# **Dunyvaig and Hinterland Assessment Project**

# **DHAP2021 Data Structure Report**

# Results of the third season of fieldwork at Dunyvaig Castle



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## Summary

Third and final fieldwork season of Dunyvaig and Hinterland Assessment Project was carried out between 22nd August and 17th September 2021` by the University of Reading and Islay Heritage. The archaeological aims of the season were to complete the assessment of the archaeology at Dunyvaig and gain further insights in the potential of the archaeological sites in the hinterland, namely Barr an t-Seann Duine promontory fort and Cill Mhoire burial ground/prehistoric roundhouse (Maričević 2021). While the objectives at the main site of the Dunyvaig Castle were fully met, the fieldwork at the other two sites was limited to earthwork and geophysical survey (Maričević 2020) and did not include any intrusive investigation due to limited resources. The objectives set out for the fieldwork at Dunyvaig Castle were to evaluate preservation and establish stratigraphic sequence relating to the north-west bastion of the castle and the area to the north of it where the geophysics (magnetic gradiometry, electrical resistance and GPR) suggested possible structures and/or defensive works stretching across the narrowest part of the peninsula. The archaeology in this area, including the upstanding structural remains of the castle, is seriously affected by coastal erosion and the purpose of the fieldwork was also to assess preservation and threat to exposed and buried archaeology in this part of the site. The excavation established important stratigraphic sequence relating to the construction of the bastion, which suggests that this was relatively early part of the castle defences contemporary with an earlier phase of the curtain wall, which was redeveloped at the time when the bastion was removed. Sloping batter or a buttress was added instead. In the north part of the trench the excavation did not find evidence for linear defences, instead a previously unknown structure with massively built mortared walls was discovered.

# Acknowledgements

As in previous seasons, the fieldwork was carried out with the Scheduled Monument Consent granted by Historic Environment Scotland and the Scottish Ministers and with the kind permission from the landowner Diageo plc, which we are very grateful for. We would like to thank the residents of Dunyvaig Cottages and The Plateau, especially Willy Currie for his continuous help and support. We have been superbly looked after during the three seasons of excavation by Karl, Lorna and Ishbel at the Port Charlotte Youth Hostel and without them the project would have been much poorer experience.

## Introduction

Third and final fieldwork season of Dunyvaig and Hinterland Assessment Project (DHAP2018-21) was undertaken during August and September 2021. The original scope of the proposed evaluation and survey has been described in detail in the Project Designs(Maričević 2018, 2019 and 2021) submitted to Historic Environment Scotland (HES) together with the Scheduled Monument Consent applications, which were granted without conditions (Case IDs: 300026824 (2018); 300038059(2019) and 300052062 (2021)). The aims of DHAP were to:

- 1. To evaluate the archaeological potential of Dunyvaig Castle and two of the key archaeological sites in its hinterland, Barr an t-Seann Duine and Cill Mhoire (Figure 1).
- 2. To evaluate the potential of soil and sedimentary deposits within the environs and hinterland of Dunyvaig Castle for reconstructing the environmental history and landscape development during the first millennium.
- 3. To engage the Islay community within the project and to identify the means to maximise community engagement within the Dunyvaig Project



Figure 1 Location of Dunyvaig Castle, Barr an t-Seann Duine and Cill Mhoire sites.

It was our intention to investigate all three named sites by both non-intrusive and intrusive methods. In the end this was not fully accomplished and Barr an t-Seann Duine and Cill Mhoire were not evaluated by trenching due to the complexity of archaeology encountered at the main site of Dunyvaig castle and the consequent lack of resources to expand the archaeological evaluation by trenching to the other two sites. They have been surveyed with different geophysical techniques the results of which have been reported on in DHAP2018 Updated DSR (Maričević et al. 2019) and DHAP2019 DSR (Maričević 2020).

The 2018 and 2019 DHAP seasons were immensely successful in terms of community engagement, the highlights being a series of well attended public events taking place on and off site, the school programme involving all primary schools on the island and the fieldwork participation by volunteers from the community and the visitors to Islay. It was therefore a great blow to the project not to be able

to continue this in 2020, when all fieldwork was cancelled, and 2021, when public did not participate in the project in any way other than through online updates via social media.

