



Report of archaeological investigations at the Wemyss Caves July 2019

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Archaeological investigation of the promontory adjacent to Macduff's Castle

Geophysical survey of part of Wemyss and Macduff Cemetery

Summary project information

NGR (centre): NT 344 970	Period of fieldwork: 10th-18th July 2019
Parish: Wemyss	Date of report: November 2019
Local Authority: Fife	Scheduled Monument ID: SM817

Project archaeologists

SCAPE Trust: Joanna Hambly, Tom Dawson, Ellie Graham

University of Aberdeen: Gordon Noble, James O'Driscoll

Excavation and Visitor Centre Volunteers

Charlie Clarke	John Marshall	Loida Garcia	Prisca de Rozario
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Hannah Draper	Kirsty Bain	Mike Arrowsmith	
Janey Kirk	Kriss Henderson	Pam Cranston	

Edinburgh Archaeological Society Geophysics volunteers

Alan Calder	Don Matthews	Michael Harris	Val Dean
Allan Mathieson	Ian Hawkins	Neil Simpson	
Christine McPherson	Jill Stobridge	Norma Johnstone	

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Summary of results

In July 2019, a partnership of the SCAPE Trust, Save the Wemyss Ancient Caves Society and the University of Aberdeen carried out targeted archaeological excavation in Court Cave, Doo Cave and Sliding Cave; three of the seven Wemyss Caves that form part of Scheduled Monument SM817. The research objectives addressed two overarching questions. Firstly, to learn something of the potential significance of the buried archaeological resource in Court Cave and Doo Cave because no modern investigations have ever taken place in them; and secondly, to further investigate stratified deposits in the Sliding Cave previously dated to the 3rd – 5th century AD, which have potential to contribute to wider research of national significance about the origin and dating of the Pictish symbols. A better understanding of the buried archaeological resource supports site management and interpretation objectives set out in the Wemyss Caves Conservation Management Plan.

Two trenches inside Court Cave recorded shallow compacted layers of mostly relatively recent date and found bedrock approximately 30cm below the current cave floor surface. However, a single sherd of a Scottish White Gritty Ware green-glazed jug (14th-15th century) and five conjoining sherds from a Yorkshire Type Ware green-glazed jug (13th-14th century) were recovered from a context directly overlying the bedrock floor in Trench 2 at the side of the main entrance chamber. A trench just outside the entrance to Court Cave was excavated 2.3m to bedrock, and contained deeply buried midden material including animal bone, marine shell, and 5 pottery sherds from a possible Northern English Ware green-glazed jug (14th-15th century), as well as evidence of iron working in the form of slag and a fragment of tuyère. This is the first time that evidence for iron smelting or smithing has been identified in the Wemyss Caves, and given the location of the midden and the lack of deposits inside Court Cave, there is a real possibility that the midden derives from activities taking place inside the Court Cave in the medieval period. Scientific dating of the tuyère and sample of animal bone will hopefully provide more certainty on the date of activities resulting in the midden.

A trench located at the back of the Doo Cave revealed an unexpected discovery of rock cut niches and a possible pit carved into the bedrock floor of the cave. These were buried beneath nearly 2 metres of inwash from the back of the cave, which contained only relatively modern finds. The in-wash sediments are likely to be the result of the collapse of the West Doo Cave in 1914. It is puzzling that these recent deposits were found on clean bedrock floor. A thin layer of sand and pebbles filling features cut into the bedrock may hold the answer. In the early 20th century, changes in the coastline resulted in the migration of the beach right up to the mouth of the Doo Cave, putting the cave interior in reach of the erosive power of the sea.

The re-excavation of the 2004 Time Team trench in the Sliding Cave successfully located the 3rd-5th century occupation horizon and sampled additional material from it for analysis and radiocarbon dating. The excavation also discovered a bone-rich layer below this occupation horizon that lay beyond the limits of the original trench. Both of these cultural deposits were present in a second trench opened up towards the centre of Sliding Cave, showing that extensive archaeological deposits fortuitously survive in one of the less accessible of the Wemyss Caves.

1. Introduction

- 1.1 In Wemyss Caves Archaeology Week 10th-18th July 2019, the SCAPE Trust, Save the Wemyss Ancient Caves Society (SWACS) and the University of Aberdeen carried out a programme of targeted excavation in Court Cave, Doo Cave and Sliding Cave; three of the seven Wemyss Caves that form part of scheduled monument [SM817](#). The works were consented under the Ancient Monuments and Archaeological Areas Act 1979 (HES reference **AMH/817/1/1**).
- 1.2 The purpose of the project was to assess the character of deposits within these caves in order to provide essential information to support research and site management objectives set out in the Wemyss Caves Conservation Management Plan (Lelong *et al.* 2016).
- 1.3 The project also provided an opportunity to support participation objectives set out in the Conservation Management Plan by integrating volunteers in the fieldwork, and involving the wider local community in a weekend Public Open Day. Twenty five volunteers drawn from the membership of SWACS and local residents were involved in the excavations. Over 100 visitors came along to the Open Day, and many more local dog walkers and coastal path users from further afield dropped into the excavations during the fieldwork. Around 100 people, mostly from East Wemyss, came to an evening of talks about the project and its potential contribution to wider Pictish research.

2. Site location, project area and landscape context

- 2.1 The Wemyss Caves are relict sea caves cut into the soft red Upper Carboniferous sandstone cliff between the former mining villages of East Wemyss and Buckhaven in southeast Fife (Figure 1). They were created by wave action during the formation of the main postglacial shoreline in Eastern Scotland between the Firth of Forth and Dornoch culminating around 5700 cal BC (Cullingford *et al* 1991).

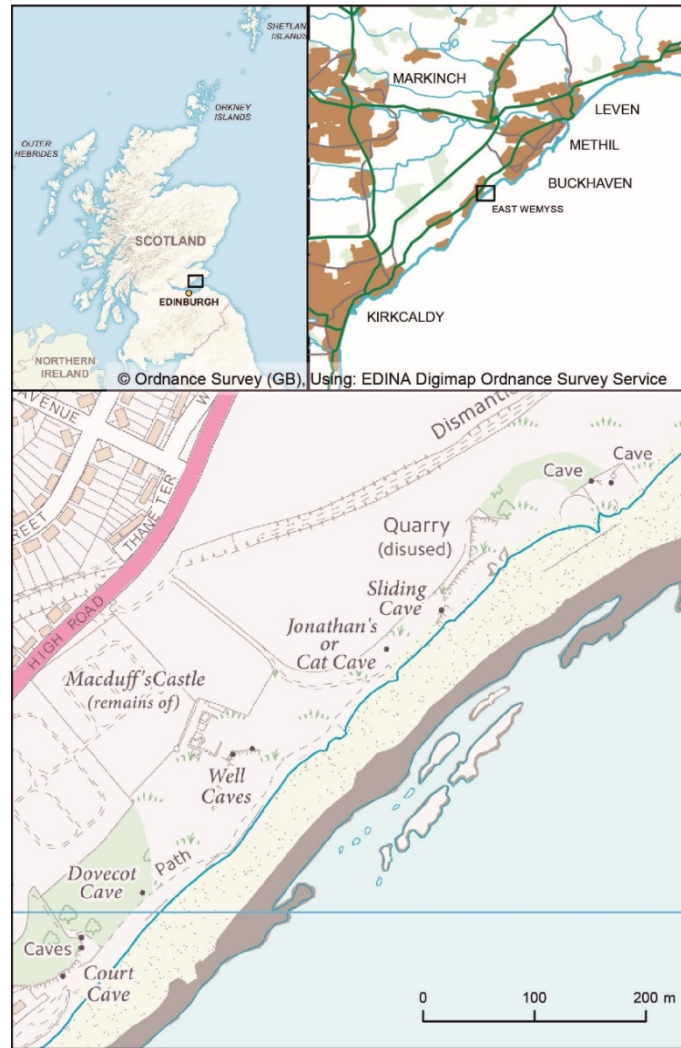


Figure 1 Site location and cave location

2.2 The 3 caves which were the focus of this project were: Court Cave (NT 34269 96942); Doo Cave (NT 34329 97002) and Sliding (or Sloping) Cave (NT 34613 97267) (Figure 2)

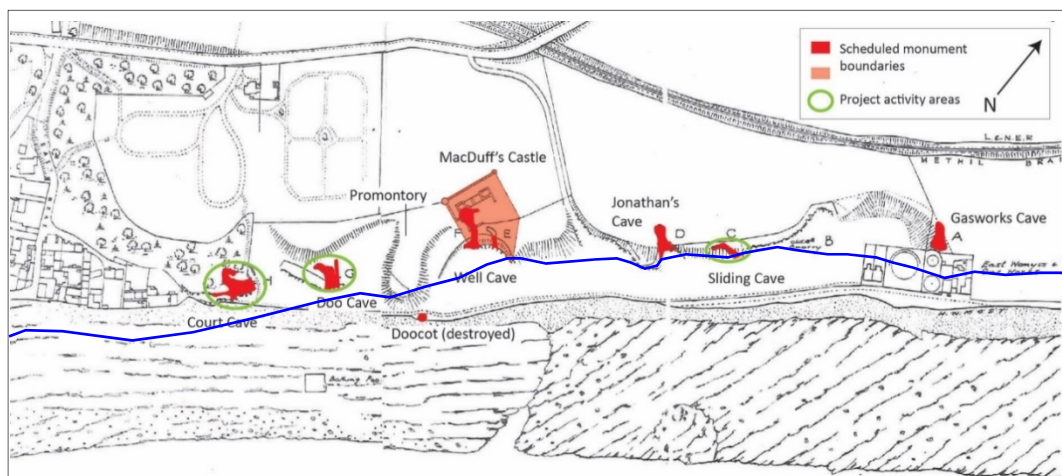


Figure 2 Project areas in relation to scheduled monument boundary **SM817**, marked on OS map used in the 1939 scheduling documentation. The blue line denotes the position of the present coast edge.

- 2.3 For much of their history, a coastal plain would have existed between the caves and the sea. The caves are described as being around 100 yards from the high water mark in the Old Statistical Account (1795) and during the late 19th and 20th centuries the coastline actually extended seawards as a result of inadvertent beach nourishment due to the dumping of coal waste on the shore. Today, as a result of rapid coastal erosion following the closure of the coal mines and landward regression of the high water mark caused by post-mining subsidence and relative sea level rise (Saiu 1992), there is only fragmentary survival of sediments in front of the caves. Recent changes in the shape of the coastline as a result of partial coastal defence works and erosion means that Jonathan's Cave and Sliding Cave are located close to or at the coast edge and vulnerable to the waves once more.

3 Research context

- 3.1 The Wemyss Caves are famous for their ancient carvings – including the largest collection of Pictish symbols found in one place in Scotland. Around 50 pictograms were originally documented in the mid-19th century in 5 of the numerous caves along this coastline. They closely resembled abstract symbols and animal representations more commonly found on Pictish symbol stones, the defining monument of a later Iron Age and early historic people whose territories stretched across northern and eastern Scotland between the 6th and 9th centuries AD.
- 3.2 The 19th century was the highpoint of research attention and documentation of the symbols at the Wemyss Caves, and they are associated with notable antiquarians including Sir James Young Simpson, Joseph Anderson, Christian Maclagan and Romilly Allen, early pioneers in the development of the discipline of archaeology.
- 3.3 Of the 49 Pictish symbols documented in the Wemyss Caves in the 19th and early 20th centuries (Simpson 1867; Stuart 1867; Allen and Anderson 1903), 26 survive in three caves: Court Cave, Jonathan's Cave and Sliding Cave. Until very recently, the only modern survey of the carvings was that carried out by the Royal Commission of the Ancient and Historic Monuments of Scotland in 1983-4, subsequently summarised and contextualised by Graham Ritchie and John Stevenson (Ritchie & Stevenson 1993).
- 3.4 Between 2013 and 2016, the Wemyss Caves 4D project, a collaboration between the SCAPE Trust and SWACS, supported by the Heritage Lottery Fund, Historic Environment Scotland and Fife Council, applied digital technologies to document in 3D every carving, cave and the coastal landscape of the Wemyss Caves. This is presented as an interactive digital resource through the Wemyss Caves 4D website (www.4dwemysscaves.org) and has encouraged a renewal of research interest into the Wemyss Caves (Hambly *et al.* 2018).

- 3.5 The scale of archaeological deposits lost through historical uses of the caves (e.g. stabling for animals, workshops etc.), antiquarian ‘diggings’ (Simpson 1867) of sediments within the caves, and erosion of deposits in front of and in some cases inside caves is likely to be significant.
- 3.6 However, coastal section recording and a number of small-scale modern excavations within and outside the caves have identified fragmentary stratified contexts associated with early Iron Age through to medieval uses of the caves and immediate surroundings (summarised in Guttman 2002 and Lelong et al. 2016). This includes evidence of ard marks cut into raised beach deposits in front of the Well Cave sealed by soils radiocarbon dated to 750-410 cal BC and two medieval burials *circa* 50m southwest of Jonathan’s Cave radiocarbon dated to cal AD 890-1220 and cal AD 1020-1180 (Gibson & Stevens 2007).
- 3.7 The only dated context associated with an undisturbed cave interior where there are surviving Pictish carvings, is in the Sliding Cave. Here, a date of cal AD 240-400 was obtained from barley in a secure context interpreted as a possible floor surface of trampled clay (ibid 2007). Recent work by the University of Aberdeen at Dunnicaer promontory fort in Aberdeenshire; a site associated with Pictish symbols that bear many similarities with those in the Wemyss Caves, has applied Bayesian modelling of radiocarbon dates from the excavations. The results show that the wall with which the symbol stones were associated was likely to be constructed between cal AD 250-400 (Noble *et al.* 2018). This is significant because it provides supporting evidence to what was thought to be an anomalously early date for the possible origins of Pictish symbols in the Wemyss Caves.
- 3.8 The Sliding Cave excavation was one of the few modern archaeological investigations to take place inside the caves, and was carried out as part of Time Team excavations in 2004. Test pits inside Jonathan’s Cave and the Well Cave were also excavated for the programme. Jonathan’s Cave revealed only natural and modern deposits. In the Well Cave, a laminated deposit containing medieval or early modern pottery was recorded in a sequence of otherwise natural and modern deposits. Deposits in both caves showed evidence of considerable truncation and disturbance (Wessex Archaeology 2005).
- 3.9 No modern archaeological intervention has taken place inside Court Cave or Doo Cave, the two most accessible of the Wemyss Caves. Therefore, nothing is known of the potential survival or significance of the buried archaeological resource within these scheduled assets.

