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**ARCHAEOLOGICAL EXCAVATIONS AT TARREL DUN, ROSS AND  
CROMARTY:  
DATA STRUCTURE REPORT**

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*Tarrel Dun under excavation in September 2013*

**ARCHAEOLOGICAL EXCAVATIONS      TARREL DUN**

**PROJECT SUMMARY SHEET**

<b>SITE</b>	<b>Tarrel Dun</b>
National Grid Reference	<b>NH 9046 8034</b>
Canmore ID	<b>Dun – 15642 Cave – 294841</b>
RCAHMS Site Number	<b>Dun – NH98SW19 Cave – NH98SW66</b>
Project Manager	Dr Gordon Noble
Director	Candy Hatherley
Environmental Assessment	Susan Ramsay
Artefact Assessment	Candy Hatherley and Ewan Campbell
Illustrations	Candy Hatherley

**Schedule**

Fieldwork – 7<sup>th</sup>-13<sup>th</sup> September 2013

Assessment Report - October 2013

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## **Summary**

*This report presents the findings of the excavation undertaken at Tarrel Dun, Easter Ross in September 2013. The site is located on a rocky knoll situated on the pebble shore on the east coast of the Tarbat peninsula, within the parish of Fearn. The hill of Tarrel has a sub-circular summit dropping off to sheer cliffs on the seaward side and a steep sloping hill on the landward side. At the base of the north-east slope of the knoll is a cave with access into its interior from the pebble beach below. During the initial survey walls were identified on the landward side of the knoll, curving around the upper and lower slopes of the hill and at its base. On the top of the knoll a short length of earthen bank was seen running around the southern edge of the summit. The knoll is a prominent feature in the landscape and commands clear views out across the Moray Firth and its northern coastline and along the eastern shoreline of the peninsula.*

*A measured survey of the hill was undertaken in January 2013 by a team from the University of Aberdeen and a plan of the upstanding visible features on and surrounding the hill was created. Archaeological excavation of five trenches, targeting the summit of the knoll and the walls encircling it, was undertaken in September 2013. In addition features identified within the cave were photographed and planned.*

*The excavations on Tarrel identified an E-W orientated wall on the summit of the knoll, potentially the north wall of a building. The inner face of the wall ran the entire length of the summit, gently curving southward at its eastern end. A probable door or entranceway which had been blocked was located at the terminal of the wall at its east end. A test pit was excavated against the face of the wall identified a number of deposits, one which contained a blue glass bead. An occupation deposit within the building and one located below the wall were radiocarbon dated to between c. 790 and 490 cal BC.*

*The wall encircling the upper summit of the knoll was shown to be the base of a substantial revetting structure. A deposit beneath the wall was radiocarbon dated to between c. 770 and 430 cal BC. A large rubble bank and a number of walls were exposed on the lower slopes of the knoll and within the cave of likely post-medieval date.*

*The team were assisted by local volunteers and students from the University of Aberdeen.*

## 1. INTRODUCTION

### 1.1 *Project background*

The Department of Archaeology within the University of Aberdeen are within the first stages of a major new four year project 'The rise and fall of the Kingdom of Fortriu'. This project is investigating the secular and religious power centres of northern Pictland and the impact of statehood on northern landscapes and people. Ultimately the project will track the social and political trajectories that led to the rise and ultimate fall of the northern Picts as a major power player in Europe in the first millennium AD.

The research project is focused on the archaeology of Fortriu. The study area is defined as Moray in the east to Ross in the north, areas surrounding the Moray Firth, a major maritime route way and activity zone in northern Scotland that links a broad sweep of the northern Scottish coastline. The project is undertaking a comprehensive review of the evidence for first millennium AD northern Pictland, including all the archaeological and historical evidence. In addition a programme of evaluative archaeological research on a number of key sites in the region is currently on-going. This work will provide the building blocks for an assessment of the long-term trajectories of the first millennium AD in northern Pictland, examining the Moray Firthlands as a maritime landscape in contact with a wide range of influences from Ireland, Scotland and southern Britain and increasingly Scandinavia.

#### *Research on the Tarbat Peninsula*

As part of this project research to track the nature of settlement in the first millennium BC and AD on the Tarbat Peninsula, Easter Ross is being carried out. Research and excavation over the past twenty years has established that a major early medieval ecclesiastical centre was located on the north coast of the peninsula. Evidence from excavations at the early medieval monastery at Portmahomack revealed a highly developed and well-connected monastic establishment (Carver

2008). A corpus of contemporary monumental sculpture in the form of cross-slabs located along the northern and southern coasts of the peninsula indicate that this area may have been part of a large-scale early medieval monastic estate.

It is also likely that the peninsula was a key component of the early medieval kingdom of Fortriu. Fortriu was potentially the most powerful Pictish Kingdom and is the most cited in historical sources. The Picts were first mentioned in late Roman sources and became the pre-eminent kingdoms of northern and eastern Scotland in the post-Roman period. Recent work by Alex Woolf has located the Pictish Kingdom of Fortriu to the Moray Firth area, suggesting that northern Pictland (Aberdeenshire, Morayshire and Ross and Cromarty) was a major player in the political stage in the first millennium AD (Woolf 2006). Little work has been undertaken to date on the organization of the landscape and the identification of high status settlement and centres of power in this area preceding and contemporary with the emergence of this early medieval Kingdom.

A range of duns, forts, promontory forts and larger enclosed hilltop settlements are known in the region and the project is currently gathering the first detailed contextual information on these sites, including direct dating through targeted fieldwork including survey, evaluative excavation, radiocarbon dating and geophysical survey. It is hoped that a number of site types including duns, promontory forts, hill forts and enclosures will be eventually investigated in the region to build a clearer picture of the secular landscape of the peninsula preceding and during the establishment of these political and ecclesiastical centres.

The archaeological excavation at Tarrel is the third site to be investigated on the peninsula as part of this project. The initial results of this investigation and an outline of the future work which will be undertaken on these results is outlined within this report.

## 1.2 Site use and location

### *The site (Illus 1 & 2)*

Tarrel Dun is a precipitous rocky knoll located directly on the seashore on the east coast of the peninsula (*Illus 1 & 2* - NGR NH 9046 8034). The grassy knoll commands clear views along an extensive length of shoreline and east across the Moray Firth and its coastline.



**Illus 1** – Tarrel Dun. Looking east.

The hill is cone-shaped with a sub-circular flat summit which is 11 m in length E-W and 7 m in width N-S. The summit is located at 18 m OD. On the seaward side of the hill the summit drops to vertical cliff faces on the north-east, east and south sides. On the landward side the upper north and west slopes of the knoll are steep sloping, falling to a gentle slope near the base.