With no fieldwork other than teaching of earthwork survey as part of the University of Reading Field School taking place at either Barr an t-Seann Duine or Cill Mhoire, this season's DSR is entirely concerned with the results of the excavation in Trench 7.

## Results of the fieldwork

## Research hypothesis targeted by excavation

The aim of Trench 7, as stated in the 2021 Project Design (Maričević 2021), was to investigate:

- 1. The remains of the northwest bastion, especially its preservation and potential survival of any deposits inside its structure, which remain extremely vulnerable to coastal erosion. The excavation will also establish the relationships between the bastion and the curtain wall of the castle including the intramural opening in the course of the curtain wall, which, like its counterpart to the south, was probably a later addition to the original wall around the outer courtyard of the castle (Thacker 2019, 2021);
- 2. Possible ditch/moat feature as suggested by the multi-technique geophysical survey;

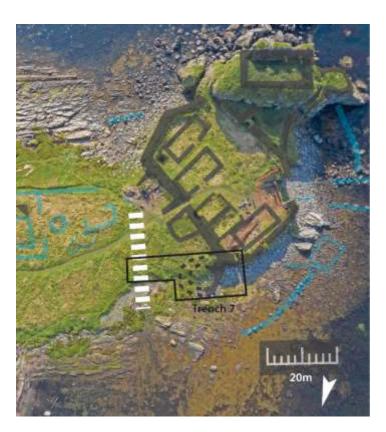


Figure 2 Location of proposed Trench 7 in relation to the castle architecture, outer structures and the geophysical anomaly shown as dashed white line superimposed on the drone aerial photo.

These two main objectives of the survey were closely based on the results of archaeological and geophysical surveys conducted in 2018 and 2019, which in the case of the northwest bastion postulated a round tower, in contrast to the RCAHMS' survey which identified trapezoidal structure, and a possible ditch/moat across the peninsula suggested on the basis of high magnetic and low resistance anomalies coinciding with the favourable topographic and geological features (Maričević 2021). These two hypothesis are visually summarised in Figure 2, which also shows proposed extent of Trench 7. The idea that the bastion may be a round structure was based on a curved stretch of what was believed to be an internal face partially exposed on the shore (Figure 3a) and backed by the straight outer face (Figure 3b).



Figure 3 a) View of the proposed curved inner face of the bastion tower and b) straight outer wall face.

Figure 4 shows comparative results of the electrical resistance and the magnetic gradiometry surveys in the area targeted by Trench 7. It highlights comparative responses of a probable kiln (circled) and a postulated linear feature (dashed) running on the northwest-southeast alignment. The anomaly is characterised by high magnetism and relatively low resistance, with a particularly sharp boundary towards the southwest. The arrow pointing at the course of the anomaly shows that it is aligned with a fissure or a cut in the bedrock visible in the underlying aerial photograph. The anomaly crosses the narrowest point of the peninsula right in front of the castle walls was thus suggestive of a ditch/moat with a geological feature, such as mafic dyke, also suggested as a possibility.

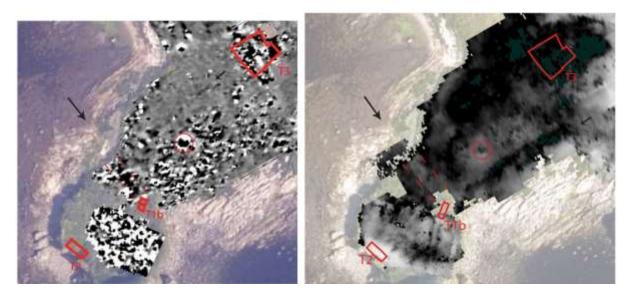


Figure 4 Comparative geophysics data from magnetic gradiometry (left) and electrical resistance (right) showing the linear anomaly targeted by Trench 7.