4 Threats to the Wemyss Caves and management context

- 4.1 The surviving caves are vulnerable to land subsidence and coastal erosion (both partly legacies of coal extraction), which has made access to some of the caves difficult and threatens their survival in the long-term. Today, vandalism is an ever present and urgent threat to the carvings. Small-scale illicit excavations also damage deposits and undermine the potential significance of the archaeological resource in the Wemyss Caves.
- 4.2 The **Wemyss Caves Action Management Group** chaired by SWACS and made up of representatives from the Wemyss Estate, the Scottish Government, Fife Council, Historic Environment Scotland, Fife Coast and Countryside Trust and the SCAPE Trust provide strategic oversight of the management of the caves. The main task of the Management Group is to facilitate the delivery of the Action Plan set out in Section 5 of the Wemyss Caves Conservation Management Plan (Lelong *et al.* 2016), which was formally adopted by all members of the Management Group in 2017.

5. Overall project aim

- 5.1 The overall aim of the proposed excavations was to better understand the below-ground archaeological resource in Court Cave, Doo Cave and Sliding Cave to provide essential information to support research, site management, participation and interpretation objectives set out in the adopted Wemyss Caves Conservation Management Plan (Lelong *et al.* 2016).
- 5.2 Specific research and management objectives for each cave are given in the Results sections for each cave.

6 Project methods

6.1 Excavation

Excavation trenches in Court Cave, Doo Cave and Sliding Cave were carefully located in order to maximise research and management outcomes for each intervention.

Trenches were located:

- adjacent to cave walls where there was most potential for undisturbed deposits and to examine buried portions of the cave walls for markings or surface treatment (all caves);
- adjacent to known carvings where there was most potential for deposits related to them (all caves);

- coinciding with previous excavations to review previous interpretation and work from the known to the unknown (Sliding Cave);
- to assess routes of proposed access improvements (Court Cave).

All excavation was carried out by hand. Artificial lighting was used in the caves. Volunteers worked closely with archaeologists from the SCAPE Trust and University of Aberdeen at a maximum ration of three volunteers to one archaeologist.

6.2 *Survey Control*

Survey of trenches was carried out with an electronic total station theodolite (Leica TS06) and tied into existing ground control points established during the Wemyss Caves 4D survey and tied into the National Grid using RTK survey grade GPS. Temporary bench marks were established for the Doo Cave and Court Cave and tied into Ordnance Datum of known features established during the Wemyss Caves 4D survey. It was not possible to sight a dumpy level or total station theodolite into the Sliding Cave because of the narrowness of the entrance, however survey and elevation control can be fairly reliably provided by the geo-referenced laser scan point cloud produced by the Wemyss Caves 4D survey.

6.3 *Documentation*

Written, drawn and photographic records were made of each context. In the Court Cave and Doo Cave every context was recorded on pro forma sheets, based on the single context recording form developed by MOLA, and drawn at 1:10 on pro-forma permanent drafting film. The University of Aberdeen used a digital recording system in the Sliding Cave.

Following fieldwork, records were checked, and Court Cave and Doo Cave records digitised.

6.4 *Sampling and finds strategy*

Contexts were dry-sieved through a 1cm mesh during excavation to maximise recovery of artefacts and ecofacts.

Bulk samples for the recovery of ecofacts to inform local and wider environmental information and anthropogenic activity, and to provide material for C14 dating, were taken from undisturbed deposits with good palaeo-environmental potential.

Block (Kubiena tin) samples for thin section analysis to aid interpretation of site formation processes and higher resolution environmental analysis and dating were taken from possible occupation deposits in the Sliding Cave.

Excavation Results

7 Court Cave

7.1 Court Cave aims and objectives

7.11 The Court Cave investigations address the following management aims and objectives set out in the Wemyss Caves Conservation Management Plan (Lelong *et al.* 2016):

- Aim II: Manage and ensure safe access to the caves and carvings.
- Aim III: Increase knowledge of the character and significance of cultural heritage at Wemyss Caves to support their management.
- Aim IV: Share and celebrate the heritage of the Wemyss Caves.
 - Objective IVA: Enhance participation in the heritage of the site.

7.12 Specific objectives for excavations in the Court cave were to:

- investigate whether any archaeological deposits survive inside and in the immediate vicinity of the cave;
- characterise these to inform potential access improvement works to the cave.

7.13 Scheduled monument consent was given for three trenches inside Court Cave (Trenches 2, 3, 4). A further two trenches outside the cave and scheduled area (Trenches 1 and 5) were located to assess the potential and character of deposits along proposed access routes into Court Cave to inform any improvement works, if deemed necessary. In the event only Trenches 1, 2 and 3 were excavated during the July 10-17th fieldwork programme (Figure 3).

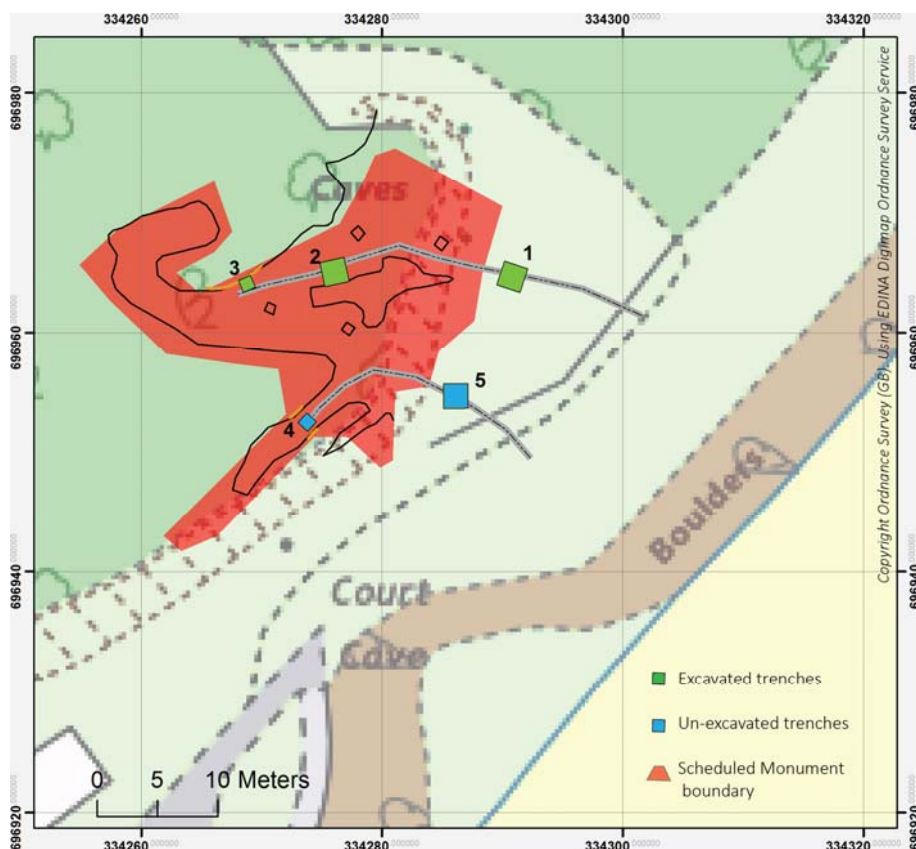


Figure 3 Location of excavated and un-excavated trenches in Court Cave



Figure 4 Selection of working shots from Court Cave:
a) entrance to main chamber b) Trench 1, c) Trench 2, d) Trench 3

7.2 Court Cave results

Trench 1 (Figure 5)

- 7.21 Trench 1, (2m x 2m) was located outside Court Cave, between the east entrance to the main chamber and the present route of the Fife Coastal Path. The trench was excavated to sandstone bedrock encountered at a depth of 2.3m (3.53m OD) from the present ground surface. The trench was stepped in at a depth of 1m and a stepped access maintained along the south side of the trench, resulting in a c. 1m square area of excavation at the base.
- 7.22 Directly overlying the bedrock, the earliest deposit (**107**) was a 0.5m thick, soft, homogenous, mid-yellowish brown sandy silt with lenses of clean shell-sand. The deposit contained rare charcoal, rare slag, butchered animal bone and frequent marine shell.
- 7.23 Above (107), was a very similar deposit (**104**), a 1.2m thick accumulation of soft, homogenous, mid-brown fine sandy silt, with some clay content. This is only differentiated from (107) by a relatively lower sand content and absence of lenses of clean sand. The deposit contained a similar finds assemblage of moderate quantities of butchered animal bone, charcoal, frequent marine shell, and occasional slag, including two fragments of a tuyère, and 2 base sherds and 3 body sherds from a green glazed jug.
- 7.24 Overlying 104, was a 25cm thick buried soil (**103**), containing occasional sherds of 19th/early 20th century pottery and 2 clay marbles. The final deposit (**105**) comprised recent soil, containing frequent coal and modern debris.

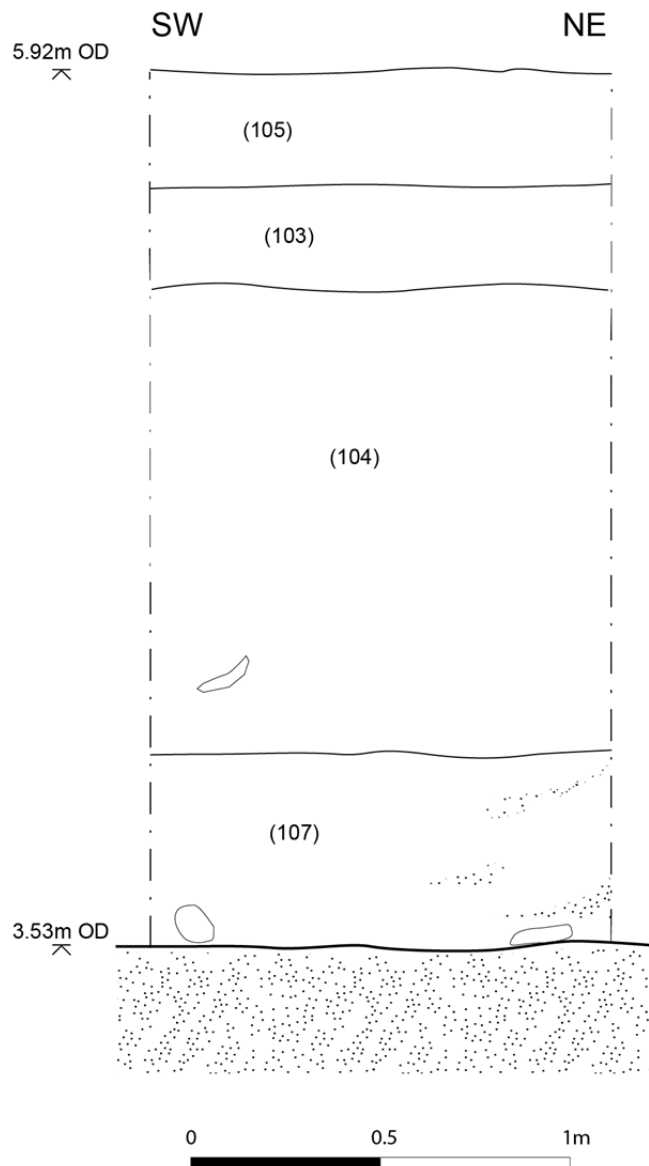


Figure 5 Trench 1, section drawing (1:20) and section photograph showing location in relation to entrance to the main Court Cave chamber

Trench 2 (Figure 7)

7.25 Trench 2 (2m x 2m) was located inside the east entrance to the main Court Cave chamber against the south wall. The trench was excavated to smooth sandstone bedrock encountered at a depth of 25 - 30cm below the modern cave floor (c. 5m OD). Cut into the bedrock in the western side of the trench was a perfectly circular hole, 30cm in diameter and 40cm deep. The hole had smooth vertical sides and a smooth concave base. A large rounded beach cobble was found in the hole. It is thought this may be a natural feature formed by the rotating action of a stone or stones caught in a hollow in the intertidal rock platform. These are common on the sandstone foreshore

in Fife. Other examples of rock cut features in the Wemyss Caves tend to be squarish or rectangular and the chisel marks or peck marks are usually still visible; such as the niche carved into the wall adjacent to the trench. The exception to this is the numerous 'hold fasts' found in many of the walls of the Wemyss Caves at a range of heights, from cave floor to roof. A previously unrecorded hold fast was found at the break of slope between the cave wall and floor in the west side of trench 2. As is typical of hold fasts, this comprised a pair of circular holes, c. 8cm in diameter carved angling inwards toward each other into the cave wall so that when joined a short column of stone is created, around which a rope or thong may be tied – hence the name hold fast.



Figure 6 Trench 2, fully excavated showing rock cut features

7.26 Overlying the bedrock and extending across Trench 2, the earliest deposit encountered (**106**) was a compacted mid-brown clean sandy silt containing occasional rounded pebbles and small angular sandstone fragments, with a maximum thickness of 10cm. A darker lens of highly compacted material marked the upper boundary of (106). Six pieces of green glazed pottery were recovered from this context, preserved in a slight hollow in the bedrock. Overlying this was layer (**111**), a 5-10cm thick hard, mid-grey clean sandy clay with occasional small pieces of angular sandstone, slate and coal dust. Above this layer was (**110**), a compact mid-brown mixed deposit of silt, sand and clay with occasional small sandstone fragments. A single find, the base of a small (3cm diameter) bottle was recovered from (110). The final deposit (**101**) which forms the present floor of Court Cave was a c. 5cm thick highly compacted dark grey and black silt with whitish laminations. The deposit is mostly comprised of coal dust with some ash and contains occasional 20th century and modern material. Wood fragments, a broken bottle and a cork were recovered from (101).