A narrow isthmus of rock projects out from the west, backed by the cliffs to its south and a steep slope to the north. This isthmus may have once been connected to the vertical cliffs which run along the entire coastline immediately to the west of Tarrel but this bridge of rock has either eroded away or been blasted out to create the trackway which now runs parallel with the cliffs.

On the north-east side of the knoll is a cave with easy access into its interior from the pebble beach below. The cave's passage runs through the entire width of the hill aligned north-east/south-west terminating at the southern cliff face.

The area immediately surrounding the knoll is littered with very large sandstone boulders, suggesting that the hill has been actively

eroding for a considerable amount of time. The knoll is very exposed and extreme weather will have undoubtedly accelerated erosion. There is evidence on the pebble beach and grassland beyond that at very high tides or during storms the sea may well engulf the base of the knoll and the interior of the cave.

Prior to excavation a slight bank (upstanding to 0.15 m only) was identified on the summit, curving around the edge of the south side for approximately 6 m. On the lower slopes of the hill a substantial wall face could clearly be identified encircling the base of the upper summit. Two further walls or banks could be seen running around the lower slopes on the west and a further wall was identified curving across the cave entrance.

The geology of the knoll is Middle Old Red Sandstone with a covering of boulder clay.

## 2. ARCHAEOLOGICAL SURVEYS

### *2.1 Previous work*

A visit to Tarrel was made by the RCAHMS in 1977. The knoll was described as a dun with its wall only surviving on the landward side where it was seen up to 3.7 m in thickness and enclosing an area which now measures 9.5 x 6.7 m (RCAHMS 1979). Ordnance Survey surveyors visited Tarrel in 1981. They recorded the dun as 11 m E-W by 7 m. They stated that little remained of the dun wall except on the west where a disfigured wall or revetment stood at 0.9 m high (OS 1981).

### *2.2 Measured Survey (Illus 3)*

A detailed digital topographic and earthwork survey was undertaken at Tarrel and its immediate environs in January 2013. The survey was conducted using a Topcon GR-5 dGPS and processed using AutoDesk's AutoCAD.



Figure 1  
Location of Tarrel Dun



# TARREL DUN

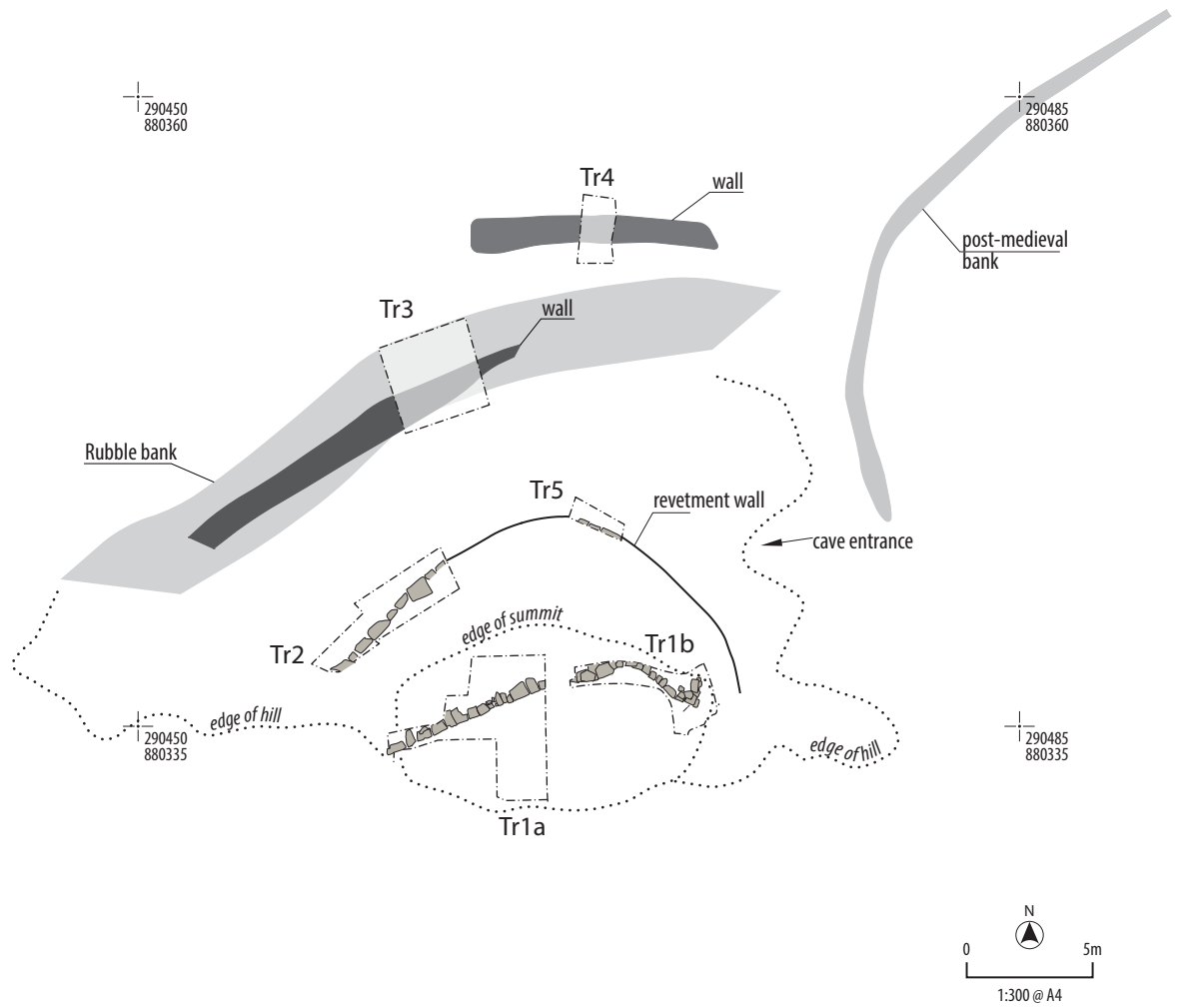


Figure 3  
Archaeological features and location of trenches

### 3. AIMS AND METHODOLOGY

Following the preliminary archaeological survey it was decided to open five evaluation trenches to expose an area on the summit, the wall encircling the summit and two of the walls/banks located on the lower slopes of the hill.

#### 3.1 Research aims

The objectives of the archaeological investigation were:

- To evaluate the summit of the knoll;
- To characterise the upstanding archaeology;
- To establish the date for the activity on the hill and in the immediate environs;
- To explore the cave and record any archaeological features within.

