturbed 19 th century depression (219) and its fill (220) particularly visible in this photo.
ARMT	36	Beginning of excavations into the upper fill (209) of gully (209) in the southwest corner of the site
ARMT	37	Beginning of excavations into the upper fill (207) of gully (206), from southwest
ARMT	38	Beginning of excavations into the upper fill (207) of gully (206), from southwest
ARMT	39	Beginning of excavations into the upper fill (207) of gully (206), from southeast
ARMT	40	Beginning of excavations into the upper fill (207) of gully (206), from southwest
ARMT	41	Ongoing excavation of the fills of gully (206), from the southwest.
ARMT	42	Excavation of pit (221), from southwest.
ARMT	43	Excavation of pit (221), from southwest.
ARMT	44	Section across pit (221).
ARMT	45	Section across pit (221).

ARMT	46	Stopping by the trench on a snowy evening. Excavated gullies (206) and (208) fill rapidly with ground water.
ARMT	47	Ice on line marking trench edge.
ARMT	48	Main trench showing pit (221), partially excavated (230), gully (206) and gully (208) all filled with ground water, from southwest.
ARMT	49	Main trench showing pit (221), partially excavated (230), gully (206) and gully (208) all filled with ground water, from west.
ARMT	50	Main trench showing pit (221), partially excavated (230), gully (206) and gully (208) all filled with ground water, from northwest.
ARMT	51	Section across pit (221).
ARMT	52	Section across pit (221).
ARMT	53	Section across pit (221).
ARMT	54	Pit (221) under excavation.
ARMT	55	Pit (221) under excavation.
ARMT	56	Pit (221) (half sectioned) and gully (206), from northwest.
ARMT	57	Pit (221) (half sectioned) and gully (206), from northwest.
ARMT	58	Pit (221) (half sectioned) and gully (206), from northwest.
ARMT	59	Pit (221) (half sectioned) and gully (206), from west.
ARMT	60	Pit (221) (half sectioned) and gully (206), from west.
ARMT	61	Pit (221) under excavation showing top of fill (222).
ARMT	62	Pit (221) under excavation showing top of fill (222).
ARMT	63	Pit (221) under excavation showing top of fill (222).
ARMT	64	Pit (221) under excavation showing top of fill (222).
ARMT	65	Pit (221) under excavation showing top of fill (222), from southeast.
ARMT	66	Pit (221) under excavation showing top of fill (222), from southeast.
ARMT	67	Pit (221) under excavation showing top of fill (222), from northwest.
ARMT	68	Pit (221) under excavation showing top of fill (222), from northwest.
ARMT	69	Pit (221) under excavation showing top of fill (222), from northwest.
ARMT	70	Pit (221) under excavation showing top of fill (222), from northwest.
ARMT	71	Pit (221) under excavation showing top of fill (222), from northwest.
ARMT	72	Pit (221) under excavation showing top of fill (222), from northwest.
ARMT	73	Photos of theatre interior.
ARMT	74	Photos of theatre interior.
ARMT	75	Photos of theatre interior.
ARMT	76	Photos of theatre interior.
ARMT	77	Photos of theatre interior.
ARMT	78	Photos of theatre interior.
ARMT	79	Photos of theatre interior.
ARMT	80	Photos of theatre interior.
ARMT	81	Pit (221) after excavation, from south.
ARMT	82	Pit (221) after excavation, from south.
ARMT	83	Section of pit (221).
ARMT	84	Section of pit (221).
ARMT	85	Section of pit (221).
ARMT	86	North section of Main Trench.
ARMT	87	North section of Main Trench.