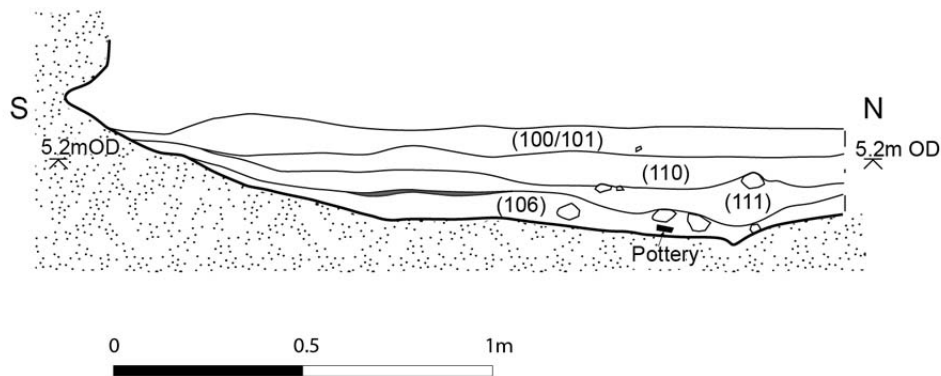


Figure 7 Trench 2, section photograph and drawing (1:20)

Trench 3 (Figure 8)

7.27 Trench 3 (1m x 1m) was positioned against the wall bearing all the surviving Pictish carvings in the main chamber. Sandstone bedrock was encountered at a depth of 40cm (c. 5m OD). This was overlain by **(112)**, a 30cm thick deposit of pinkish and orangey brown sandstone with frequent rounded pebbles and cobbles in a sandy matrix with some clay content. This was impacted into the surface of the bedrock and is probably a natural erosional/depositional layer on the cave floor formed by wave action during the formation of Court Cave. This was overlain by **(109)**, a 20cm thick compacted dark grey sandy clay containing frequent pebbles and coal dust but no cultural material. Overlying (109), was **(108)**, an orangey brown loose clayey sand, up to 10cm thick and containing moderate fragments of coal and wood. What appeared to be matchsticks were found in this deposit along with a clay pipe stem, a fragment of leather thong, clear vessel glass and two fragments of pantile. The final deposit **(102)** which forms the present floor of Court Cave was a 3-4cm thick highly compacted black layer composed of coal dust, silt and fine sand containing 19th-20th century and modern glass.

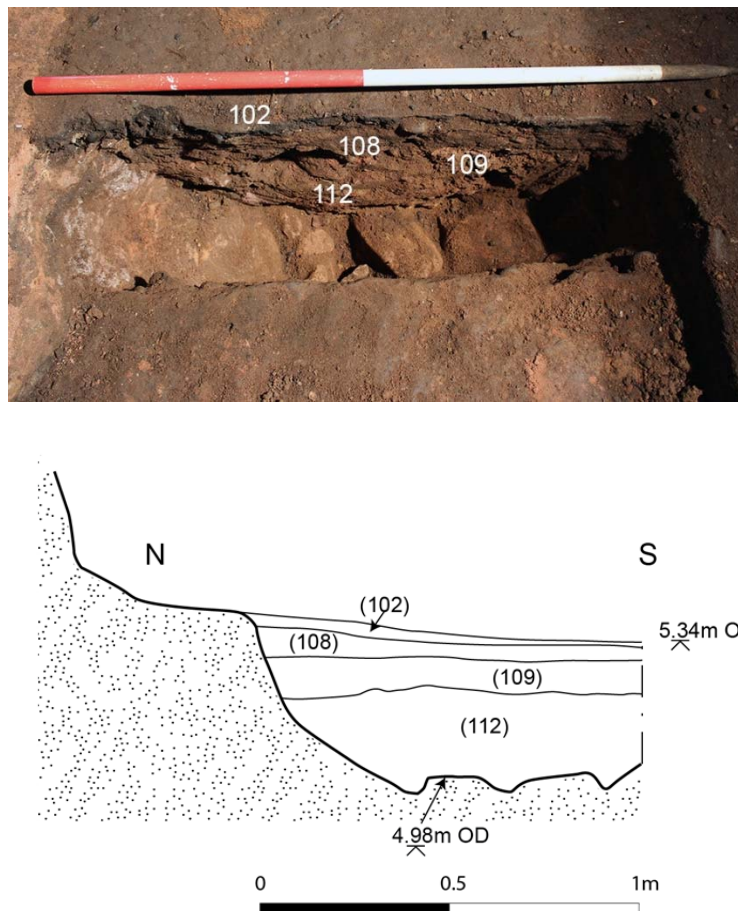


Figure 8 Trench 3, section photograph and drawing (1:20)

7.3 Court Cave discussion

Incorporating analysis of medieval pottery by Derek Hall, animal bone by Catherine Smith and iron working residues by Gemma Cruikshanks.

- 7.31 Archaeological investigation inside and outside Court Cave achieved the main objective to characterise deposits in a hitherto un-investigated cave and has resulted in new information.
- 7.32 Surviving deposits inside the main Court Cave chamber were shallow and, apart from **(106)** in trench 2 were not of great antiquity. Except for **(112)** in trench 3, which is likely to be natural in origin, all deposits recorded were likely to originate as sediment washing in from the outside (in trench 2) or from the back of the cave (in trench 3), probably in periods of wet weather, which was then trampled by people and animals. All deposits were highly compacted and had a laminated structure, typical of trample. The upper deposit in both trenches mainly comprised coal dust, and it is tempting to link this with the known use of the Court Cave as a regular place where miners played the gambling game of Toss up to the mid-20th century (<http://www.4dwemysscaves.org/?LMCL=JXjBJ0>).

- 7.33 The one deposit that contains evidence of earlier use of the cave is **(106)** in trench 2. Six body sherds from two splash glazed vessels, probably jugs, were recovered from (106). Five of these are from a single vessel that would seem to fit the parameters of one of the Yorkshire Type Ware industries and may date to the 13th/14th century, and one from a plain Scottish White Gritty Ware green glazed jug possibly 14th/15th century.



Figure 9 Single sherd of Scottish White Gritty Ware and five conjoining sherds of green-glazed jug - Yorkshire Type Ware from Trench 2, **(106)**

- 7.34 The discovery of a small amount of medieval material at the side of the entrance chamber in a context directly overlying bedrock may help us explain the lack of surviving deposits inside the Court Cave. This indicates the Cave was kept clean until at least the late medieval period and probably beyond. Material recovered from all other deposits suggest it may only have been since the 19th century that material in washing from the rear and entrances of the Cave have been allowed to accrete on the cave floor.
- 7.35 The discovery of a new holdfast located at the base of the cave wall in trench 2 also supports a bedrock floor for the Court Cave, at least when the feature was in use. There are further examples of hold fasts located at ground level in the side passage of the Court Cave, but most visible examples are located higher up the cave walls. The fact that this new holdfast was buried beneath a deposit (106) containing 14th-15th century pottery provides, for the first time, a possible medieval or earlier origin for these enigmatic features. Whether or not the holdfast has any relationship to the rock cut niche above it or the circular hole in the bedrock floor nearby is not known.
- 7.36 Trench 1, located outside the entrance of Court Cave may hold more clues as to activities in and in the vicinity of Court Cave in the medieval period. It is possible that

mixed midden material containing iron working residues, butchered animal bone, marine shell and fragments of a 14th/15th century green glazed English jug could have originated from deposits cleared out of Court Cave.



Figure 10 Base and body sherds of green-glazed jug – possibly Northern English Ware from Trench 1, (104)

7.37 The midden material was recovered from the lower half of a 1.6m thick deposit of colluvium accumulated directly upon sandstone bedrock encountered at the base of the 2.3m deep trench. The animal bone comprised both domestic and wild species including low numbers of bones from roe deer, hare, otter and seal along with horse and pig and larger quantities from cattle and sheep. This is an interesting small assemblage clearly showing exploitation of wild mammals, and accords with other animal bone assemblages from previous investigations at the Wemyss Caves (Guttman 1992) as well as Antiquarian accounts mentioning butchered animal bone including deer (Simpson 1866).



Figure 11 Animal bone from Trench 1 (104) and (107)

7.38 Also of interest is the iron working residues. The degree of fragmentation and abrasion, along with the range of densities and textures of the material suggested a secondary deposit typical of a midden, as opposed to primary deposits around a hearth or furnace. The pieces were too fragmentary to distinguish which part of the process they derived from, e.g. smelting or blacksmithing, though one fragment is probably bloom, suggesting smelting or primary smithing/ bloom-refining were taking place. The material also contained two fragments of shaped vitrified ceramic, probably a tuyère. Tuyères are tubes of ceramic or stone which were used to protect the organic bellows nozzle from the intense heat of the hearth or furnace. They were used in different types of metalworking, but given the associated ironworking debris a role in a smelting furnace or blacksmith's hearth seems likely. Glassy vitrified residues extending over the broken edge of one of the fragments indicate it broke during use.



Figure 12 Iron working residues from Trench 1 (104) and (107) and detail of tuyère from (104)

7.39 No ironworking debris has been mentioned in accounts of excavations within the other Wemyss caves, making this the first evidence of the craft here. Elsewhere in Fife, ironworking debris was found within Constantine's Cave (Wace and Jahu 1915) and numerous other examples are known from around Scotland, such as at Croig Cave on Mull, Rudh'an Dunain on Skye and Ellary Boulder Cave in Argyll (Mithen and Wicks 2012, 63; Scott 1934; Tolan-Smith 2001, 96) but, where dateable, they are often Iron Age; medieval examples have proved difficult to identify as yet. Caves and rock shelters are well-suited for metalworking as they provide stable temperatures, shelter from the elements and the low light levels required to judge temperature by flame colour.

How results inform proposed access improvements to Court Cave

7.40 Archaeological deposits outside the cave are too deeply buried to be impacted by path improvement works between the Fife Coastal Path and the east entrance to Court Cave.

7.41 Inside Court Cave the bedrock floor was encountered between 20cm and 30cm below the current cave floor in both trenches. The upper 15cm – 20cm of sediments covering the cave floor were relatively recent in date and extremely compacted. The recovery of medieval pottery at the base of trench 2, however, suggests there is potential for fragmentary survival of later medieval deposits in parts of the cave, for example filling cut or natural features and hollows in the bedrock floor. Given the compaction of the upper 20cm of the cave floor it is unlikely surface improvements for access would be necessary. However, any future groundworks inside the cave (e.g. for security improvements) should take into account the potential survival of pre-modern deposits and features, although these are likely to be limited in extent.

Recommendation for further work

7.42 The 14th/15th century pottery associated with the mixed midden and iron working material suggests a medieval origin for these activities. Although the material is not *in situ*, its close proximity to the entrance to the Court Cave makes their derivation from activities taking place inside Court Cave a real possibility. Given the lack of known medieval examples of iron working in caves, assessing the potential of thermoluminescence dating for the larger tuyère fragment is a priority.

7.43 Radiocarbon dating of bone recovered from context (**107**) lying immediately above bedrock at the base of trench 1 would provide a further range-finder date for some of the activity resulting in the midden.

8 Doo Cave

8.1 Doo Cave aims and objectives

8.11 The Doo Cave investigations address management aims and objectives set out in the Wemyss Caves Conservation Management Plan (Lelong *et al.* 2016). These are:

- Aim III: Increase knowledge of the character and significance of cultural heritage at Wemyss Caves to support their management.
- Aim IV: Share and celebrate the heritage of the Wemyss Caves.
 - Objective IVA: Enhance participation in the heritage of the site.

8.12 Specific objectives for excavations in the Doo cave were to:

- investigate the potential for surviving archaeological deposits in the cave related to the modification and use of the cave as a dovecot;
- characterise these to improve our knowledge of the potential significance of the scheduled monument;
- expose the full vertical extent of the nesting boxes and examine the cave walls for other markings, including tool marks;
- provide material for interpretation which is currently lacking.

8.13 Scheduled monument consent was given for two trenches inside the Doo Cave. Only Trench 1 was excavated during the July 10-17th fieldwork programme (Figure 13).

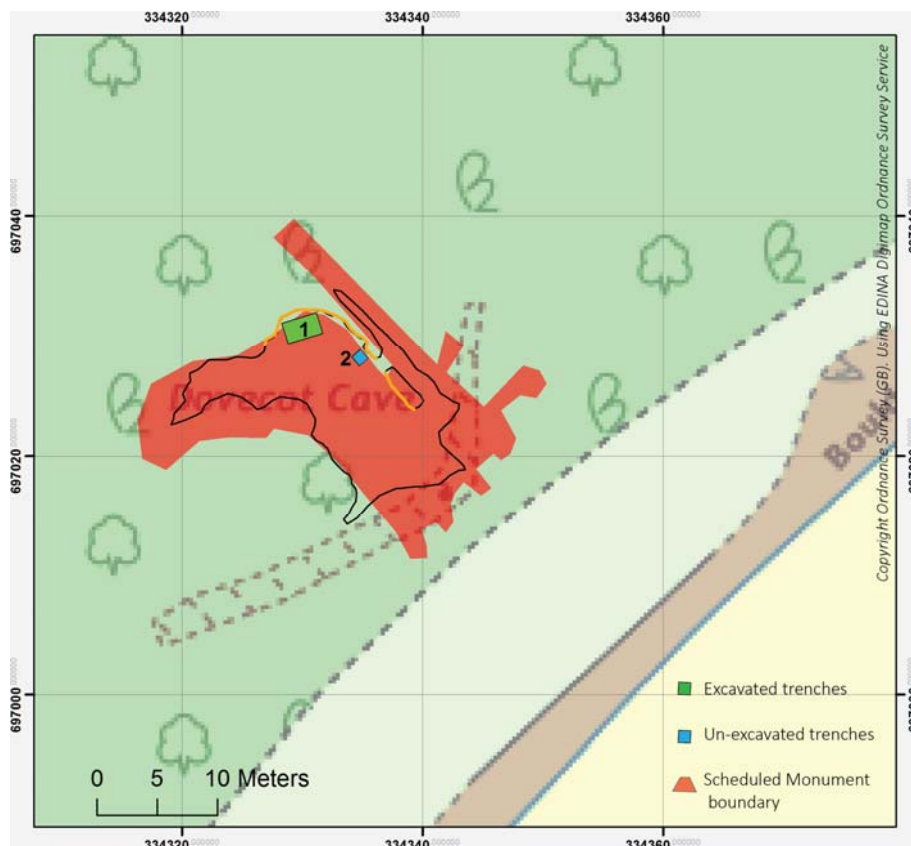


Figure 13 Location of excavated and un-excavated trenches in the Doo Cave

8.2 Doo Cave results

Trench 1

8.21 Trench 1 was located at the back of the cave adjacent to rows of square and rectangular nesting boxes carved into the cave wall. A 3m x 2m wide trench was opened up and stepped in resulting in a 2m x 2m area which was excavated to bedrock.