#### 3.2 Methods

Each trench was hand excavated down to latest occupation horizons. On removal of the topsoil and post-occupation layers all archaeological features were cleaned, photographed and hand planned at a scale of 1:20. Three 1 x 1 m test pits were further excavated against the inner and outer face of the wall exposed on the summit and one test pit was excavated below the wall encircling the upper summit.

Overall trench plans were recorded at 1:20 and related to the National Grid using a Topcon GR-5 dGPS. Sections were drawn at 1:10 and section lines located using the dGPS.

A full list of context numbers assigned are catalogued in Appendix 1. A full photographic record was kept, using a digital SLR Canon EOS 1100D and is catalogued in Appendix 2. A drawing register is catalogued in Appendix 3.

#### 3.3 Artefacts and samples

Any artefacts retrieved during the excavation were bagged, labelled and catalogued on site. Archaeological deposits were sampled systematically and bulk samples were taken for environmental analysis. These samples are catalogued in Appendix 4. A finds register is catalogued in Appendix 5.

### 4. DESCRIPTION OF RESULTS

The archaeological evaluation of Tarrel Dun was designed to expose and evaluate the walls and banks identified during the survey and to open an area across the flat ground of the summit. Limited excavation in the form of test pits was undertaken on the summit and beneath the wall encircling the upper summit of the knoll and four radiocarbon dates were obtained. This work is described in detail below.

All features are shown on the accompanying illustrations. Archaeological features and deposits are labelled according to their context numbers assigned and are described below with their context number in brackets.

#### 4.1 Trench 1 (*Illus 3 - 8*)

Trench 1 was originally designed to be c. 5 m in length and 2 m in width. It was primarily located to fully expose a section of the flat summit of the knoll in plan and investigate the nature of the earthen bank identified running E-W along the southern edge. After the removal of turf, a heavily compacted layer of silt and rubble (019) was removed across the entire trench, immediately exposing a slight earthen bank (020) running along the south edge of the trench and an E-W aligned wall face (006) seen on the north edge of the trench (*Illus 4*).

The earthen bank (020) was only partially exposed within Trench 1. It comprised heavily compacted undulating pale tan gravel which was sloping downwards from the edge of the summit. Excavation showed that the earthwork was a maximum of 0.15 m in depth and was irregular in depth and shape across the trench. This feature did not appear to be the very denuded remains of an actual earthen bank and it is more likely that it is associated with the erosion on the summit of the knoll, where soil has built up against a continually collapsing cliff face. The bank overlay compact pink boulder clay with large stones and rubble throughout (009).

The exposure of part of a dry stone wall face in the north side of Trench 1 led to a reappraisal of the excavation strategy. It was decided to

follow the line of this wall and expose it as much as was possible across the flat summit of the knoll. The 2 m width of Trench 1 was therefore extended northwards by approximately 0.50 m to the very edge of the summit to expose as much of the width of the wall in plan as possible. To the west a narrow trench was excavated to follow the line of the wall face westward. A new trench (Trench1b) was opened up 1 m east of the original Trench 1 to expose the wall running eastward.



**Illus 4** – Trench 1 showing the initial trench layout with bank (020) exposed on the far side of the trench and wall (006) in the foreground. Looking south.

#### *The E-W wall (Illus 5 – 8)*

In total an 8.5 m linear length of E-W wall face was exposed on the summit of the knoll. On the west side of the summit the wall ran right to the edge of the hill. It was clear that at this western end of the summit a large section of the hill has gone, and this erosion has removed the rest of the wall.

On the east side of the summit the wall gently curved southward for a length of 3.5 m, terminating on the very east edge of the summit in what appeared to be a doorway or entranceway into the structure (*Illus 7 & 8*).

The sandstone wall comprised an inner wall-face (006) which survived as a single skin of coursed rubble dry stone masonry construction surviving in places to up to five courses and a height of 1.20 m. This wall appears to represent the inner of two wall faces sandwiching a core of earth and rubble.



**Illus 6** – Birds eye view of the summit showing the E-W wall. At the top of photo the wall can be seen curving south.



**Illus 7** – Trench 1b showing wall 006 curving. Looking East.

A test pit (TP3) was located on the outer edge of wall-face (006) to expose the core of the wall. The wall core comprised compact dark brown silt with 80% rubble and stones throughout (023). This layer was 0.90 m in depth and overlay an orange brown clayish sand (008) lying beneath wall face (006). The outer face of the wall was not identified and the width of the original double skinned wall