#### Trench 7

Trench 7, as proposed in the 2021 Project Design (Figure 3), would have measured 30m in overall length including a 20m by 12m wide area extending over the remains of the bastion and the northwest corner of the outer courtyard of the castle including the northernmost of the two openings along the western curtain wall, which was also to be investigated. In the field, however, the extent of the trench was reduced for a number of reasons. The opening or a loop in the western curtain wall was decided to be unsafe to excavate before the consolidation of the flanking walls. The excavation of the top of the curtain wall was decided to be unnecessary in line with the aims of the season, because the relationships between the bastion and the curtain wall were being established at the base of the wall and not at the top. Finally, upon the initial deturfing and rubble clearance it was clear that the bastion is smaller than hypothesised in the Project Design and that substantial part of the proposed wider part of the trench is extending over bedrock with minimal vegetation cover and no surviving archaeology. As a result the overall dimensions of the NE-SW orientated trench were 25m in length with a wider 10m by 10m area over the remains of the bastion and a 15m by 6m narrower area to the northwest (Figures 5 and 6). An additional sondage, measuring 1.2m by 1m, was excavated 3.4m to the east from the southeast corner of Trench 7 along the outer face of the curtain wall after written request was made and permission granted by HES.

#### Bastion and the northwest corner of the castle

Trench 7 was orientated northeast to southwest, roughly in line with the undulating shoreline and following the lines of the bastion, which was very quickly shown to be angular structure very closely resembling the RCAHMS (1984) survey plan. The curved shape of the alleged inner face described in the Project Design (Figure 3a) was shown to be the artefact of stone displacement from the straight face of the bastion, which then appeared to form a unified structure with the large stones at the end of the bastion. These stones were probably placed there as the breakwater, i.e. additional protection from the sea, rather than the constituent part of the bastion structure (Figure 7 and 8).

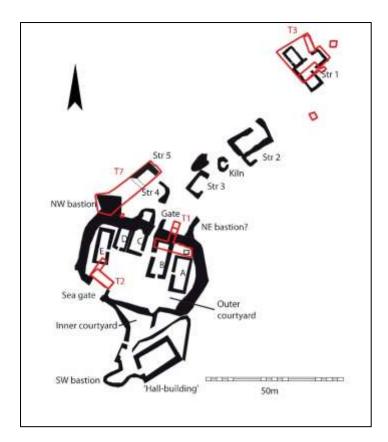


Figure 5 Plan of Dunyvaig Castle and environs showing location of Trenches 1, 2, 3 and 7.

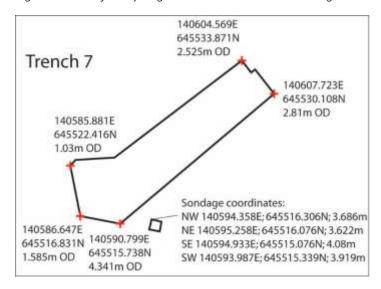


Figure 6 Trench 7 and sondage coordinates.



Figure 7 Aerial view of Trench 7 mid-excavation. Scales 2m. Drone photography: Sarah Lambert-Gates

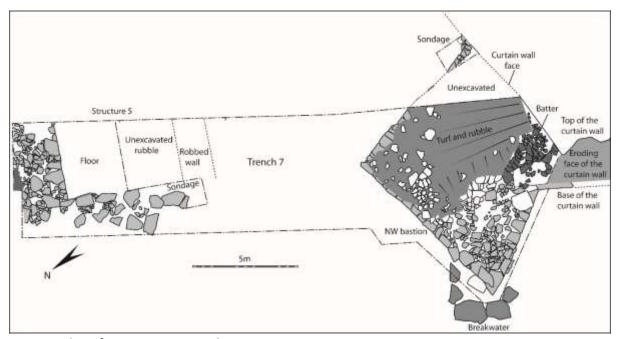


Figure 8 Plan of structures in Trench 7

The excavation in the area of the bastion was undertaken at two different levels due to the way the erosion has formed a step in line with the eroding face of the curtain wall (Figure 10). As a result the western part of the bastion was partially exposed and sporadically covered by loose rubble, beach shingle and a few grass tussocks. The higher stepped area to the east was turfed and formed a large 'hump' sloping up to the top of the curtain wall. After the removal of turf (7000) it was immediately obvious that the underlying material differs in this area to that in the rest of the trench where dark greyish brown sandy loam topsoil (7002) was overlying other archaeological deposits (Table 1, Figure 9). Instead, deposit (7030), a compact mid orange brown sandy clay with some grey patches and occasional large stones, was gradually sloping over the walls of the bastion to the north and northeast (Figures 8 and 10). Deposit (7030) was reminiscent of the redeposited turf encountered during the excavations of Trenches 1 and 2 inside the castle courtyard, especially where slipped from the top of the curtain wall and the same process may well have occurred here on the outer side of the wall.