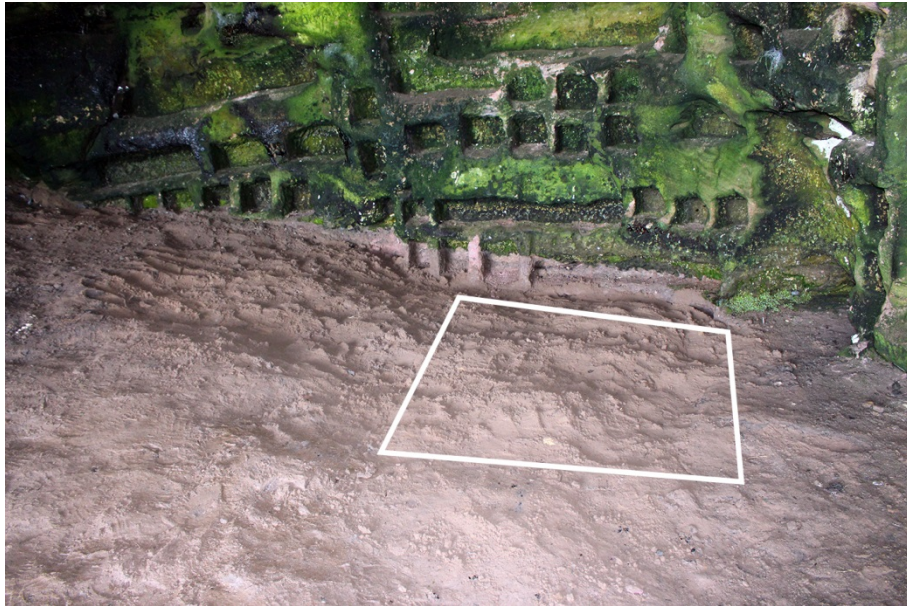


Figure 14 Location of 2m x 2m area of trench excavated to bedrock in relation to the back of the Doo Cave (photo taken following backfilling)

8.22 The excavation of the north side of the trench against the back wall of the cave revealed a row of eight newly uncovered nesting boxes. These formed the lower-most row, below which, the cave wall was chiselled smooth and vertical for 0.5m before merging into a concave break of slope to the floor of the cave (Figure 17).



Figure 15 Excavations unearth an additional row of nesting boxes

- 8.23 Within the area excavated, thirteen rectangular niches [209 – 221] were cut into the bedrock floor of the cave. These were chiselled into a 1.5m x 2m area of the gently sloping bedrock floor at the back of Doo Cave (Figures 16 and 17). The 'floor' here is likely to be the wave cut shelf typically found at the back of each of the Wemyss Caves. The shelf sloped downwards from a maximum altitude of 5.26m OD adjacent to the rear cave wall to 4.6m OD at the edge of a possible pit [222]. The niches were arranged in three concentric rows carved into the slope. Each had three vertical sides and a flat base with an open front. They were mostly rectangular and generally oriented N-S towards the rear of the cave. Except for two which appear to be truncated, they typically measured between 16-40cm long x 10-26cm wide and 10-40cm deep. The niches nearer to the back wall of the cave were shallower and less defined than the niches lower down the slope towards the centre of the cave.
- 8.24 The sloping shelf and rock cut niches terminated abruptly at a vertical edge [222], a 0.5m deep cut, which stepped out to a smooth sloping base. Cut [222] was only partially exposed just inside the limit of excavation along the southern side of the trench, but appears to be the edge of an irregular squarish or roundish pit cut into the bedrock, with a minimum diameter of c. 1m.
- 8.25 Cut into the sides of [222] was a further possible rectangular niche [225], 25cm x 10cm x 24cm deep with a flat base; and a circular cut [223], 12cm in diameter, 26cm deep with vertical sides and a concave base. It is possible the circular cut may be natural, formed by the rotating action of a stone or stones caught in a hollow in the intertidal rock platform. However the presence of so many other obviously cut features supports an anthropogenic origin.
- 8.26 The bedrock base of [222] lay at an altitude of 4.14m OD, although as it extends beyond the limit of excavation it may go deeper.
- 8.27 The earliest deposit encountered in the Doo Cave was (208) a 5-10mm thick firm mid-orange brown sandy silt containing moderate rounded pebbles, that formed a thin layer sealing the bedrock at the base of pit [222]. The remainder of [222] was filled with (207), a loose, dark brown-grey silty coarse sand with frequent rounded pebbles and occasional mortar flecks. This contained 19th/early 20th century finds including bottle glass, fragments of ceramic field drain and floor tile, as well as coal and lumps of lime mortar.
- 8.28 The primary fill of the niches carved into the floor at the back of the cave was (204), a dark grey sandy silt with very frequent rounded and sub-angular pebbles. This was very similar to (207) and also contained bottle glass and a fragment of a marble floor or wall tile.
- 8.29 Above these sandy primary deposits was (203), a mid-grey waterlogged anaerobic sandy silt containing frequent lumps of coal, frequent small stone, preserved vegetation and some wood fragments. The deposit extended across the entire trench, dipping down from the back wall of the cave and thickening from 10cm to 0.5m downslope. This was

sealed by **(201)**, a 1m thick layer of clean mid-brown fine silty sand with frequent charcoal/coal flecks, which extended across the entire trench. Finds recovered from (201) included bottle glass, the base of a wine glass, a Bakelite bottle stopper and ceramic field drain. The most recent deposit recorded in Doo Cave was **(200)**, a thin layer of dark reddish brown sand and charcoal (Figures 18 and 19).

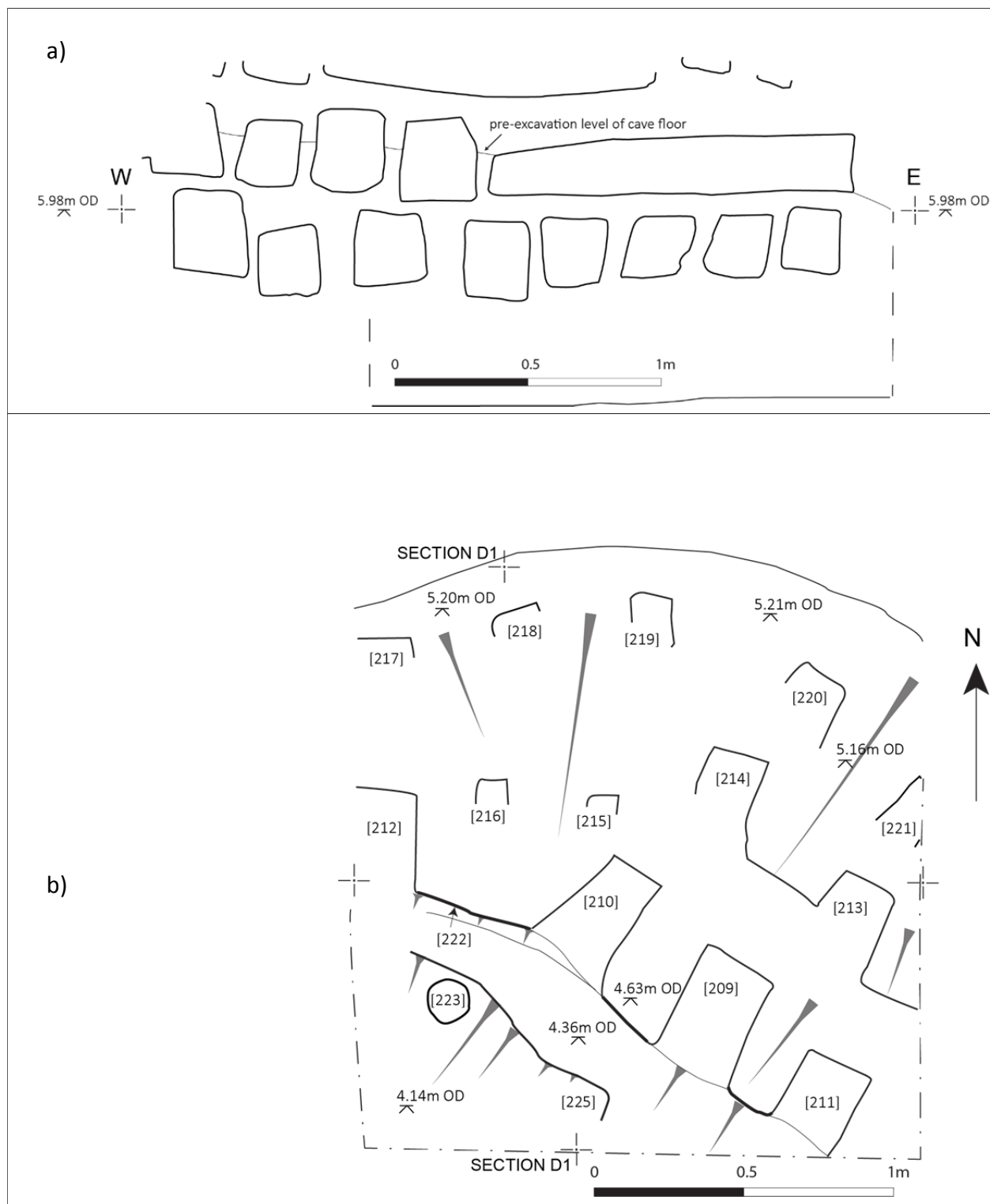


Figure 16 a) Elevation drawing of lower two rows of nesting boxes on the back wall of Doo Cave revealed in the excavation (1:20)
b) Plan of features cut into the bedrock floor at the back of Doo Cave (1:20)



Figure 17 Newly exposed nesting boxes in the back wall of the Doo Cave and features cut into the bedrock floor of the cave, looking north

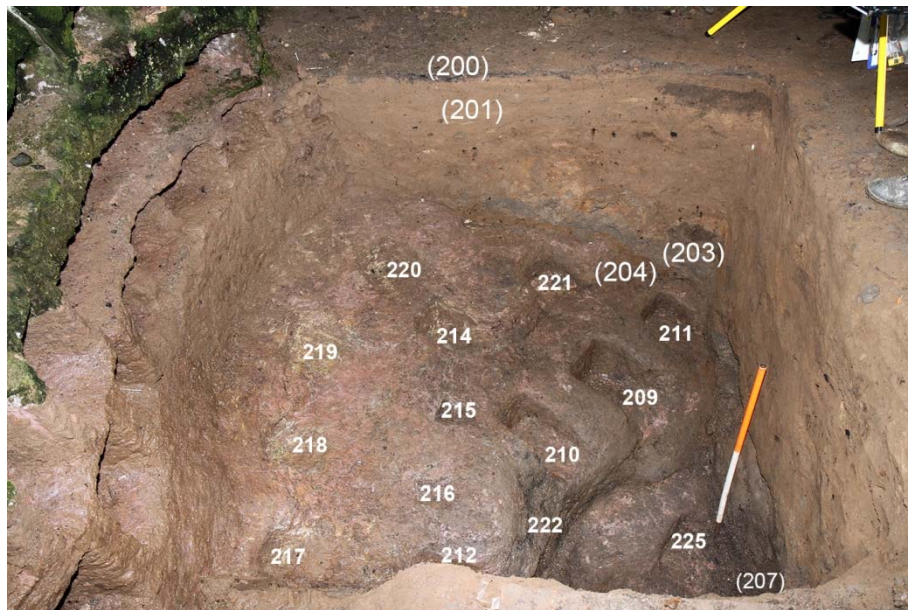


Figure 18 Features cut into bedrock floor at the back of the Doo Cave (**bold numbers**) and sediments filling the cave (**numbers in brackets**), looking east