# TARREL

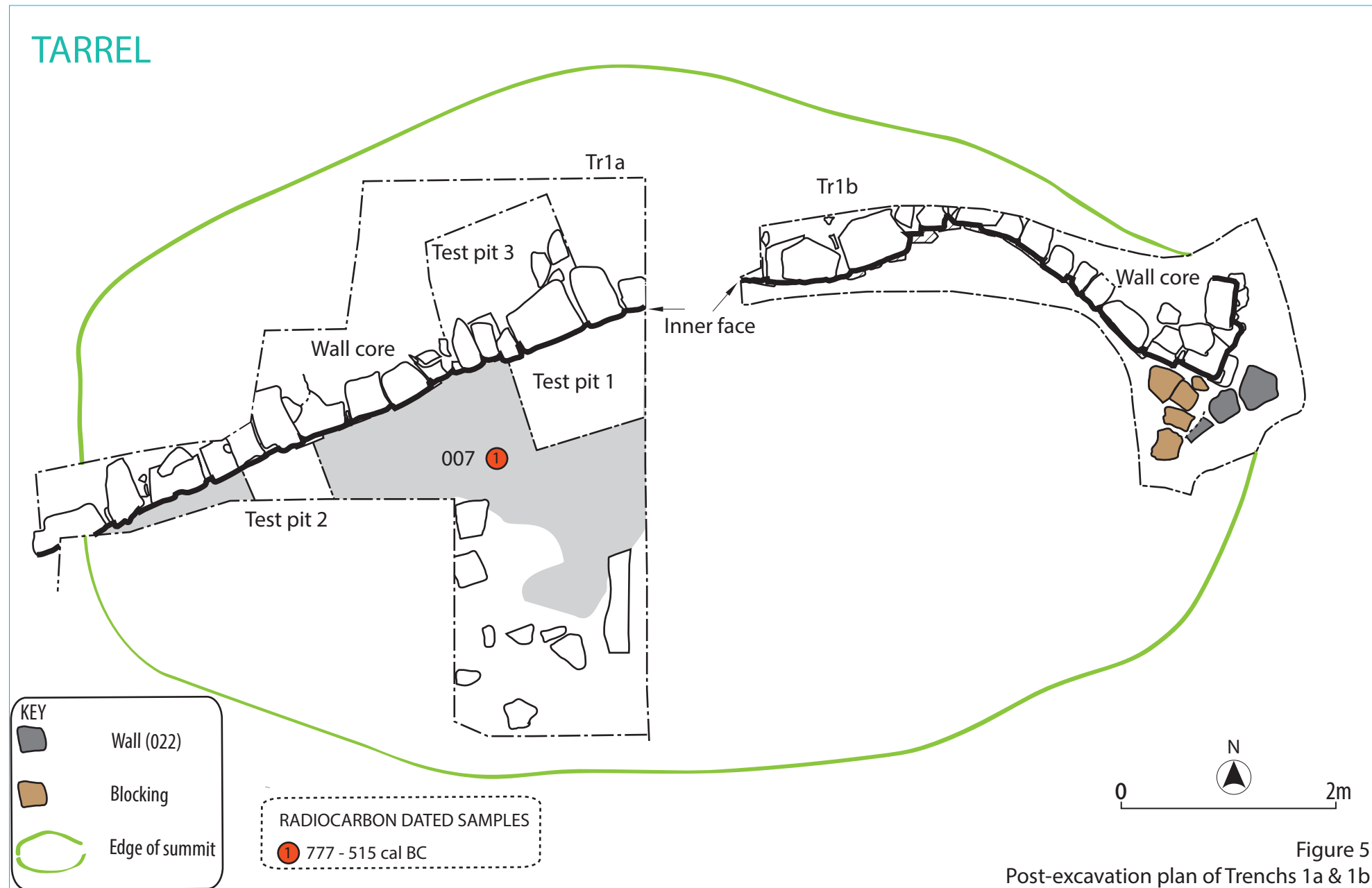


Figure 5  
Post-excavation plan of Trenches 1a & 1b

is unknown. The original width of the wall is unlikely to survive given the limited space between the inner wall face and the vertical edge of the summit over the majority of the length of the wall exposed.

#### *The entranceway (Illus 8)*

On the east side of the summit wall (006) curved gradually to the south, terminating in an entrance or doorway. A section across the wall at its terminal was exposed showing that the end of the wall comprised large rough rectangular stones overlying a raft of smaller boulders.

Abutting the inner, southern edge of the terminal of wall (006) was a rough wall of rubble. This wall was poorly constructed and appeared to be blocking the entrance or doorway created by the terminal of wall (006).

Below wall (006) and the blocking wall was a potentially earlier wall line only minimal exposed within Trench 1b. Further investigation will be required to confirm the nature of this wall.

On the northern slopes of the knoll immediately below the end of wall (006) a number of large rectangular blocks, presumably fallen from the outer wall face of the summit structure, were identified.



**Illus 8** – End of wall 006 showing probable doorway with blocking. Looking north-west.

#### *The interior*

A 3 x 2 m area within the presumed interior of the structure created by wall (006) was exposed within Trench 1. After the removal of topsoil (001) and post-occupation layer (019) a

deposit of dark grey silt (007) was exposed lapping up against wall face (006). A 1 x 1 m test pit (TP1) was excavated against the inner face of wall (006) within the interior to investigate (007).

Within Test pit 1 was a sequence of occupation deposits. The upper deposit of soft dark grey silt (007) was found to have charcoal, burnt bone and shell fragments throughout and a single blue glass bead was recovered. Environmental analysis of Context 007 identified carbonised botanical remains of oak and heather charcoal and carbonized barley grains and it is likely to be the remains of hearth waste or midden material (see Section 6, Table 2). A carbonised barley grain was dated to between 777-515 cal BC (Table 1 Sample 1; SUERC-49756).

Beneath Context 007 was a 0.36 m deep layer of very fine mottled dark tan sandy silt (Context 011). Analysis of Context 011 showed that it contained birch charcoal and cinder (see Section 6, Table 2). Small roundwood birch charcoal from this layer was dated to 764 to 430 cal BC (Table 1 Sample 2; SUERC-49757). This deposit was above 0.10 m deep compact layer of clean yellow gravel with lenses of dark brown silt (Context 010) which overlay a layer of soft grey sandy silt with rubble throughout (Context 016). Context 016 continued beneath the inner wall face and overlay natural boulder clay. Analysis of the carbonised botanical remains from Context 016 identified birch, oak and heather charcoal and a radiocarbon date from a sample of small roundwood birch dated to 786-490 cal BC (Table 1 Sample 5; SUERC-49759). Test pit 2 also located within the interior of the structure against the inner wall face at the west end of Trench 1a showed an identical but shallower sequence of deposits.

#### **4.2 Trenches 2 and 5** (*cover photo & Illus 9*)

Trenches 2 and 5 were located over the wall encircling the base of the upper slope of the knoll (Illus 3). This wall was a coursed dry-stone structure which had been constructed as a face against an artificially cut vertical face in the hillslope. Within both trenches the wall survived up to 1 m in height and up to four

courses; two courses of very large angular boulders with a course of smaller flat stones between them and a foundation course of flat sandstone blocks.

In Trench 2 the curving line of the wall was traced for 6.50 m along the north-west edge of the summit to the isthmus on the west where it disappeared, presumably through erosion along this edge. In Trench 5 a 2.20 m length of wall was exposed along the north-east edge of the hill (Illus 9). The wall clearly continued further along this edge and could be traced on the ground running up the curve of the hill towards the entrance of the summit structure. A 0.10 m deep deposit of light brown sandy clay (Context 014) with charcoal flecks throughout was located beneath the foundations of the wall within Trench 5. Context 014 overlay orangey pink boulder clay natural and appeared to be associated with the creation of level ground prior to the construction of the wall. Environmental analysis showed that it contained Scots Pine and Birch charcoal (see Section 6, Table 2). The small roundwood Birch was dated to 766-430 cal BC (Table 1 Sample 4; SUERC-49758).

The level ledge of ground running parallel to the wall along its entire length appeared to be a well-preserved cut pathway running up to the summit.



Illus 9 – North-west face of wall (002)

#### 4.3 Trench 3 (Illus 11)

Trench 3 (4 x 3.50 m) was located to expose the earthwork feature which curved around the base of the landward side of the knoll on the north and north-west. The base of a rubble bank (004) overlain by a wall (003) was exposed. These features were not excavated.

The rubble bank (004) was approximately 3.30 m in width and comprised 90% sandstone boulders within a matrix of dark brown silt. The bank appeared to be constructed against the natural slope of the knoll and continued along this break of slope northward. The bank could be identified curving around from the edge of the isthmus to the west up to the edge of the knoll on the north.

Overlying the bank was the foundation course of a NE/SW aligned wall (003). This was constructed of two lines of large rectangular sandstone boulders with a rubble and earth core. On the north-west face of the wall the line of foundation stones were placed vertically, forming a revetting face against the edge of the slope. Wall (003) was approximately 2.20 m in width and was clearly on a different alignment to the bank beneath. It appeared to be linear but could only be faintly traced continuing south-west. A single sherd of post-medieval pottery was recovered from within the core of wall (003).