ARMT	88	North section of Main Trench.
ARMT	89	North section of Main Trench.
ARMT	90	North section of Main Trench.
ARMT	91	North section of Main Trench.
ARMT	92	North section of Main Trench.
ARMT	93	North section of Main Trench.
ARMT	94	North section of Main Trench.
ARMT	95	North section of Main Trench.
ARMT	96	North section of Main Trench.
ARMT	97	North section of Main Trench.
ARMT	98	North section of Main Trench.
ARMT	99	North section of Main Trench.
ARMT	100	North section of Main Trench.
ARMT	101	Section of gully (206) showing fills 211 and 207.
ARMT	102	Section of gully (206) showing fills 211 and 207.
ARMT	103	Section of gully (206) showing fills 211 and 207.
ARMT	104	Section of gully (206) showing fills 211 and 207.
ARMT	105	East section of Main Trench.
ARMT	106	East section of Main Trench.
ARMT	107	East section of Main Trench.
ARMT	108	East section of Main Trench.
ARMT	109	East section of Main Trench.
ARMT	110	East section of Main Trench.
ARMT	111	East section of Main Trench.
ARMT	112	East section of Main Trench.
ARMT	113	East section of Main Trench.
ARMT	114	East section of Main Trench.
ARMT	115	East section of Main Trench.
ARMT	116	East section of Main Trench.
ARMT	117	East section of Main Trench.
ARMT	118	East section of Main Trench.
ARMT	119	East section of Main Trench.
ARMT	120	East section of Main Trench.
ARMT	121	South section of Main Trench.
ARMT	122	South section of Main Trench.
ARMT	123	South section of Main Trench.
ARMT	124	South section of Main Trench.
ARMT	125	South section of Main Trench.
ARMT	126	South section of Main Trench.
ARMT	127	Main trench prior to backfilling.
ARMT	128	Main trench prior to backfilling.
ARMT	129	Main trench prior to backfilling.
ARMT	130	General shot of Theatre Car-park area prior to backfilling.
ARMT	131	General shot of Theatre Car-park area prior to backfilling.
ARMT	132	Digger arriving to backfill main Trench.
ARMT	133	Theatre interior.

ARMT	134	Theatre interior.
ARMT	135	Main Trench backfilled.
ARMT	136	Theatre Car-park area after backfilling.
ARMT	137	Theatre Car-park area after backfilling.
ARMT	138	Main Trench backfilled.
ARMT	139	Main Trench backfilled.
ARMT	140	Main Trench backfilled.
ARMT	141	Main Trench backfilled.

9.4 Appendix 4: Drawing Log

<i>Site Code</i>	<i>Drawing Number</i>	<i>Scale</i>	<i>Description</i>
ARMT	1	1:20	Pre-ex plan of Main Trench showing gullies 206 and 208 and their upper fills, 207 and 209 respectively, the patchy orange clay 208 and the later 19 th century depressions 210 and 219..
ARMT	2	1:10	Detailed plan of pit 221, showing compressed vegetation deposits in fill 222, originally thought to be wood.
ARMT	3	1:10	Section of pit 221, showing fills 232, 222,223,224,226,227, and gully 206 showing fill 211.
ARMT	4	1:10	Section of gully 206, showing fills 211 and 207.
ARMT	5	1:20	Post-ex plan of Main Trench showing gullies 206 and 208, the pit 221 and the curving gully 230.

9.5 Appendix 5: Sample Log

Soil Sample Number	Context	Type	Weight
01	207	Upper fill of gully (206)	6.9 kg
02	211	Lower fill of gully (206)	5.7 kg
03	222	Fill of Pit (221)	6.5 kg
04	222	Fill of Pit (221)	4.7 kg
05	222	Fill of Pit (221)	5.6 kg
06	222	Fill of Pit (221)	5.3 kg
07	222	Fill of Pit (221)	5.3 kg
08	223	Fill of Pit (221)	9.8 kg
09	224	Fill of Pit (221)	7.9 kg
10	226	Fill of Pit (221)	2.5 kg
11	227	Fill of Pit (221)	9.6 kg
12	228	Burnt orange patchy clay above (207)	5.2 kg
13	232	Fill of Pit (221)	8.8 kg
14	232	Fill of Pit (221)	7.3 kg
15	232	Fill of Pit (221)	9.8 kg
16	232	Fill of Pit (221)	9.5 kg
17	232	Fill of Pit (221)	8.3 kg
18	233	Lower fill of curving gully (230)	3.9 kg
19	233	Lower fill of curving gully (230)	6.0 kg
		Total weight	128.6 kg