Table 1 Description of contexts excavated in Trench 7 and adjacent sondage

Context	Туре	Description						
7000	Deposit	Vegetation cover comprised of scrubby grass and nettles. Roots within a mainly dark brown humic loam. Lighter red brown sandy silt where ground slopes up to the castle walls.						
7001	Deposit	Mid brown sandy clay with charcoal and bone inclusions.						
7002	Deposit	Loose to compact dark greyish brown sandy loam with frequent stones and roots. Contaminated with modern beach debris, plastic etc.						
7003	Deposit	Compact mid orange brown sandy clay with grey patches, some rubble charcoal, moderate small stones and frequent roots. Largest rubble ston 1mx0.36mx0.26m.						
7004	Deposit	Loose, generally dark grey brown sandy silt with small stones, frequent pebbles, bone and charcoal						
7005	Deposit	Loose dark grey brown sandy silt with gravel, frequent large angular stones, roots, occasional bone, flint, slag and charcoal						
7006	Deposit	A midden-rich part of bank material on top of remains of the bastion						
7007	Deposit	Moderately compacted orange brown silty clay with moderate medium angular stones, mortar and slag. Same as 7014						
7008	Deposit	Mid brown loose sandy gritty loam with moderate to frequent stones						
7009	Deposit	Loose brown to light brown sand and gravel with frequent roots along its upper and outer extent. Inclusions of occasional metal and charcoal.						
7010	Deposit	Compact mid greyish brown silty sand dominated by rubble, sub-angular and sub-rounded stones up to 20cm in size						
7011	Deposit	Rubble on top of wall 7015, mixture of large to medium stones some water rounded cobbles and angular blocks (largest 0.32x0.27x0.22m). These lie in a light brown gritty silt, possibly degraded mortar.						
7012	Deposit	Dark grey brown humic silt. Contains stone, bone, pot, iron. Quite thick dump accumulation of midden, includes frequent to moderate butchered animal bone, also frequent periwinkle shells along with some limpet shells.						
7013	Deposit	Dark brown gritty loam with moderate to frequent stones/rubble. Very similar to 7010 above but with less stones and more silty. Inclusions of bone and charcoal.						
7014	Deposit	Soft mid brown sandy clay with charcoal, bone and occasional sub-rounded and rounded small stones. Same as 7007						
7015	Structure	NE wall of Structure 5.						
7016	Structure	Bastion attached to the NW corner of castle.						
7017	Structure	Addition of a battered wall or buttress to the NW corner of the outer enclosure wall of the castle.						
7018	Deposit	Loose mixed dark brown grey silt and light yellow brown mortar. Includes large stones from wall collapse (max. size 0.66x0.24x0.2m). Contains occasional bone, charcoal, Fe object						
7019	Deposit	Light brown (orange yellow) clayey silt (compact) with rubble						
7021	Deposit	Gritty material on top of rubble 7010. Mid brown sandy silt with occasional rubble and smaller stones						
7022	Deposit	Loose light yellow to golden calcareous sand with grit and sub-angular and sub-rounded stones of medium size, possibly protruding and pushed in from above and below						
7023	Deposit	Compact light brown gritty sandy silt with pea gravel (40%). Seen initially as 1.2m round spread surrounded by sand 7022, which later proved to be overlying 7023						
7024	Deposit	Hard greenish grey stones forming a cobbled surface. Extent 1.1 x 0.5 m						
7025	Deposit	Soft beigey creamy brown mortar (degraded) rubble. 0.3m in thickness. Includes sub-angular and sub-rounded stones (20%) between 3 and 20 cm in size.						