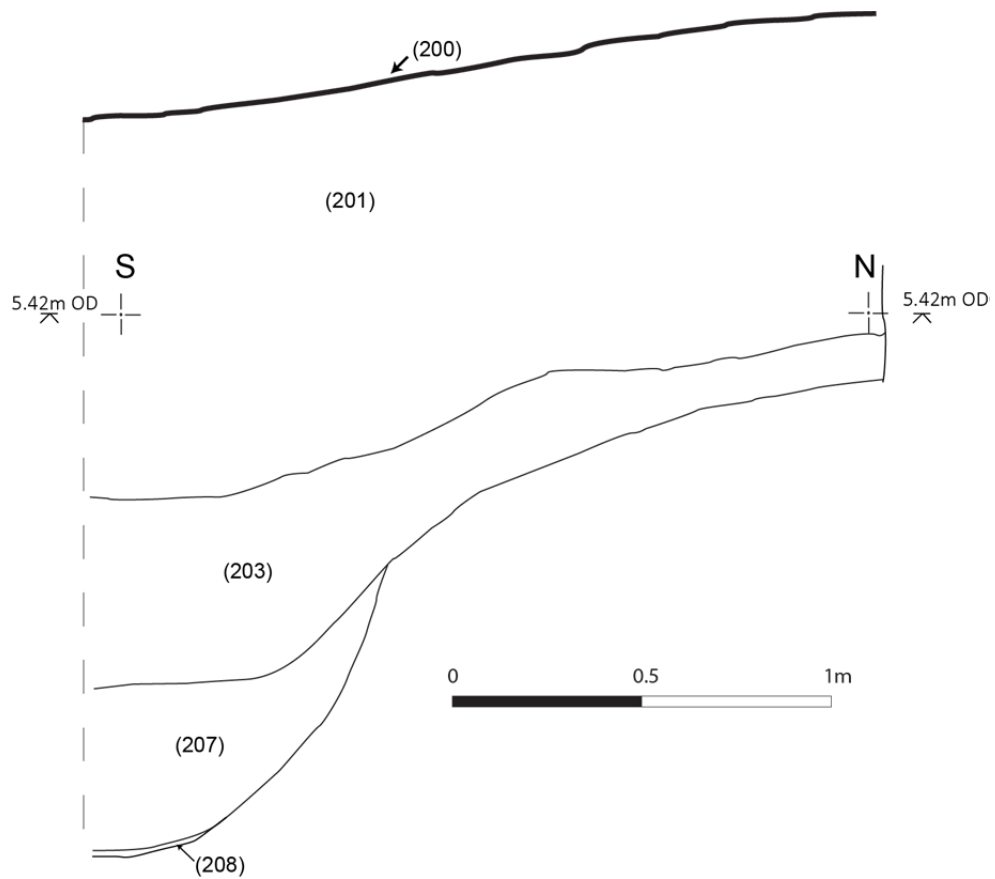


Figure 19 East facing section drawing of sediments filling the back of the Doo Cave (1:20)

8.3 Doo Cave discussion

- 8.31 Excavation in the Doo Cave achieved the objective to characterise the buried archaeological resource in a previously un-investigated cave; but also threw up additional questions. A row of six square nesting boxes were unearthed below the present ground level of the cave, revealing the full vertical extent of the nesting boxes carved into the back wall. This brings the number of rows of nesting boxes and shelves carved into the back wall to eight. Between rows of two or three closely spaced nesting boxes was a c.0.5m wide smooth vertical wall face. The bottom row also started at 0.5m above the floor. In the absence of projecting stone courses or 'rat ledges' found in purpose-built doocots, the smooth vertical areas of bedrock wall between the rows could have performed the same function, deterring animals from climbing up to the nesting boxes (Hansell & Hansell 1992).
- 8.32 In an unexpected turn, niches were also discovered carved into the bedrock floor of the cave. They are similar in workmanship to the rock cut nesting boxes in the cave walls and are probably contemporary with them. However, their location on the cave floor makes it difficult to see how they would have functioned as nesting boxes. It is possible they have a structural explanation, for example to support scaffolding during construction of the nesting boxes and /or to give access to them. Purpose-built doocots often had a permanent revolving ladder called a *potence* to give access to the pigeons; but this is unlikely to have been suitable in an irregular shaped cave with an uneven floor. Caves modified as doocots in the UK are so rare that it is difficult to find analogies to help us explain the floor features and without further investigation, interpretation eludes us for the time being.
- 8.33 The earliest dovecots were built to serve castles, monasteries and manors (*ibid*), and the earliest reference to a doocot in Scotland is in the 13th century at Ballencrief, Lothian (Buxbaum 1987). The proximity of the East Wemyss Doo Cave to Macduff's Castle suggests a relationship between the two. However, it is known that a purpose built circular doocot was erected on the coast edge below the castle, stylistically dated to the 17th century, (Hansell & Hansell) and it seems reasonable to think that the modification of the cave pre-dated the erection of the doocot. The first phase of stonework at MacDuff's Castle dates to the 14th century, and it is possible that the modification of the Doo Cave dates to this period. However, all deposits encountered in the excavation trench contained only 19th and early 20th century material. The cave may have been kept clear of sediment until relatively recently, and/or sediments were removed or eroded in the early 20th century. It is known that pigeon guano had great value as fertiliser and as a source of chemicals.

The timing of the infilling of Doo Cave

- 8.34 Naturally deposited marine sand and pebbles formed the primary fill of cut features in the cave floor. Spring tides at East Wemyss reach an altitude of around 3.5m OD. Our excavations have shown that the bedrock floor at the back of Doo Cave lies at between

4m and 5m OD, the slope of the bedrock indicating that the ground level could well be lower towards the cave mouth. Therefore, prior to the build-up of material in front of the Wemyss Caves as a result of coal mining in the 20th century, the Doo Cave would have been very vulnerable to incursion from the sea in extreme tides and storms.



Figure 20 The Doo Cave before the collapse of the West Doo Cave, probably c. 1900. The blocking of the entrance dates from when it was used to house pigeons. Also note the sea wall



Figure 21 This photograph taken after the installation of the brick pillars in the Court Cave in 1934 shows an erosion scar and beach shingle extending to the mouth of the Doo Cave

- 8.35 Until the early 20th century, the Doo Cave was protected by a sea wall and by the blocking of the mouth of the cave (Figure 20). It is not known exactly when the sea wall was breached or when the blocking of the cave wall was removed. However, Figure 21 shows that they were gone by time the photograph was taken in the 1930s or 40s. Figure 21 also shows a clear erosion scar and beach shingle extending up to the mouth of the Doo Cave. The thin drift of sand and pebbles collected in the base of cut features probably date from marine incursions in the first half of the 20th century and existing deposits in the cave could have been eroded by wave action during this period.
- 8.36 The very thick silty sand layers (201) and (202), which extend across the back of the cave, probably originate from a known historical event, the collapse of the West Doo Cave in 1914. The West Doo Cave was once connected to the present Doo Cave by a still extant passageway at the back of the cave. Following the collapse, material has continued to pour into the cave from the passageway. The earliest of these settled onto a relatively clean bedrock floor, except for the thin drift of sand and pebbles collected in the base of cut features. This suggests the first marine incursions occurred early in the 20th century.

Recommendation for further work

- 8.37 Only modern deposits were recorded and so there are no recommendations for further analysis of archaeological material from the Doo Cave excavations. Further research into local archives may be fruitful in refining the timeline of the breaching of the sea wall and removal of the blocking of the cave mouth, and in unearthing descriptions or photographs that may help explain the features on the cave floor. Wider historical research into medieval use of caves as pigeon houses, both in Scotland and beyond, could also help elucidate the wider cultural significance of the Doo Cave.

9 Sliding Cave *by Gordon Noble*

9.1 Sliding Cave aims and objectives

9.11 The Sliding Cave objectives are linked to the Wemyss Caves Conservation Management Plan (WCCMP) Plan (Lelong et al. 2016). In particular:

- Aim III: Increase knowledge of the character and significance of cultural heritage at Wemyss Caves to support their management.
- Objective IIIB: Refine understanding of the site in its chronological context.

9.12 Specific objectives of excavation within the Sliding Cave were to:

- recover and analyse further material relating to deposits thought to be associated with Pictish use of the cave that have yielded a 3rd-4th century date, in order to contribute to wider research of national significance about the origin and dating of Pictish carvings;
- gain a clearer understanding of the extent of archaeological deposits in the cave which is most vulnerable to coastal flooding.

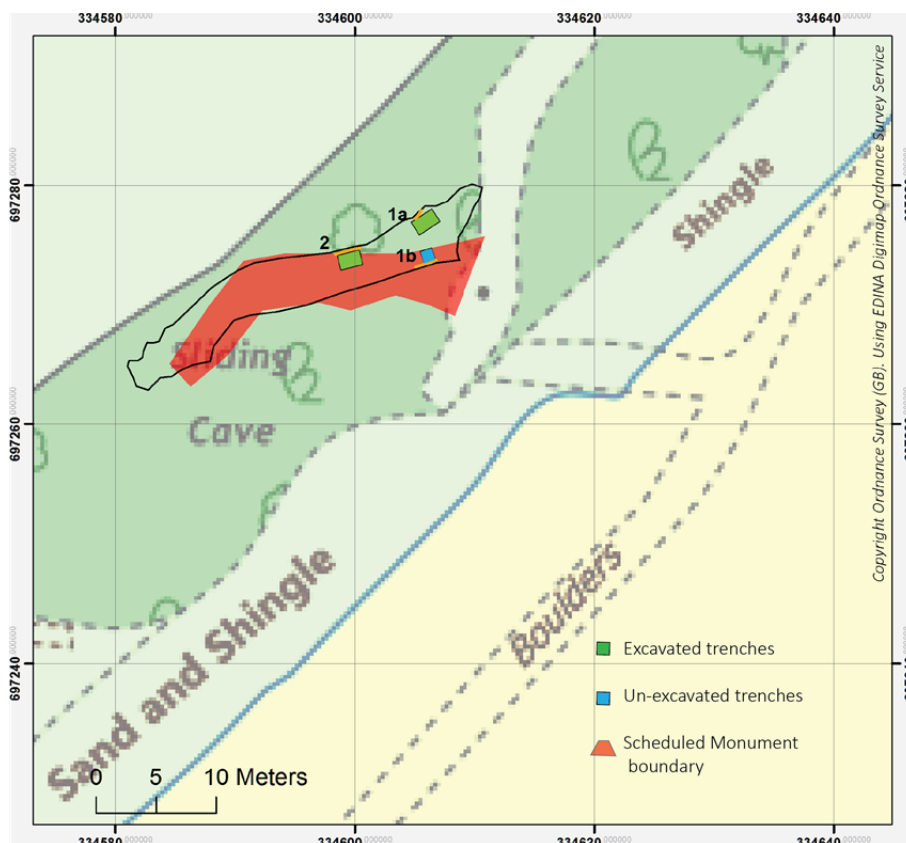


Figure 22 Location of excavated and un-excavated trenches in Sliding Cave

9.13 Sliding Cave is one of the easternmost of the East Wemyss examples. It contains carvings of a double-disc, two rectangular symbols and two serpents (RCAHMS 2007: 68). The cave was previously evaluated by Channel 4's Time Team archaeology TV programme in June 2004. This consisted of one trench (2 x 1.2 m) excavated on the northeast cave wall near

the entrance. Five deposits were identified including an *in situ* floor surface identified lying on what was interpreted as a formal paved surface. The 2m x 1.2m test pit rapidly excavated in the Sliding Cave in the Time Team investigations in 2004 demonstrated the potential of this cave to contain undisturbed deposits of 3rd to 4th century date. Thought to be anomalously early at the time (Gibson and Stevens 2007: 96), this has recently been thrown into question because of recent work by the University of Aberdeen Northern Picts project. Here, a programme of radiocarbon dating of archaeological contexts and artefacts associated with Pictish symbols that bear similarities of style with those in the Wemyss Caves, have yielded 3rd to 6th century dates for the likely origin of the symbols (Noble *et al.* 2018). In the light of this new research, Sliding Cave has become a crucial site for the potential information it contains about the earliest origins of the use of Pictish symbols. The 2004 excavation also revealed a new possible Pictish carving interpreted by Anna Ritchie as a double serpent, which has since been re-buried. Further investigation of Sliding Cave is also timely given how vulnerable the site is to coastal erosion and flooding. Spring tides at East Wemyss are typically over 3.5m OD. The height of the floor of the Sliding Cave is c. 4.8m OD, putting the Sliding Cave at most risk out of all of the Wemyss Caves of coastal flooding in extreme tides and storm surge if the protecting earth mound in front of the cave mouth was breached and provides imperative to understand the cave resource as fully as possible. In light of this evaluation trenches were excavated from Friday 12th to Monday 15th July 2019 following a successful SMC consent application earlier in the year. The trenches were dug by staff members from the University of Aberdeen and SWACS volunteers. Three trenches were consented, but only two were opened.



Figure 23 Excavations underway at Sliding Cave

9.2 Sliding Cave results

Trench 1a

9.21 Trench 1a measured 1.5m by 1.6m trench (Figures 23 and 24) and abutted the northern side of the cave near the cave entrance. It reopened the trench previously excavated by Time Team, in an area opposite a double disc symbol and adjacent to the two serpent symbols identified by Time Team. The objectives for this trench were to:

- review the recorded sequence of deposits as identified by Time Team and further investigate the rounded beach cobbles interpreted as a formal paved surface and the overlying trampled surface which formed the limit of excavation of the 2004 Time Team excavation;
- cut back the Time Team section by c. 0.3 m to expose undisturbed archaeological deposits for further examination and to obtain larger samples for analysis and radiocarbon dating to improve the reliability of the results obtained in 2004.

9.22 Within the trench the uppermost archaeological deposit was a layer of modern inwash (**1001**) which was found to overlay the backfill of the Time Team trench making initial identification of the trench difficult (Figure 24). The inwash consisted of lenses of silty clay approximately 0.05m thick. The backfill of Time Team's trench (**1002**) was located within Trench 1a with two thirds of the trench covering the position of Time Team's trench, but in this case the long axis of the 2019 trench ran parallel with the cave wall (i.e. perpendicular to the Time Team trench). The Time Team backfill consisted of a loose mid brown silty clay intermixed with moderate amounts of small to medium rounded stones, around some 0.75m in average diameter. Some modern finds including broken bottle glass and a paper label from digging equipment confirmed that this was Time Team's backfill. Removing the backfill re-revealed the two serpent carvings on the cave wall (Figure 25).