Appendix 6: Finds List

Context No.	Artefacts
101/201	<p>Ceramic Finds</p> <p>One nearly complete small, clear glass, medicine bottle</p> <p>Two fragments of clear glass bottle</p> <p>Two large base sherds of Blackware (not Buckley)</p> <p>One sherd sewer pipe</p> <p>Three sherds stoneware with reddish grey fabric and grey to green glaze.</p> <p>One body sherd stoneware with light grey fabric and cream external glaze.</p> <p>Base of a dark green bottle with cross motif on base (heavily patinated)</p> <p>One base sherd of a dark green bottle</p> <p>Three body sherds of a dark green bottle</p> <p>Dark green bottle sherd (heavily patinated)</p> <p>Screw in ceramic bung of ceramic hot water bottle</p> <p>One thin clay pipe stem fragment , probably 17th or 18th century</p> <p>Five body sherds of creamware type vessels</p> <p>One rim sherd of a creamware type vessel</p> <p>One creamware sherd decorated with blue underglaze decoration</p> <p>Possibly a creamware vessel in which iron impurities in the clay have turned to red iron oxide in the soil resulting in an unusual rusty fabric, with blue underglaze painted decoration</p> <p>One large body sherd creamware with pink underglaze painted decoration</p>
101/201	<p>One iron nail</p> <p>Two fragments of an iron tube</p>
101/201	<p>One fragment of a bird bone</p>
101/201	<p>Tranchet arrowhead</p>
202	<p>Ceramic Finds</p> <p>Base of 18th/ 19th century dark green glass bottle</p> <p>Rim sherd of dark green glass bottle</p> <p>Four body sherds of dark green glass bottle</p> <p>One base sherd of light green glass bottle</p> <p>Two body sherds of clear glass, possibly lead crystal</p> <p>Base of 18th/19th century light grey stoneware bottle</p> <p>Body sherd of light grey stoneware bottle, possibly same vessel as above</p> <p>Two body sherds of stoneware, butterscotch colour fabric and exterior, interior covered in white tin glaze.</p> <p>Two fragments of Blackware, one piece Buckley</p> <p>One fragment of brick</p> <p>One base sherd of a creamware vessel</p> <p>One small sherd of possibly fairly modern Bone China.</p> <p>One fragment of very well fired earthenware (almost stoneware) with a rich russet to deep pink internal and external glaze</p> <p>One fragment sewer pipe</p> <p>One sherd stoneware with reddish grey fabric and grey to green glaze</p>
202	<p>One fragment of animal bone</p>
202	<p>Three iron nails, two possibly hand made.</p>

203	Two fragments struck flint
203	Five fragments of animal bone
203	<p>Ceramic Finds</p> <p>Two rimsherds of Blackware (not Buckley)</p> <p>Three body sherds of Blackware (not Buckley)</p> <p>One fragment of sewer pipe</p> <p>One base sherd, possibly Carrickfergus Brownware</p> <p>One body sherd Mottled Ware</p> <p>One body sherd brown glazed earthenware</p> <p>Body sherd stoneware with grey fabric and grey brown glaze</p> <p>Body sherd stoneware with grey fabric and reddish brown glaze</p> <p>Base sherd Pearlware</p> <p>Four body sherds Creamware</p> <p>Small fragment of the handle of a Creamware teacup</p> <p>Two thin clay pipe stem fragments (17th or 18th century)</p> <p>Sherd of light green window glass</p> <p>One ceramic marble, possible bottle flow stopper.</p>
203	<p>Iron nail</p> <p>Slag fragment</p>
203b	<p>One rim sherd of Blackware</p> <p>One rimsherd of Carrickfergus Brownware</p> <p>Three clay pipe stem fragments, one very thin (17th /18th century) other two thicker could be of any date.</p>
203b	<p>One tooth of a large mammal</p> <p>One fragment of burnt bone</p>
207	Fragment of slag
207	<p>Twenty pieces of animal bone</p> <p>One piece of burnt bone</p>
211	<p>74 pieces of animal bone</p> <p>Four flint chunks – possible knapping waste</p>
212	Fragment of Early Medieval decorated bone comb
222	Fragment of animal bone
224	Fragment of amber
227	Fragment of lignite bracelet
227	Four fragments of amber
227	Two fragments of abraded coarse pot, possibly Souterrain Ware



Figure 1: Location of excavation site within Armagh



Figure 3: Position of Abbey Theatre (blue), proposed theatre extension (green) superimposed on 1st edition OS Map.