Illus 10 – Trench 3. Wall (003) overlying rubble bank (004). Looking North.

#### 4.4 Trench 4

Trench 4 (2.70 x 1.30 m) was located over an E-W aligned length of wall located at the base of the knoll. The wall was constructed of large boulders which formed the inner and outer face with a rubble core. It was 0.75 m in width and had been severally robbed out. It could be traced on the surface for approximately 9.50 m. Two sherd of post-medieval pottery, lumps of slag and fragment of clay pipe were recovered during cleaning of the rubble core of the wall. The wall was unexcavated.

#### 4.5 The Cave (*Illus 11 - 13*)

On the north-east side of the knoll is a raised entrance into a cave. It is easily accessed via a gentle sloping natural ramp from the pebble beach below. The cave has a single passage running north-east/south-west through the entire base of Tarrel hill. The entrance passageway narrows beyond the entrance into a small sub-oval chamber (A). Beyond this chamber the passage narrows to a tunnel leading to a smaller chamber (B). Beyond the second chamber a very narrow passage continues to the inner side of the southern cliff face of the knoll. All identified features within the cave were recorded. No excavation was undertaken.

A NW/SE orientated wall or bank runs across the entrance of the cave which continues northwards beyond the cave entrance to the flat ground to the north of the knoll. This bank was presumably placed to give extra protection to the cave entrance.



*Illus 11* – The entrance to the cave. Looking south.

Within the interior of the cave two walls (012) and (013) were identified. Wall (012) is an N-S aligned rubble wall located at the entrance to Chamber A. The wall only survives as the base of a dry stone random rubble wall, 1.90 m in length and 1.50 m in height. When upstanding this wall would have blocked Chamber A from the entrance of the cave.

Wall (013) was located approximately 6 m from the entrance of the cave (*Illus 13*). The N-S aligned wall survived as the base of a random rubble wall, 2.50 m in length and 0.60 m in width. Both walls appear to be later or post-medieval structures and may have been

related to the use of the cave as a shelter or fishing store.

Other signs of later or post-medieval use of the cave were identified on the eastern shelf of rock running along the entrance passage of the cave. Three shot holes were located in a line close to the entrance of the cave. These drilled holes would have held explosive charges for detonation and suggest that the cave entrance was cleared of rock fall in the 19<sup>th</sup> century.



*Illus 12* – Entrance to the cave showing wall (013). Looking South-West.

Approximately 10 m from the cave entrance along the shelf of rock was a rock-cut basin (*Illus 14*). The basin appeared to be hand-cut and was 0.20 m in diameter and 0.09 m in depth. The basin is likely to be a bait hole or craig where shellfish are placed as the tide is coming up. These are bashed into a mush with a stone in the bait hole and then flung into the water as ground bait to attract the fish. The location of the bait hole suggests that the cave was frequently used by fisherman along the coastline for a considerable period of time.



*Illus 13* – Probable bait hole within the cave.

The cave showed signs of recent use. Within the entrance and within Chamber A were

rough stone settings for fires. Wood, charcoal, animal bones and rubbish were located throughout the floor of the cave and spray paint graffiti dated from the 1970's to the 21<sup>st</sup> century was identified on the walls.

**Table 1 Tarrel radiocarbon dates**

Lab No	Material	Context/Sample	Radiocarbon Age (BP)	Calibrated range BC (95% confidence)	δ13C-‰
SUERC-49756 (GU32319)	Charred grain: <i>Hordeum vulgare</i> sp.	Occupation deposit within building. <b>007/S1</b>	2491 ± 29	777 - 515	-22.2
SUERC-49757 (GU32320)	Charcoal : <i>Betula</i> sp.	Occupation deposit beneath (007). <b>011/S2</b>	2465 ± 30	764 - 430	-27.0
SUERC-49758 (GU32321)	Charcoal : <i>Betula</i> sp.	Deposit underlying revetting wall. <b>014/S4</b>	2467 ± 32	766 - 430	-24.9
SUERC-49759 (GU32322)	Charcoal : <i>Betula</i> sp.	Occupation deposit beneath summit structure's wall. <b>016/S5</b>	2490 ± 32	786 - 490	-28.8

## 5. ARTEFACT ASSEMBLAGE

The excavation at Tarrel Dun produced very few artefacts. The topsoil/turf of all trenches produced animal bones, burnt cracked stones and charcoal. One interesting find within the topsoil on the summit of the knoll was a circular clan badge for the Gunn clan with their motto '*Aut Pax Aut Bellum*' (Either Peace or War) and a raised sword. The badge appears to be a cheap 20<sup>th</sup> century tourist item with SCOTLAND stamped on the back.

Post-medieval finds found within the topsoil immediately overlying or between the rubble of walls (003) and (005) include pottery, slag and a fragment of clay pipe. These finds suggest that both walls are part of the post-medieval activity around Tarrel dun which includes the bank across the cave entrance, the walls and bait hole within the cave.

One find of significance, a blue glass bead, came from a deposit within the summit structure (*Illus 14*). This bead has been assessed by Ewan Campbell of the University of Glasgow below. A full catalogue of artefacts is in Appendix 5.

### Blue glass bead assessment

Ewan Campbell, University of Glasgow

#### Description

Small annular wound bead with flattened faces around the perforation especially on one side. Glass cobalt blue, very bubbly, translucent, with a matt surface. Diam. 7mm, Ht. 4mm, hole Diam. 2mm.

#### Discussion

Small blue glass beads are a long-lived type, and are difficult to date. Although starting in the Iron Age, they continued to be common into the early medieval period (Guido 1999, 48). This particular example is made of very bubbly glass, and has flattening around the perforation caused during manufacture. This characteristic is shared by a similar shape of bead, but in opaque yellow, one group of which was manufactured in the Moray Firth area around the turn of the first millennium (Guido 1978, 73-6, Class 8). Culbin Sands seems to have been the centre of production, and similar blue beads have been reported from this site and Covesea (*ibid*, 172). On



balance, an Iron Age rather than later date seems likely for this bead, but only scientific

analysis could prove this.



Illus 14 – Blue glass bead

## 6. Carbonised plant macrofossils and charcoal Susan Ramsay

The results of the charcoal analysis are shown in the table below.