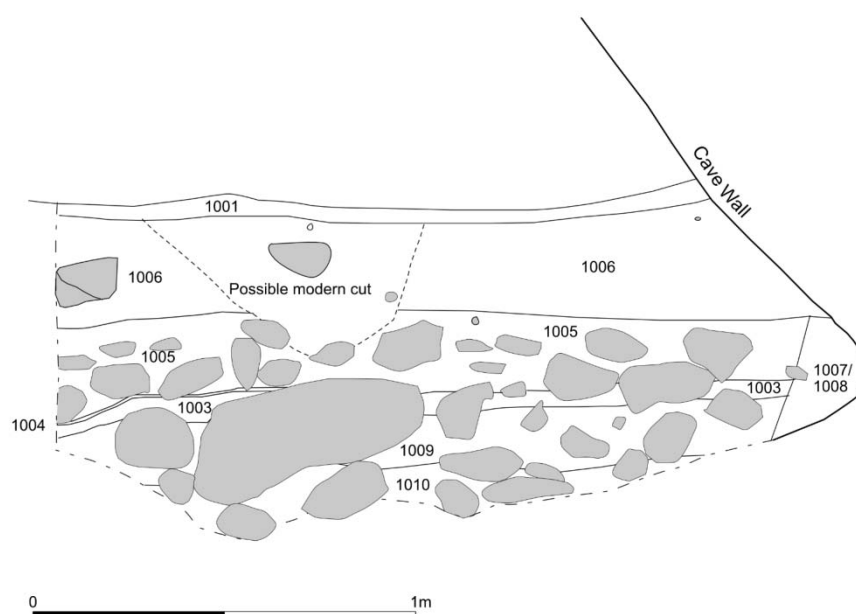


Figure 24 West-southwest facing section of Trench 1 (1:20)

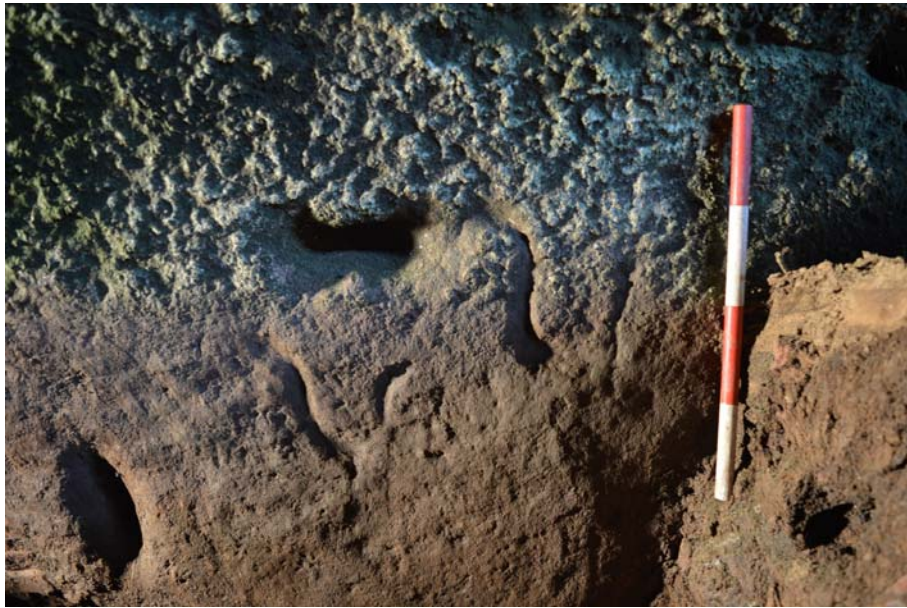


Figure 25 Serpent carvings in Trench 1a

- 9.23 In the eastern part of Trench 1a, directly below the Time Team backfill, was deposit **(1003)**, remnants of the occupation surface identified by Time Team. As it survived it consisted of small pockets of dark-brown clayey silt with moderate amounts of charcoal. Trench 1a was extended to c.0.3m inwards towards the cave interior to sample this deposit *in situ*. Here (1003) survived intact as a dark brown clayey silt intermixed with small pebbles, frequent charcoal and animal bone. The deposits above (1003) in the intact side of the trench consisted of **(1006)**, a series of inwash lenses similar to (1001) and deposit **(1005)**, a 0.32m thick deposit of medium to large rounded stone intermixed with a mid-brown silty clay (Figure 24). This was interpreted as storm in-wash by Time Team, but given its character may have also been cave roof collapse. Below (1005) was **(1004)**, a thin 0.02m layer of pale bluish grey clay, likely to represent gradual natural sediment deposition over the occupation horizon (1003) after its abandonment. Deposit (1006) had a possible modern cut disturbing part of the upper stratigraphy of the trench (Figure 24).
- 9.24 At the edge of (1003), at the cave wall, was a thick layer of compact clay **(1007)** that abutted the northern side of the trench/cave wall. This deposit (1007) was approximately 0.28m deep and 0.37m wide. Some animal bone was found in the lower levels of this deposit. The clay was positioned within a narrow wave-cut ridge in the cave wall. Deposit **(1008)** was in a similar stratigraphic position to (1007) and consisted of a mid-brown clayey silt with many degraded limpets and periwinkle shells abutting the northern side of the trench/cave walls on the eastern side of the trench. This was again located within the wave-cut channel and appears to be *in-situ*, despite this being the location of the Time Team dig – it appears that Time Team excavated straight down rather than following the contours of the cave wall. Deposit (1008) was on average 0.17m deep,

though deeper pockets were found within the gaps between underlying stones. Deposit 1007/1008 was abutted by (1003) and is likely to be from an earlier cave occupation that had been partly cleared out at a later period with (1003) accumulating against these remnant deposits.

- 9.25 The occupation horizon (1003) from which Time Team obtained the 3rd-4th century AD date was said to have lain on what may have been a paved surface. This was not found to be the case with the underlying deposit (**1009**) consisting of only a rough level of large waterworn boulders and stones that may have been an earlier episode of roof collapse (Figures 24 and 26). The size of the boulders within (1009) prevented excavation to any significant level, but in gaps between the larger boulders, an earlier occupation horizon (**1010**) consisting of a dark brown silty clay with infrequent amounts of animal bone and moderate charcoal flecking was identified.



Figure 26 Looking down onto boulders (1009) within Trench 1a. The cave wall with the serpent carvings is on the right of this image

Priorities for dating

Sample <103> Occupation deposit (1003)

Sample <105> Earlier occupation (1010)

Trench 2

9.26 Trench 2 (Figures 27 and 28) was situated further into the cave interior, and was situated directly below the rectangular carvings.

9.27 The objectives for Trench 2 were:

- to learn more about the extent and survival of the below-ground archaeological deposits in the Sliding Cave;
- to obtain additional evidence and samples to increase the reliability of the dating and assessment of significance of deposits in the Sliding Cave.



Figure 27 Post-excitation image of Trench 2 showing the Pictish carving and excavated trench

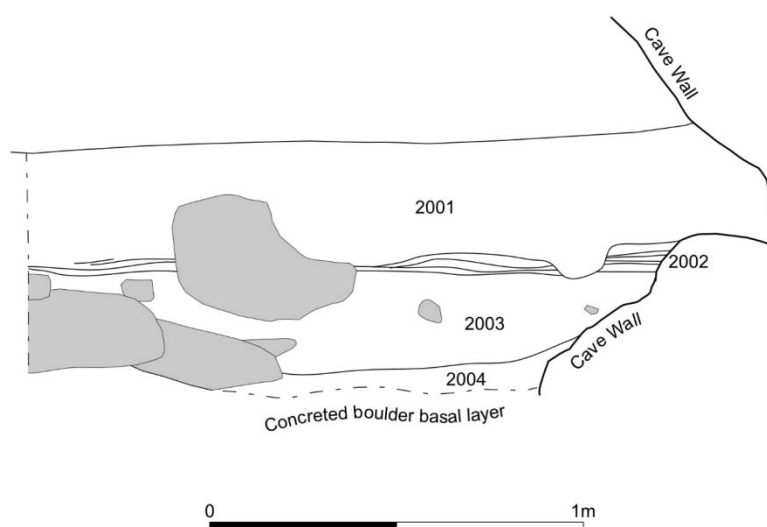


Figure 28 West-southwest facing section of Trench 2 (1:20)

9.28 Trench 2 measured 2 x 1.5m and had very similar stratigraphy to Trench 1a, but was shallower being situated further away from the cave mouth and hence less inwash was present (Figure 28). Context **(2001)**, a modern overburden, consisted of a 0.25m deep silty clay that contained small fragments of glass, plastic and wood – various amorphous cuts were identifiable in this deposit suggestive of modern activity and digging within the cave. This deposit was very compact and lay directly on top of natural lenses of clayey-sand **(2002)**, around 0.1m thick that appears to have been formed by natural inwash into the cave during storm events and flooding. This in turn lay on top of a deposit **(2003)** consisting of a homogenous brown clay deposit with large boulders – similar to deposit (1005) in Trench 1a and identified by Time Team in 2004 as a high energy storm deposit. Again this layer may be from ancient roof collapse rather than a storm. This deposit consisted of a mid-brown silty clay with large rounded sandstone boulders up to 1m in length and 0.25m thick, the clay component increasing towards the base of this deposit. Deposit (2003) lay directly on an occupation deposit **(2004)** that sat on the sloping bedrock/conglomerated deposits of the cave floor. Deposit (2004) was very similar to the occupation horizon identified in Trench 1a and consisted of a silty-clay with frequent bone, shell and charcoal inclusions, though the intensity of inclusions was lesser than in Trench 1a closer to the cave entrance. A discrete area of shell-rich midden **(2005)** lay in the southwest corner of the trench, but this appears to be part of the same occupation horizon represented by deposit (2004). Deposits (2004) and (2005) lay directly on top of solid rock that appeared to be the natural cave floor on the carving side of the trench, but appeared to be concreted boulder deposits towards the cave centre likely to be the same level as (1009) in Trench 1a. Thus, it is possible that the ‘natural’ layer in this trench may conceal earlier cave deposits as in Trench 1a, but rock-breaking tools and a larger trench would be needed to ascertain if this is the case (Figure 29).



Figure 29 Trench 2 section looking into the cave interior– cave wall with symbol to right of photograph

Priorities for dating

Sample <202> Occupation deposit (2004)

9.3 Sliding Cave discussion

9.31 Overall, the two trenches excavated within Sliding Cave have addressed the research questions and have successfully sampled *in situ* deposits for dating and analysis. Trench 1a was successful in identifying the occupation horizon from which the 3rd to 4th century radiocarbon date from Time Team's intervention was obtained. In the same level, Time Team's sampling and botanical analysis identified large quantities of charred cereal grains and it will be interesting to ascertain if similar deposits are within the samples obtained from Trench 1a. The 'paved' surface identified by Time Team in their trench was shown to be natural accumulation from a storm event or more likely roof collapse, but this had formed the surface upon which activity had clearly been undertaken and given similar deposits were located in Trench 2, much further into the cave, it suggests this activity was extensive. Radiocarbon dating and micromorphological analysis of this layer will be key to see if this activity is all of the same defined phase or multiple occupations are represented. Charcoal and animal bone from a lower activity horizon (1010) will also be important in providing a *terminus post quem* for occupation horizon (1003). Trench 2 showed very similar layers to Trench 1a and suggests that there are extensive *in situ* archaeological deposits within Sliding Cave and that these layers are consistent in nature in at least the front half of the cave. The same or similar occupation horizon as identified by Time Team appears to be present, though full confirmation will have to await radiocarbon dating.

9.32 The bone and cereal remains from the floor of Sliding Cave in both trenches and the Time Team trench are particularly intriguing given that similar remains were noted in the Wemyss Caves, by Professor James Young Simpson, the first person to record the carvings in the caves (Simpson 1866). In his publication (1866: 139) he notes:

The Fife caves have formerly been inhabited. From some of the Wemyss caves a collection of bones have been obtained, split to remove their marrow...Among the bones were those of the deer, sheep, ox &c. (sic); shells, also, of limpets, &c.; and microscopic remains of cereals were found in cavities in the rocks that had been apparently used as rubbers or querns.

9.33 Simpson does not specifically mention Sliding Cave or the carvings in this cave, which suggests the faunal and cereals he refers to were from the other caves he explored. Christine Maclagan also mentions grain in her account of the Wemyss symbols – referring to the Gasworks Cave, Maclagan states:

near to the entrance there is also a mortar hewn out in it. It is not of the usual flower-pot shape of these articles, but is of a somewhat globular form, and, strange to say, there are traces of grain remaining in it. (Maclagan 1876: 109).

9.34 Of course the antiquity of the deposits that Simpson and Maclagan refer to are not certain, but these accounts do tally with the *in situ* deposits in Sliding Cave. They give an insight, perhaps, into the types of deposits and features that were more generally

present in the Wemyss caves prior to modern disturbance. Analysis of the deposits excavated in Sliding Cave will go some way towards understanding the nature of these surviving *in situ* deposits that have fortuitously survived in one of the less accessible caves at Wemyss.

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Archaeological investigations of the promontory adjacent to Macduff's castle

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Introduction

As part of the archaeological excavations at the Wemyss Caves, a test-pitting exercise was undertaken on the long, narrow promontory which runs roughly north-south, immediately to the southwest of Macduff's Castle (Figure 1). The work was undertaken to test the hypothesis that this promontory may have been the location of a defenced enclosure prior to the construction of Macduff's Castle.