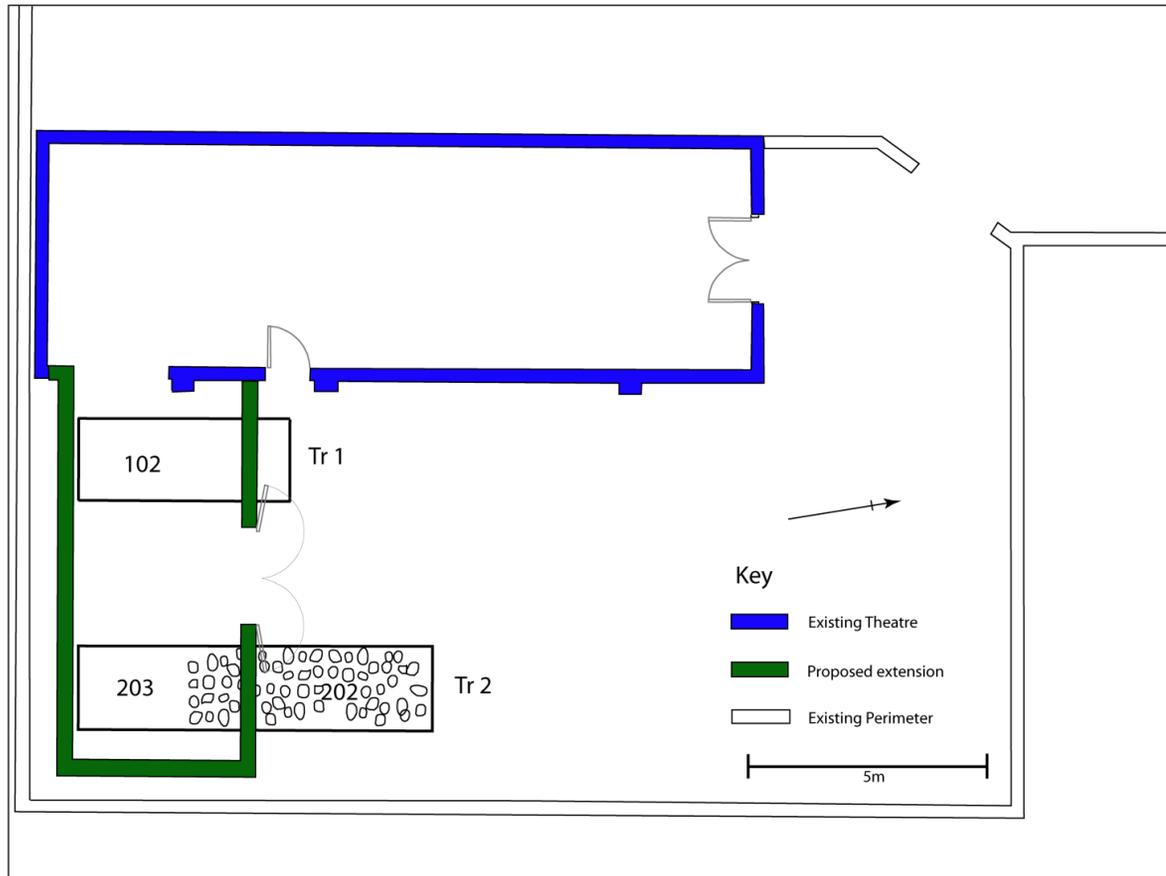


Figure 4: Plan of theatre and proposed extension showing initial Test Trenches.