	Site Code Context Sample	TDE'13			
		007 1	011 2	014 4	016 5
<b>Charcoal</b>	<b>Common name</b>				-
<i>Betula</i> spp	birch	-	4 (0.08g)	1 (0.08g)	1 (0.03g)
<i>Corylus cf avellana</i>	hazel	-	-	-	-
Ericales	heather type	6 (0.09g)	-	-	7 (0.13g)
<i>Pinus sylvestris</i> type	Scots pine type	-	-	1 (<0.01g)	-
<i>Quercus</i> spp	oak	7 (0.12g)	-	-	3 (0.14g)
Indet cinder	Indet cinder	10 (0.49g)	15 (2.29g)	6 (0.15g)	12 (0.17g)
<b>Cereals (carbonised)</b>					
<i>Hordeum vulgare</i> sl	barley	3 (0.02g)	-	-	-

Table 2 Tarrel carbonised plant macrofossils and charcoal

### Fragments selected for AMS dating

Context 007, Sample 1: *Hordeum vulgare* sl (cereal grain representing a single growth season) – 0.02g

Context 011, Sample 2: *Betula* sp (small roundwood <10 growth rings) – 0.03g

Context 014, Sample 4: *Betula* sp (small roundwood <10 growth rings) – 0.08g

Context 016, Sample 5: *Betula* sp (small roundwood <10 growth rings) – 0.03g

### Discussion

The charcoal is consistent with tree species that would have been available in the local woodlands throughout most of the prehistoric and historic periods. Carbonised grains of barley could date to any period from the Neolithic onwards. Without having further information on the contexts that have been analysed, it is not possible to add anything further to the interpretation of the carbonised botanical material.

## 7. Phasing and interpretation

The excavations have demonstrated that the summit of the knoll is occupied by a substantial and well-built dry-stone composite-walled structure built and occupied at some point between the early 8<sup>th</sup> and late 5<sup>th</sup> century BC. Due to the extensive erosion of the knoll only a part of the inner face of the north wall, its core and one side of the north-east facing entranceway survive. The area of interior uncovered showed that over half a metre of occupation deposits survive. These deposits contained small unidentifiable fragments of shell and burnt bone, charred barley grains and charcoal and likely represent successive accumulations of hearth or midden waste. The only artefact associated with this activity, a blue glass bead recovered from the upper occupation layer, hints at possible wider contacts for the occupants of Tarrel, perhaps across the Moray Firth to the later prehistoric bead manufacturing site at Culbin Sands, located approximately 10 nautical miles to the south.

Three radiocarbon dates were obtained from samples retrieved from the sequence of deposits within the interior of the structure (786-490 cal BC SUERC 49759), two from occupation layers lapping against the inner wall face and one from a layer which ran beneath it (777-515 cal BC SUERC 49756; 764-430 cal BC SUERC 49757). These dates show that the structure on the summit of Tarrel was built and occupied at some point between 786 and 430 cal BC. The relationship between the summit structure and the revetting wall around the base of the summit is unknown but a very similar radiocarbon date of 766 – 430 cal BC (SUERC 49758) was retrieved from the layer located beneath the revetting wall, suggesting that they were likely contemporary builds. The revetting wall was substantial and its construction must have been a complex and arduous task given the precipitous location and the size of the boulders used. The level ledge of ground running parallel to the base of the wall was not explored but appeared to be an artificial terrace, potentially a working platform for the construction of the wall and a pathway to the summit. The wall and path

may have built for access and stability but may also have been a topographic solution to the need to enclose, or be seen to enclose, the summit structure by incorporating the hill slope as an outwork. Either way this feature would have also created an impressive passage to the summit and an imposing architectural statement from a distance.

From the rough construction and post-medieval assemblage recovered from the surface of the rubble bank/wall and the wall to the north these features are likely to be late medieval or post-medieval in date. Although not explored the curving wall or bank which crosses the entrance to the cave is also likely to date to this period. The First Edition Ordnance Survey surveyed 1872 reveals a busy farming and fishing landscape along this coastline with buildings, trackways, enclosures and wells (Ross-shire & Cromartyshire, Sheet XLIII 1880). The development of this cove may well have been associated with the 18<sup>th</sup> and 19<sup>th</sup> century salmon fishing industry as the various tracks located along the cliff edge and running down to the shore all lead to slipways on the coast. The irregular banks and walls surrounding Tarrel may be associated with livestock or fishing activities such as net drying or barriers against the sea for cultivated plots.

The preservation and appearance of the rough walls within the cave suggests that they are also post-medieval in date. The bait hole shows that the cave was well-used by fishermen and these structures may also relate to this activity. The 1851 census hints that caves along this coastline were also used as refuges. At the time of the survey the coast was inhabited by 'tribes of wandering gypsies' (MacIver 2003, ii) and the census enumerator had an encounter at Tarrel "...in the roadside and caves...Tinkers or Vagrants who gave no name (7 men and 9 women)" (Ibid, 1851 Census Parish of Tarbat, Ross-shire, District 3).

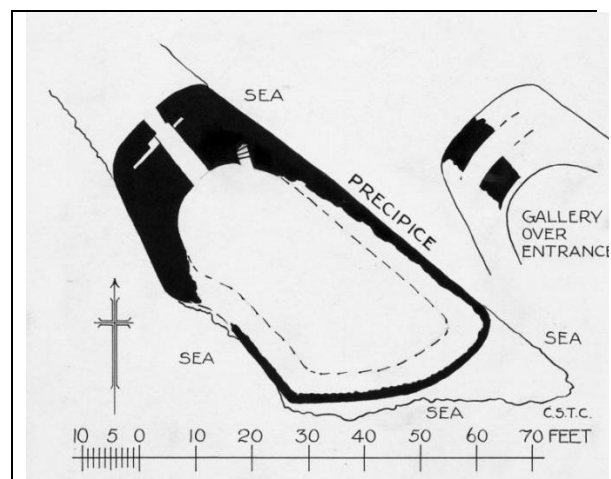
## Discussion

The scale and form of the excavated wall on the summit of the knoll indicates that the structure is a large composite built dry-stone structure which, from the radiocarbon dates

obtained, was built and in use at some point between the early to mid-1<sup>st</sup> millennium BC. When the summit structure was built Tarrel was likely to have been a narrow promontory of land linked to the vertical cliffs above by a bridge of rock. The width of the walls and the original dimensions of the building are unknown but the excavation has demonstrated that the walls must have been greater than 2 m wide and the building at least 12 m in length. This scale of building indicates that the summit structure fits into the category of monumental composite walled structures seen across Atlantic Scotland from the early first millennium BC. Due to the extensive erosion of the knoll the original shape of the structure is unknown but the straight-sided north wall indicates it was not circular and likely to have been a flattened oval, D-shaped or rectilinear structure. There was no internal evidence from post holes, post pads or a scarcement ledge to indicate that it was a roofed building but the thick build-up of deposits within the interior of such an exposed building suggests that it cannot have been entirely open to the elements. No evidence of intramural features such as chambers or galleries were identified within the surviving fragment of the building and it is unlikely that, if these were ever extant, they have survived on the heavily eroded plateau. Even considering the extensive erosion on Tarrel the construction of this monumental summit structure on a small promontory of exposed land must have been dangerous and labour intensive.