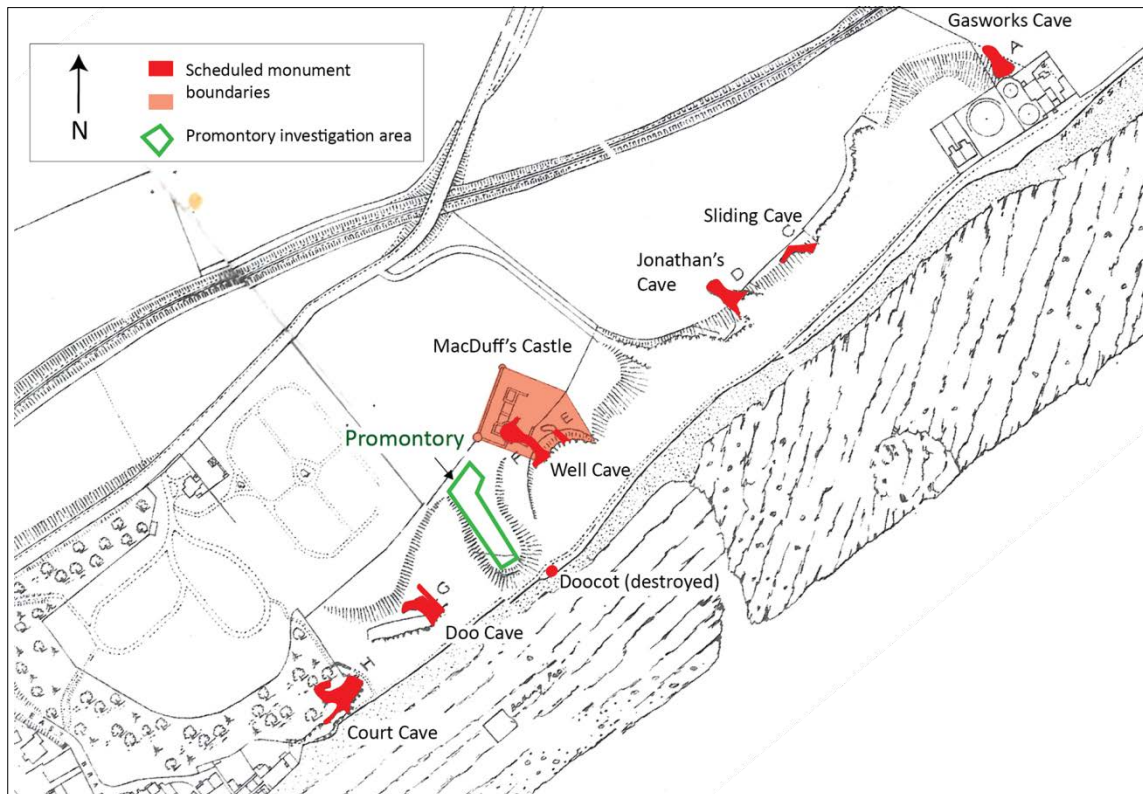


Figure 1 Location of promontory investigation area superimposed on the OS map used in the 1939 scheduling documentation which shows the promontory clearly

Objectives

The objectives were:

- To evaluate the archaeological potential of the promontory,
- To construct a sediment profile along the promontory,
- To test the hypothesis that there may have been a defenced enclosure on the promontory prior to the construction of Macduff's Castle,

- To offer opportunities for volunteers from the local community to become involved in archaeological fieldwork, learn and develop skills in excavation and recording techniques.

Methodology

A series of 12 test pits (1A-12A) were dug at 5m intervals along a central 60m baseline aligned approximately north-south along the promontory. The test pits were initially 0.5m² in size but were extended if necessary for logistics, safety to investigate features identified. They were dug to a maximum depth of 1m or until natural deposits were encountered. In some test pits, lower fills were excavated to 1m within a smaller sondage.

The test pits were excavated in 20cm spits, and / or until different deposits were encountered. Every stratigraphic layer and spit was numbered sequentially as a suffix after the test pit number. Test pits were recorded using a pro-forma recording sheet developed for the project, with prompts for sediment descriptions.

Figure 2 displays two versions of the 'TEST PIT RECORDING FORM'. The left form is a blank template, and the right form is a completed example for test pit 12A.

Blank Form (Left):

- Site Code:** [Blank]
- Test Pit ID:** [Blank]
- Initials:** [Blank]
- Date:** [Blank]
- Co-ords:** [Blank]
- Description:** [Blank]
- Find:** [Blank]
- Spit No.:** [Blank]
- Record in 20cm spits unless there is a change in soil colour, texture or composition.**
- Description:**
 - 1) Compaction
 - 2) Colour
 - 3) Composition/Particle size
 - 4) Inclusions
 - 5) Other comments

Completed Form (Right):

- Site Code:** WL2019
- Test Pit ID:** 12A
- Initials:** JG
- Date:** 16/7/19
- Co-ords:** [Blank]
- Description:**
 - 1) 0-5cm: COARSE SAND, FINE GRADE
 - 2) 5-10cm: DARK BROWN
 - 3) 10-15cm: SAND/SILT
 - 4) 15-20cm: COARSE SAND, FINE GRADE
 - 5) 20-25cm: AS ABOVE
 - 6) 25-30cm: OFF WHITE, LIGHT ORANGE, FINE CLAY SAND
 - 7) 30-35cm: QUARTZITE COAL FRAGMENTS
 - 8) 35-40cm: AS ABOVE
 - 9) 40-45cm: OFF WHITE, LIGHT ORANGE, FINE CLAY SAND
 - 10) 45-50cm: AS ABOVE
 - 11) 50-55cm: AS ABOVE
 - 12) 55-60cm: AS ABOVE
 - 13) 60-65cm: AS ABOVE
 - 14) 65-70cm: AS ABOVE
 - 15) 70-75cm: AS ABOVE
 - 16) 75-80cm: AS ABOVE
 - 17) 80-85cm: AS ABOVE
 - 18) 85-90cm: AS ABOVE
 - 19) 90-95cm: AS ABOVE
 - 20) 95-100cm: AS ABOVE
- Find:**
 - 1) 0-5cm: POT SHARDS, WHITE GLASS, TERRACOTTA (MODERN)
 - 2) 5-10cm: POTTERY (MODERN), COIN - (AT SHARD) 1884, HALF PENNY
 - 3) 10-15cm: NONE
 - 4) 15-20cm: NONE
 - 5) 20-25cm: NONE
 - 6) 25-30cm: NONE
 - 7) 30-35cm: NONE
 - 8) 35-40cm: NONE
 - 9) 40-45cm: NONE
 - 10) 45-50cm: NONE
 - 11) 50-55cm: NONE
 - 12) 55-60cm: NONE
 - 13) 60-65cm: NONE
 - 14) 65-70cm: NONE
 - 15) 70-75cm: NONE
 - 16) 75-80cm: NONE
 - 17) 80-85cm: NONE
 - 18) 85-90cm: NONE
 - 19) 90-95cm: NONE
 - 20) 95-100cm: NONE
- Record in 20cm spits unless there is a change in soil colour, texture or composition.**
- Description:**
 - 1) Compaction
 - 2) Colour
 - 3) Composition/Particle size
 - 4) Inclusions
 - 5) Other comments

Figure 2 Blank pro forma test pit recording form and an example of a completed form for test pit 12A

All excavated material was sieved. Each spit was numbered, described according to these prompts, and finds from each spit bagged separately. Completed test pits were photographed and a schematic section drawn using the pro-forma. Test pits were backfilled after recording, and were also backfilled overnight for safety.

One test pit (10A) was extended in order to investigate a possible feature at the base at 1m depth.

Edinburgh Archaeological Field Society carried out a resistivity survey of the cleared area of the promontory in which the test pits were located (Figure 3).

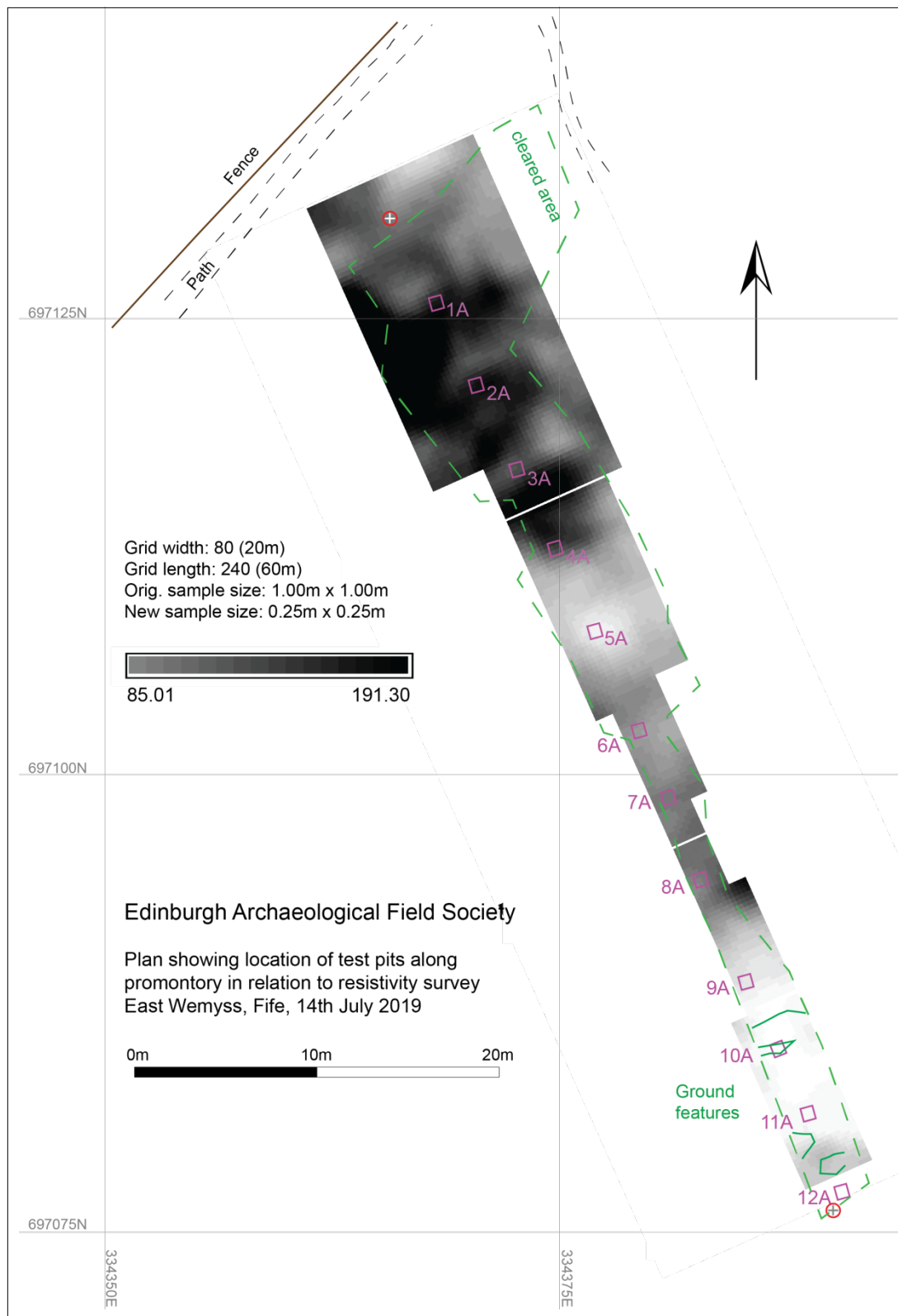


Figure 3 Position of each test pit in relation to resistivity survey undertaken by Edinburgh Archaeological Field Society. *Figure based on EAFS survey and geophysical plot.*

Results

The natural, orange sandy gravels were encountered at the base of test pits 2A and 4A at depths of 0.4m and 0.3m respectively. Both test pits were closed at these depths.

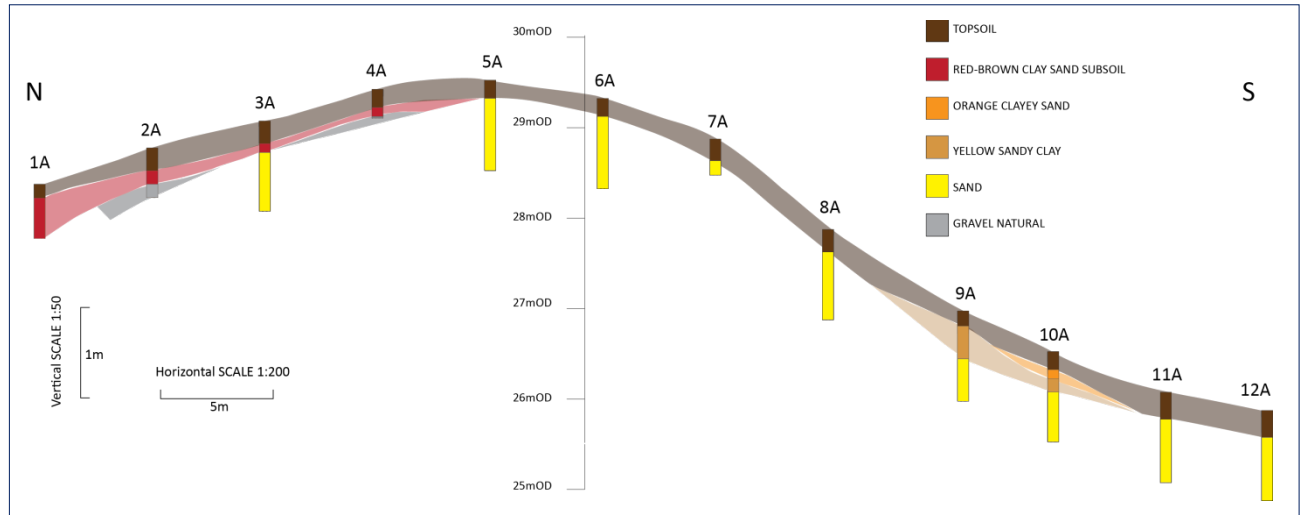


Figure 4 Promontory test pit sediment profiles. Vertical scale exaggerated by x4

In all other test pits (1A, 3A and 5A-12A) the lowest deposit encountered was a fine-grained sand with a small clay content, predominantly light orange-yellow in colour with some yellow-grey patches. This sand contained varying quantities of angular fragments of coal up to 0.07m in size and occasional rounded gravel and rare pebble-sized rounded stones. Varying degrees of disturbance by root action and animal burrowing were recorded in this sand across the test pits. The sand was excavated to a depth of 1m in sondages in test pits 3A, 5A, 6A, 8A, 9A, 10A, 11A and 12A. In test pit 7A it was dug to a depth of 0.15m and at this point the test pit was closed at 0.4m total depth.

At the base of test pit 10A, a possible linear feature was seen in this sand (10A4) and the test pit was extended to the west to further investigate. When fully exposed, this formed a 0.2m wide linear lens of darker orange-brown mid-grained sand (10A8) within the lighter yellow and slightly finer-grained sand (10A4); however this is thought to be a natural feature formed by erosion and weathering of this sandy deposit.

In test pits 9A and 10A this sand was overlain by a layer of soft, light yellow sandy clay with grey mottling (9A3/9A2; 10A3), 0.4m deep in 9A and up to 0.1m deep in 10A which appeared to slope down to the west, towards the edge of the promontory. This clay contained rare fragments of coal and rounded pebbles.