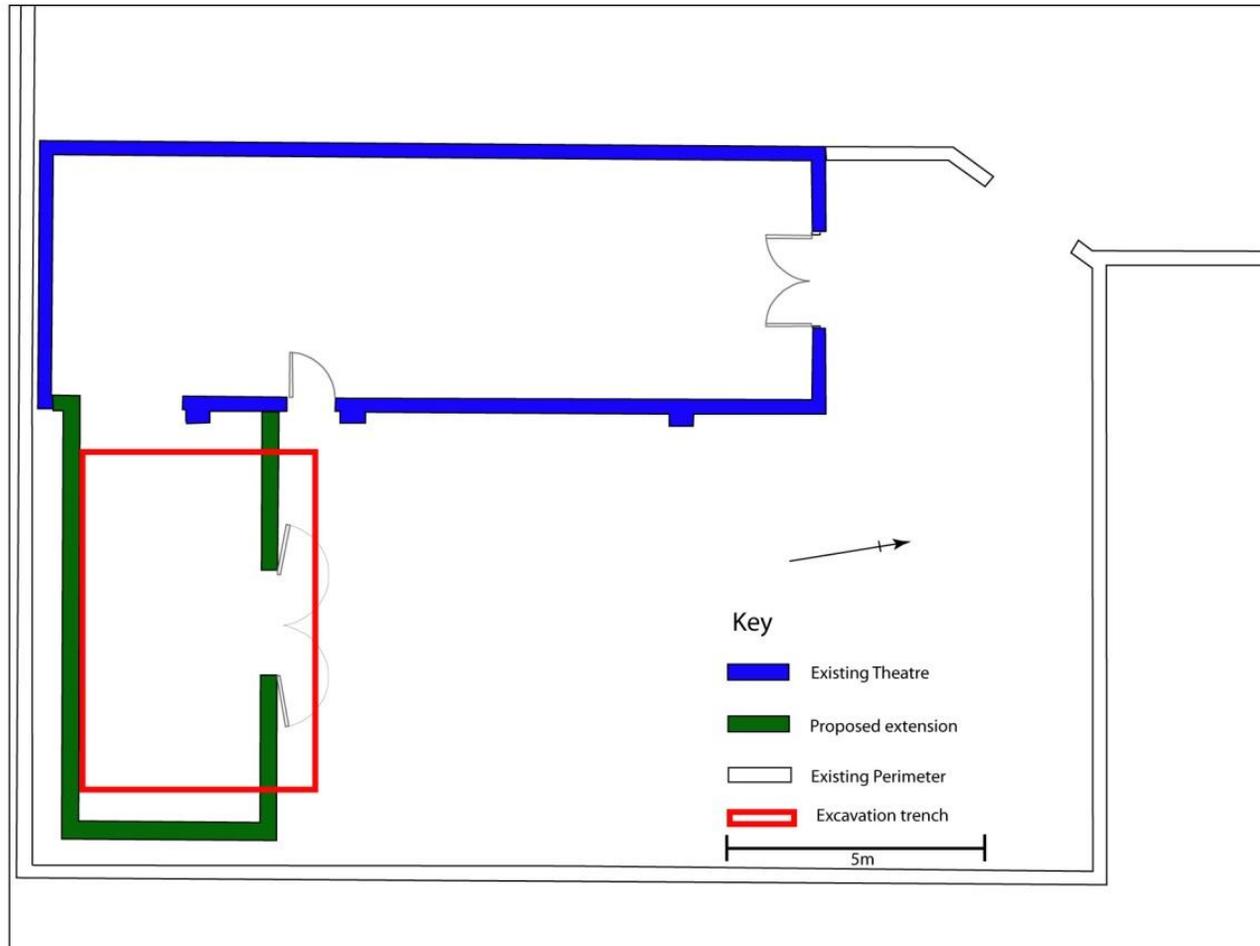


Figure 5: Plan of theatre and proposed extension showing Excavation Trench

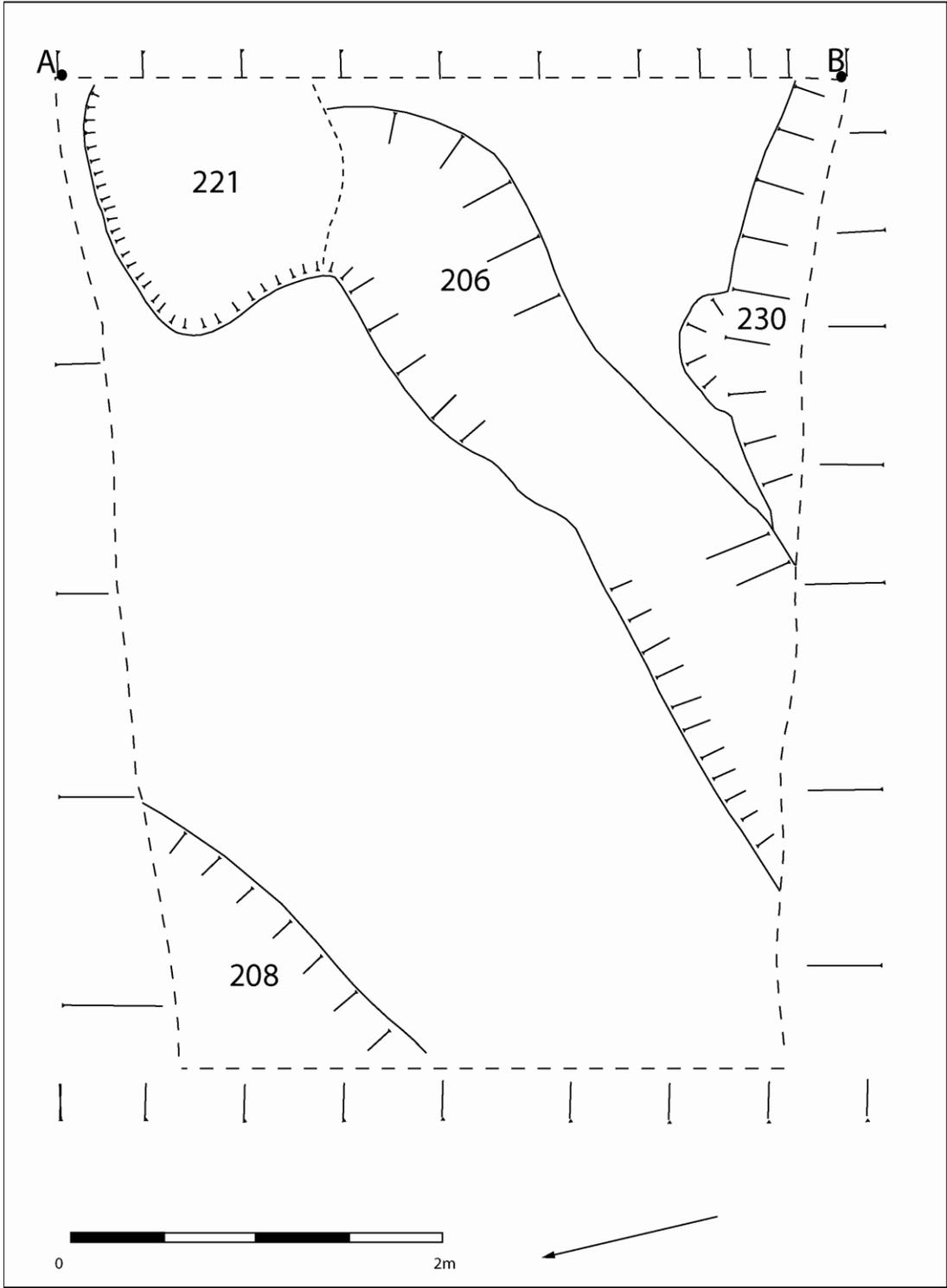