The erosion of horizontally bedded stone into sheer-sided inlets, such as seen all along the east coast of the peninsula, is a common phenomenon on the west and north-east coastline of Scotland. Eroded Atlantic roundhouses located on the edges of these cliffs or promontories can survive as C, D or U-shaped structures. The majority of these were clearly originally circular or sub-circular roundhouses e.g. Dun Ardtreck in Skye and

Dun an Ruigh Ruadh in Wester Ross (Mackie 1980). Some structures defined as Atlantic roundhouses are however not circular structures and appear to have more in common with Tarrel's straight-sided north wall. The projected flat-sided oval shape of Dun Grugaig in Skye, defined as a complex Atlantic roundhouse and located on a precipitous sheer cliff promontory, and the straight and curved sided complex Atlantic roundhouse of Dun Baravat in Lewis, are both buildings whose shape indicates that these were not a traditional roundhouse shape and their footprints must have been dictated by the limited level land available for construction (Illus 15). The central entrance at Dun Grugaig is located within a short curved end wall which looks very similar to the ground plan of Tarrel. Another similar but heavily fragmented structure is the promontory site of Dun Mhuilig in Argyll where only a single corner of a probable large galleried structure survives. The RCAHMS suggests that the original size of Dun Mhuilig as 12 m by 9 m internally, a size not unrealistic for the structure on the summit at Tarrel (RCAHMS 1988).



Illus 15 The complex Atlantic roundhouse of Dun Grugaig on Skye. Source: RCAHMS 1928.

Another form of structure that has some similarities to Tarrel are Iron Age promontory forts which in western Scotland can have a single thick freestanding defensive wall built across a neck of land. These walls can have complex architectural features such as galleries and guard cells e.g. Rudh' An Dunain in Skye and Barra Head in the Western Isles (MacSween 1985; Burgess 1999). Similar features are seen on promontory sites in the north in Shetland and north-east Caithness (e.g. Ness of Burgi and Sgarbach fort in Caithness and Clickhimin in Shetland; Harding 2004, 148, Figure 5.23). The walls are rarely regarded as practically defensive structures and have been interpreted as possible ritual or ceremonial centres where their inaccessibility on precipitous cliffs may have enhanced their function (Ibid, 150).

The placement of later prehistoric structures at prominent coastal location, such as projecting natural features overlooking water, is a familiar setting for Atlantic roundhouses which were often built on rocky spurs and precipitous cliff-edges. The need to locate Tarrel at this spectacular and dramatic liminal location, elevated at the interface of land and sea with a cave below, may have held strong symbolic meaning. When viewed from the sea the knoll and its dry-stone structures must have been a conspicuous identifiable point on the coastline and may have been a key territorial marker controlling the land and the sea. Charcoal and carbonised grain identified within the interior of the structure suggests that structure had a hearth used for cooking at some point and therefore may have functioned as a domestic building. Due to its location on the boundary connecting land and sea between "the domestic and the wild" (Armit 1997c, 90), ritual usage of Tarrel is also plausible but inherently difficult to identify. The focus of ritual behaviour in both the domestic sphere and natural places, such as caves or liminal locations, is well testified in the later prehistoric world (Henderson 2007, 138; Bradley 2000; Armit 1997a; Bell 1995, 155). As ritual activities are likely to have gone

hand in hand with daily life in society (Bradley 2005), their identification, especially within such a small-scale excavation of a heavily eroded site, is unlikely.

Palaeogeographic data is presently limited for the peninsula but current models show that the cave's situation in the 1st millennium BC would have been similar to today, just above the reach of the sea except during the highest of tides (Sturt *et al* 2013, Figure 6). The cave was not excavated but, as it is so integrally and topographically linked to the building on the summit, it is likely to have been well used by the later prehistoric occupants of Tarrel. Its similarity with souterrains, the man-made subterranean passages often with separate chambers linked by passages see throughout Scotland in the later prehistoric period, is intriguing. Although the entrance and first chamber of the cave may have damp at times due to occasional sea ingress and poorly lit, they would still have been useable for a variety of tasks such as storage, working areas, fish drying or even a byre for livestock. The lack of light in the back section of the cave would have restricted its use but the dry cool sheltered conditions would have been perfect for the storage of agricultural products such as grain or milk. Caves are common along the Inner Moray firth coastline and work by the Rosemarkie Cave project on caves along the south coast of the Black Isle have shown activity from later prehistoric period with a strong focus of use in the early medieval (Simon Gunn 2014 pers. comm.). Ritual use of caves as ossaries or the deposition of votive items is also well-attested throughout later prehistoric Europe and, at Sculptor's Cave in Covesea in Moray on the opposite shore to Tarrel, a range of ritual and occupation activities have been dated from the later Bronze Age through to early 1<sup>st</sup> millennium AD (Armit *et al* 2011). Further investigation of the cave at Tarrel may reveal how it fitted into the wider use of this coastline in prehistory and more recent times.

## 8. PUBLICATION PROPOSAL

### Academic publication

It is proposed that the results of the excavation be incorporated with the other on-going excavations of potential prehistoric settlement sites on the Tarbat Peninsula. This work may then be published as a stand-alone article on the settlement archaeology of the Tarbat Peninsula or will be incorporated into the wider Archaeology of Fortriu publication as a monograph or a journal article.

## 9. REFERENCES

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### Cartographic Sources

Ordnance Survey 1881, Ross and Cromarty, Ross-shire Sheet LV.11, 1st Edition 25 inch to the mile (Surveyed 1872)

Ordnance Survey 1906, Ross-shire 055.11, 2<sup>nd</sup> Edition 25 inch to the mile (Surveyed 1904)

## 10. APPENDICES

### APPENDIX 1 – CONTEXT REGISTER

Context No	Trench	Descriptive interpretation
001	All	Topsoil. Dark grey silt. 0.10 m depth.
002	2/5	Wall around the upper summit
003	3	Post-medieval wall
004	3	Rubble bank
005	4	N-S Post-medieval wall
006	1	E-W wall on summit. Overlies 016.
007	1	Deposit within the interior of summit structure – dark brown silt, charcoal, animal bone and blue glass bead. 0.08 m deep. Over 011.
008	1	Deposit beneath wall core (023) – orange brown clayish sand. Unexcavated.
009	1	Pink boulder clay – unexcavated.
010	1	Yellow gravel layer – unexcavated.
011	1	Deposit within the interior of summit structure, underlying 007 – fine mottled dark tan sand, bone, shell and charcoal throughout. 0.36 m depth. TP1.
012	Cave	N-S orientated wall within cave
013	Cave	N-S orientated wall within cave
014	2	Orange brown sandy clay with flecks of charcoal and rubble throughout. Deposit underlying wall 002.
015	2	Pink boulder clay. Underlying 014.