In the western extension of test pit 10A, this was overlain by a compacted orange sandy clay (10A6) which was cut by [10A7] a 0.15m diameter sub-circular vertical-sided cut 0.1m deep, though to be a post hole or stake hole. It was filled with a soft yellow clay (10A5) very similar to (10A3). This was overlain by (10A2) an orange clay sand which extended across the whole of test pit 10A.



Figure 5 Photographic record of each fully excavated test pit

A yellow-brown sand (1A4) was encountered in test pit 1A at a depth of 0.6m, and a possible circular feature 0.08m in diameter (1A5) was recorded cutting into the sand at the east edge of the test pit. At this point the test pit was closed with the intention to reopen, extend eastwards and further investigate this feature if time allowed. However, there was insufficient time for this at the end of the fieldwork.

In the four northernmost test pits (1A-4A) mid red-brown sandy loam subsoil overlay the natural gravel in 2A and 4A and overlay the sand in 1A and 3A. This decreased from a depth of 0.35m in 1A to under 0.1m in 4A, 15m to the south.

In all test pits the uppermost deposit was a dark brown sandy loam topsoil and turf. In test pit 5A this was darker, almost black in colour and contained very frequent fragments of burnt wood and charcoal, metal, wire and nails, suggesting that a wooden structure or fence located here had been burnt. In test pit 12A, part of deliberately-cut ha'penny of 1887 was recovered from the topsoil. This is thought to be related to the tradition of couples who were to be parted exchanging split coins to be made whole again when they were reunited.

The resistivity survey showed higher resistance at the top of the promontory and lower resistance downslope towards the south. It is likely this reflects the properties of the underlying natural geology.

Discussion

No archaeological features were found beyond the post hole in test pit 10A, and no finds associated with this were recovered. The deposits encountered are otherwise thought to be natural and geological in origin.

Some surface features were recorded, including sub-square, straight-sided depressions which suggest that some excavation may have been attempted on the promontory in the past. Test pit 10A was located at the edge of straight-sided rectangular depression with square corners, with a raised linear mound immediately to the south. This may represent a previously excavated trench and associated spoil tip, or may be associated with the post hole found in the western extension of test pit 10A.

No evidence of activity or material contemporary with the adjacent MacDuff's Castle was recovered, suggesting the promontory may have been grazed or wooded during the occupation of the Castle. The split ha'penny that could be a memento of parting sweethearts is an unusual and nice find.

Geophysical survey of part of Wemyss and Macduff Cemetery

based upon resistivity survey and DGPS survey carried out by Edinburgh Archaeological Field Society

Introduction

On Sunday 14th July 2019, members of the Edinburgh Archaeological Field Society (EAFS) carried out resistivity survey of an 80m x 40m area along the south eastern edge of Wemyss and Macduff cemetery. This area extends along the northwestern boundary of Macduff's Castle and adjacent promontory, separated from these by the cemetery fence, a row of leylandii trees and the coastal path. The area of survey was flat and covered with short grass.

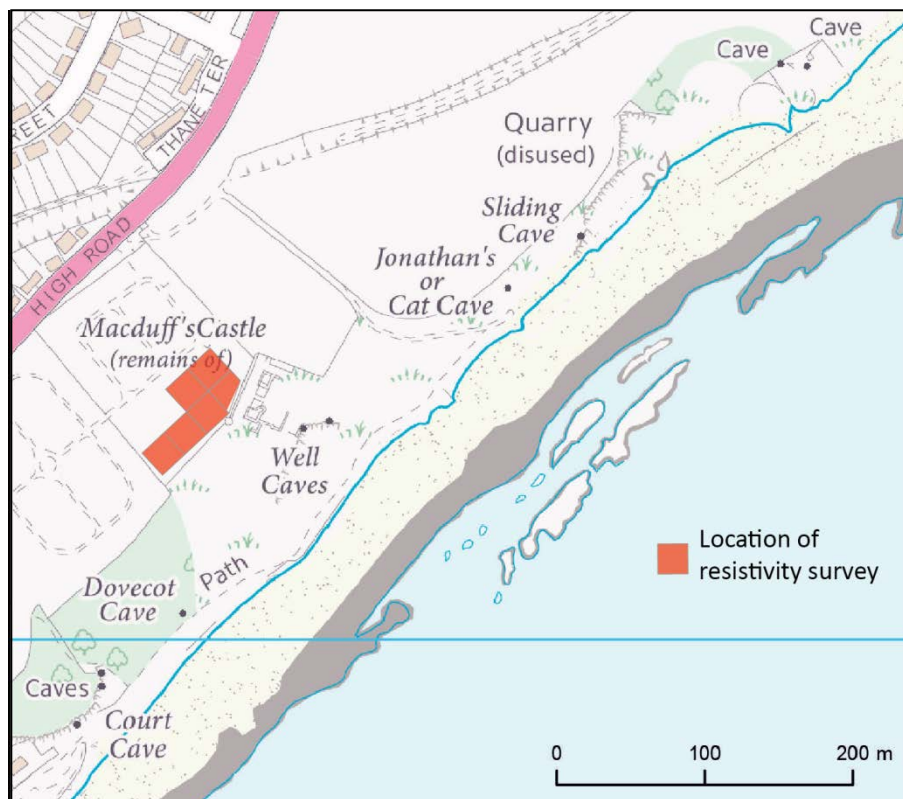


Figure 1 Location of geophysical survey grids

Objectives

The objective of the geophysical survey was to detect any possible archaeological features related to Macduff's Castle and the promontory area that extended into the cemetery area.

Results (Figures 2 and 3)

The resistance survey did not show any clear evidence of archaeological features or structures. The area adjacent (north-northwest) to the promontory was dominated by high resistance, similar in value to that measured at the highest point of the promontory just on the other side

of the hedge. This suggests a similar geological/natural signal is being detected. Conversely, the area adjacent to Macduff's Castle showed very low resistance.

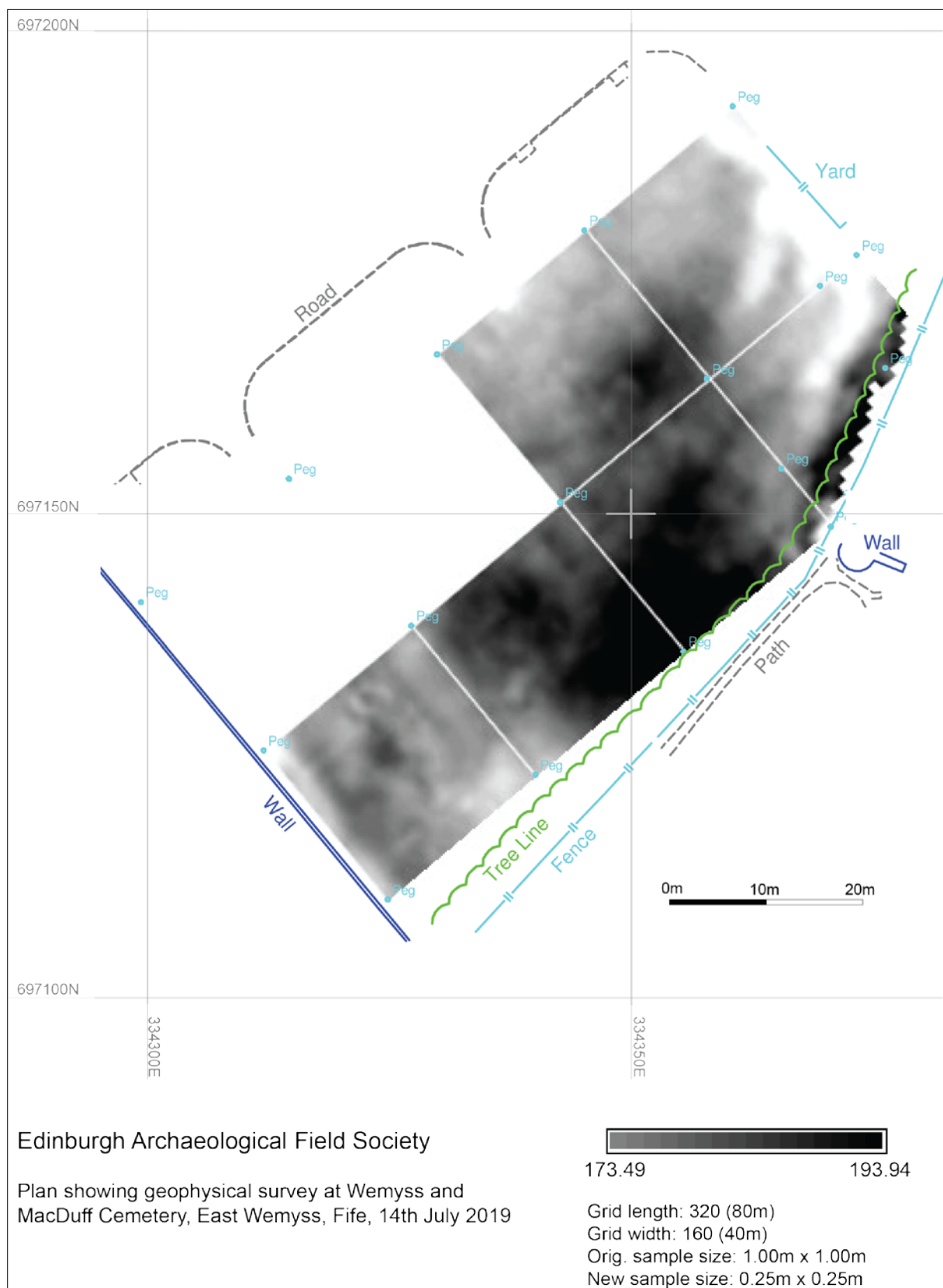


Figure 2 Resistivity survey results

Two tentative anomalies were detected. In the westernmost grid of the survey area was a circular area of very low resistance, approximately 4m in diameter. Extending across the two south easternmost grids, adjacent to Macduff's Castle was a curvilinear feature of higher resistance which appears to cut across the more amorphous area of very low resistance.

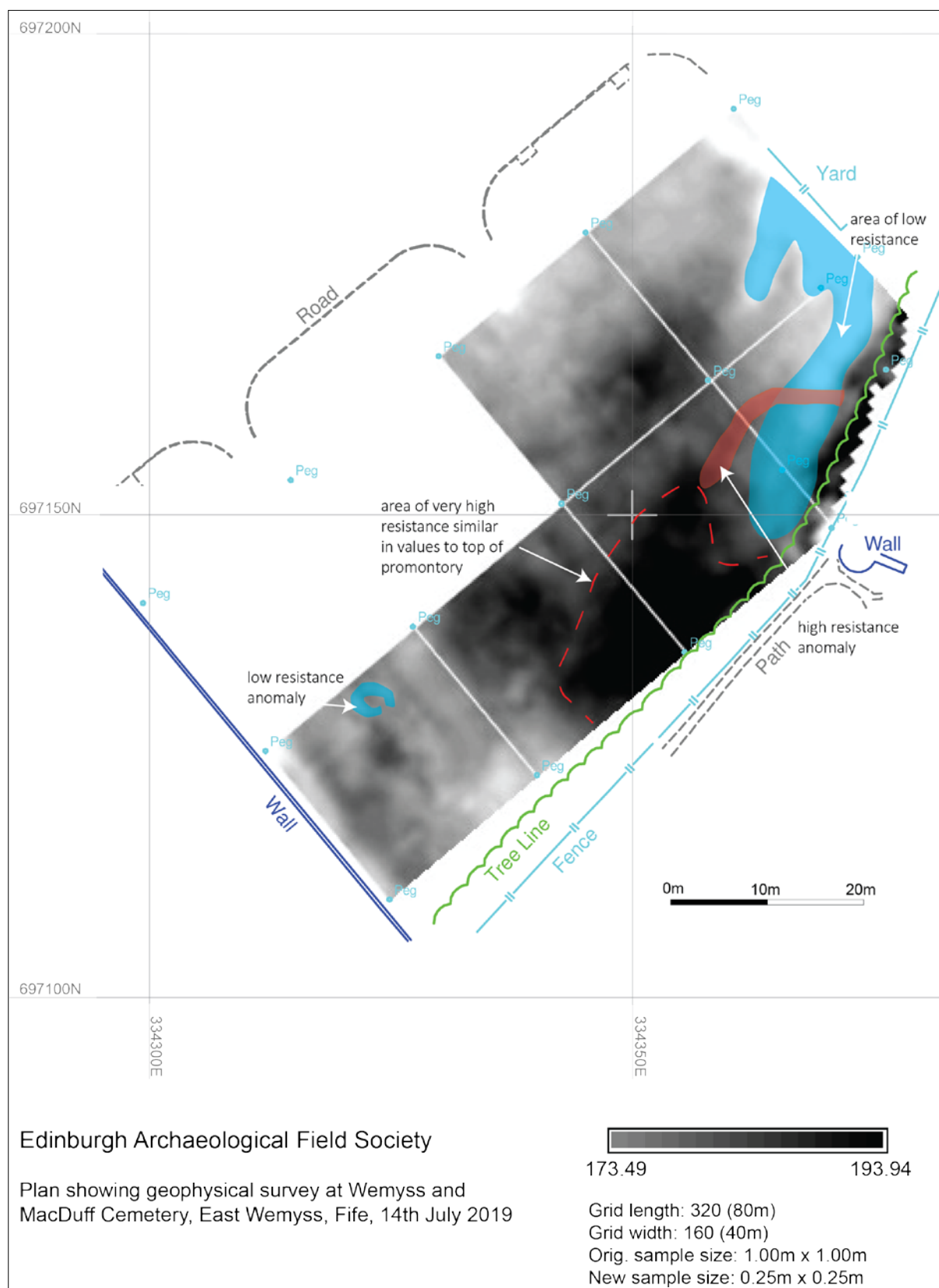


Figure 3 Annotated resistivity results

Discussion

Although the results of the geophysical survey were inconclusive, there are hints of two possible anomalies. In view of the proximity of Macduff's Castle, a limited programme of archaeological evaluation to investigate these would be worthwhile.