Figure 6: Plan of excavated features

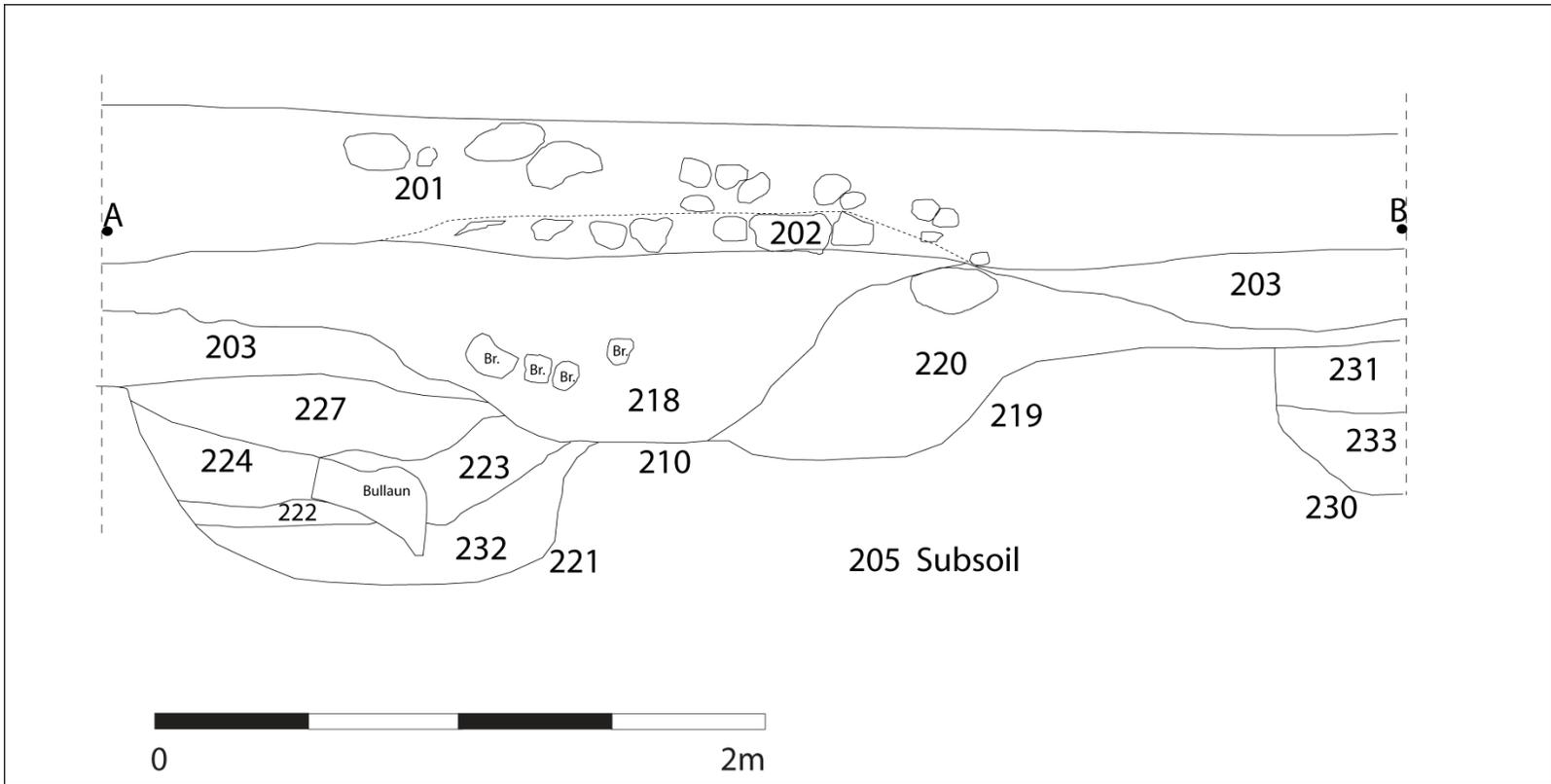


Figure 7: East section of excavation trench.



Photo1: Excavation trench after removal of 19th and 20th century overburden.



Photo 2: Excavation trench after excavation showing waterlogged pits, gullies and cuts.