Context No	Trench	Descriptive interpretation
016	1	Soft dark grey sandy silt. Occ. charcoal flecks, pebbles and gravels throughout. Underlying wall 006. TP1
017	1	Pink boulder clay with 30% large boulders. Demolition layer of earlier structure? Underlying 016. TP1
018	1	= 016 in TP2.
019	1	Heavily compacted dark grey silt with 50% rubble throughout. Post-abandonment deposit under topsoil 001.
020	1	Pale tan compact gravel seen on surface as a narrow upstanding earthwork. Bank located against southern edge of summit. Overlying pink boulder clay 009.
021	1	Very rough rubble wall only identified in a small area on summit. 0.20 m in width, length unseen. Blocking of doorway/entrance of wall 006.
022	1	Possible earlier structure underlying wall 006. NE-SW orientated?
023	1	Wall core of wall 006. Identified within TP3 located across the back of wall face 006. 80% boulders within dark brown silt. 0.50 m depth.
024	Cave	Rock-cut basin within cave. Approx 10 m from cave entrance. 0.20 m diameter and 0.09 m depth. Bait hole?

#### APPENDIX 2 – PHOTO REGISTER

Photo No.	Trench	Context No.	Description	Facing
1	1		Trench 1 after removal of topsoil	S
2 - 5	1	020	Turf bank 020	S
6 - 13	2	002	Upper summit wall 002	E
14 - 20	2	002	Upper summit wall 002	NE
21 - 22	2	002	Upper summit wall 002	SE
23 - 27	1	007/009/010	Pre-ex Trench 1	S
28 - 29	1	009/010	Pre-ex Trench 1	S
30 - 31	1	007	Pre-ex Trench 1	N
32	2	002	End of wall 002	E
33 - 34	2	002	Wall 002	E
35			Blue glass bead	
36	3	003/004	Trench 3 – wall 003 and rubble bank 004	S
37	3	003	Wall 003	W
38	3	003	Wall 003	E
39	3	003	Wall 003	N
40 - 41	1	011	Pre-ex 011	N
42 - 44	4	005	Wall 005	S
45 - 50	1	010	Pre-ex 010 and wall 006	N
51 - 57	1	008	Pre-ex 008 showing outer face of 006 and TP3	S
58	1	006	Wall 006	E
59 - 66	1	006	Wall 006	W
67 - 69	1	006	Wall 006	NW
70 - 72	1	006	Wall 006	SE
73 - 75	1	006	Wall 006	E
76 - 78	Cave		Cave entrance	S
79 - 80	Cave	012	Wall within cave 012	
81	Cave	013	Wall within cave 013	
82 - 85	Cave	024	Rock-cut basin	
86 - 87	Cave		Blast holes within cave	
88 - 89	2	002/014/015	Section through wall 002	S
90 - 91	1	009	Pink boulder clay 009 and deposit 007 and location of TP1	S
93 - 95	1		Detail of north facing section – Bank 020	S
96 - 104	1		TP2 showing inner face of wall 006	NE
105 - 106	1	016	Pre-ex 016	N
107	1	017	Pre-ex 017 and base of wall 006	N
108 - 112	5	002	Wall 002 - elevation	SE
113 - 116	2	002	End of wall 002	NE
117 - 119	1	006	Curve of wall 006	NE
120 - 124	1	021/006	Blocking of doorway 021 within 006	W

125 - 131	2	002	West end of wall 002	SE
132 - 133	2	002	West end of wall 002	N
134 - 138	2	002	West end of wall 002	NE
139	2	002	West end of wall 002	N
140	1		Re-turfing Trench 1	NE
141 - 142	1	006	East end of wall 006	NE
143	1	006	Wall 006 curving	N
144 - 8	1	006/021	Entrance in wall 006 and blocking 021	W
149	1	022	Possible wall beneath 006	W
150	1	006	East end of 006	W
151	1	006	End of wall 006	W
152 - 3	1	006	Curving wall 006	N
154 - 5	1	006	Wall 006 east end	N
156	1		Re-turfed trench 1	NE

### APPENDIX 3 – DRAWING REGISTER

Drawing No.	Description	Type	Scale
001	Trench 2 – Wall 002 elevation	Section	1:10
002	Trench 1 – Pre-ex plan 006/007/008/009	Plan	1:20
003	Trench 4 – Plan of wall 005	Plan	1:20
004	Trench 5 – N-facing elevation of wall 002	Section	1:10
005	Trench 3 – wall 003 and bank 004	Plan	1:20
006	Trench 1 – Pre-ex of 019 and 020	Plan	1:20
007	Trench 1 – Pre-ex 011	Plan	1:20
008	Trench 1 – Pre-ex 010	Plan	1:20
009	Trench 1 – Pre-ex 016	Plan	1:20
010	Trench 1 – Pre-ex 017	Plan	1:20
011	Cave – Plan of walls 012 and -013	Plan	1:50
012	Trench 1 – S-facing elevation of wall 006 TP3	Section	1:10
013	Trench 1 – S-facing elevation of wall 006 TP1	Section	1:10
014	Trench 1 – Plan of wall 006/blocking 021 and possible wall 022	Plan	1:20

### APPENDIX 4 – SAMPLE REGISTER

Sample No.	Context No.	Description
1	007	Occupation deposit within building 006
2	011	Occupation deposit within building 006
3	008	Layer beneath wall core 023
4	014	Layer beneath wall 002
5	016	Layer beneath wall 006
6	018	Layer beneath wall 006
7	017	Boulder clay

### APPENDIX 5 – FINDS REGISTER

Context No.	Trench	Material	Description
001	1	Metal	Gunn clan badge
001	1	Bone	Animal bone (20 bones - sheep)
001	2	Bone	Animal bone (various bones - sheep)
001	2	Iron	Lump of slag
001	3	Ceramic	Blue and white glazed pottery sherd – heavily abraded
001	4	Ceramic	Fragment of clay pipe bowl
001	4	Ceramic	Two sherds of cream and brown glazed pottery
001	4	Iron	Lump of slag
001	4	Bone	Animal bone (sheep)

001	5	Iron	Lump of slag
001	5	Stone	Burnt and cracked stone x 3
001	5	Bone	Animal bone (6 bones - sheep)
007	1	Glass	Blue glass bead
008	1	Bone	Animal bone (1 bone - sheep)