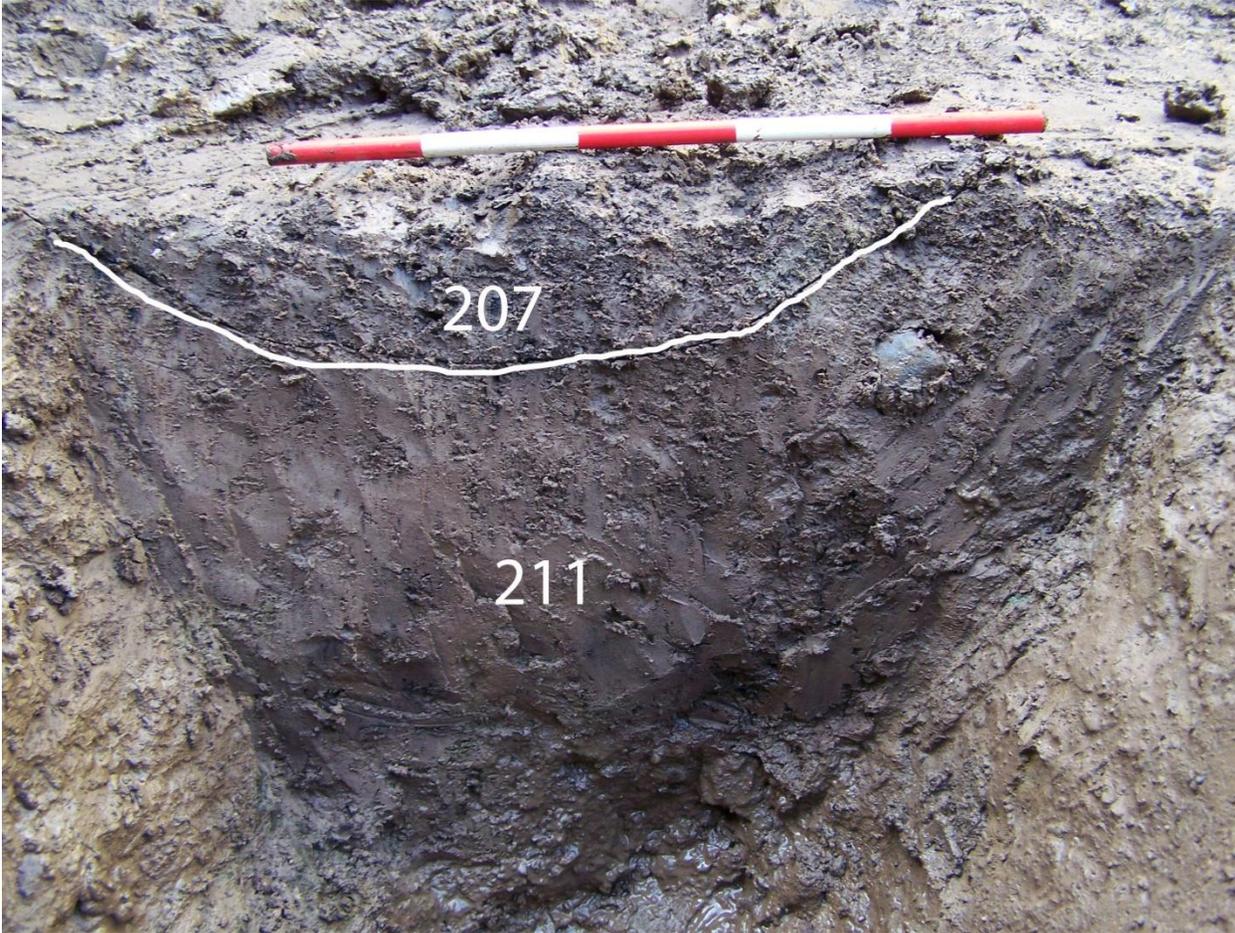


Photo 3: Cross section photo of gully 206 showing fills.

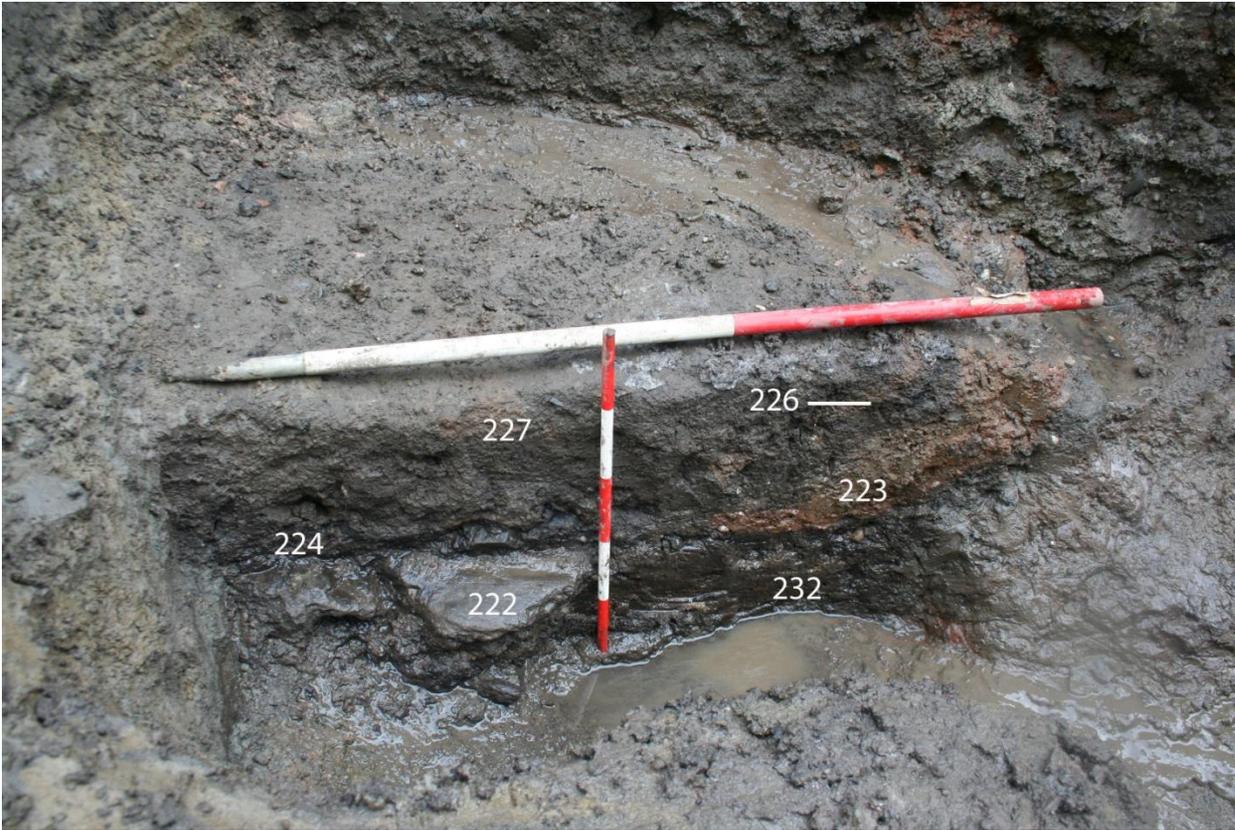


Photo 4: Cross section of Pit 221 showing fills.