Table 1	Continued	
7026	Deposit	Cluster of bone including dog skeleton SF188
7027	Deposit	Soft reddish gritty silt with midden including bone and charcoal
7028	Deposit	Gritty reddish brown silt with flecks of charcoal and beach grit
7029	Structure	Curtain wall of the castle at the northwest corner of the outer courtyard. Heavily eroded face to the west.
7030	Deposit	Light yellow brown clayey loam with some rough banding. Redeposited turf slipped from the top of the curtain wall.
7031	Structure	Wall of large blocks of stones (almost orthostats) with pinning between forming inner face of Structure 5. Only the inner face partially survives, the rest presumably robbed or more likely damaged by sea erosion.
7032	Deposit	Dark brown silty clay deposit. Includes bone, pot, stones and charcoal.
7033	Deposit	Soft dark grey sandy clay with stones and charcoal inclusions. Fill of possible post-hole.
7034	Structure	Floor of Structure 5. Varies in colour from orange red to light grey or brown. The make-up appears to be dark red/pink angular gravel overlain by a light brown mortar. A lighter grey patch may be a repair.
7035	Deposit	Hard bedrock, jugged and possibly quarried in places. Structures built directly onto it (bastion) or in the case of Structure 5 mortared onto it.
7036	Structure	Lower curtain wall of the castle courtyard seen as the lowest surviving course at the west side where it meets the bastion. This could be the same as the lower part of the elevation exposed in the sondage where bastion wall 7016 abuts it.
7037	Cut	Possible post-hole filled with 7033

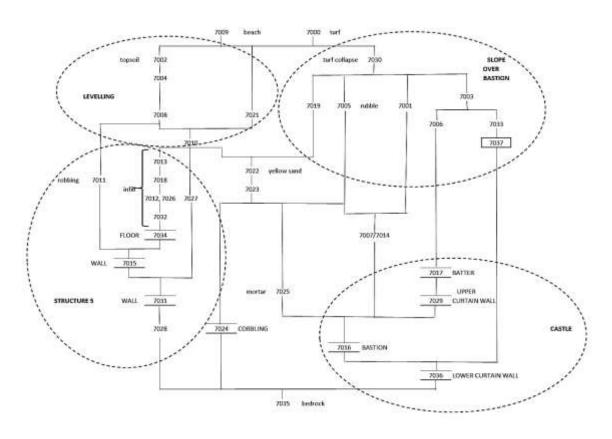


Figure 9 Stratigraphic matrix for Trench 7 and adjacent sondage

Underlying (7030) was rubble (7003), which spilled over the edges of the bastion to surrounding areas. The main body of rubble on top of the bastion was already partly exposed by the erosion where many voids could be seen in between the stones (Figure 10). Once cleaned up this provided a section through the material overlying the structure of the bastion (Figure 11). Localised concentration of bones and organic material (7006), was noted below the rubble and abutting the sloping face of batter (7017). The batter was only partially uncovered in order not to destabilise it or the material abutting it and, thus, protecting it (Figure 12). The base of the buttress/batter is 1.3m wide from the original wall line of the enclosure wall and 2.3m high giving the sloping face c.60° angle. The batter is composed of mixed rubble split to form even face with neat pinning stones between the broader facing stones. The stones were mortared with a compact light grey brown lime mortar. Although only a small part of the batter was exposed by excavation we know that it either did not continue or it does not survive more than 3m in length along the face of the curtain wall, as it was not present in the sondage east of the main trench (Figure 8). At the other side, the batter was eroded away together with the western face of the curtain wall, so we do not know whether the buttress returned along the western face too. The base of the batter was resting directly on the remains of bastion (7016), which indicates that this structure was reduced prior to its construction.

Deposit (7007/7014), a mid-brown sandy clay, was observed in Section 34 (Figure 11) underlying rubble (7005) and elsewhere along the north face of the bastion face, also underlying localised dump (7001), a mid-brown sandy clay containing charcoal and bone revealed near the northwest tip of the bastion structure. It is not clear what deposit (7007/7014) represents and what its true extent is, but appears to have been laid against the face of the bastion wall right on top of the bedrock.



Figure 10 Oblique view of Trench 7 from the west with exposed part of the bastion in the foreground, stepped up slope covered in redeposited turf (7030) and the rest of the trench with darker topsoil (7002) in the background to the northeast.

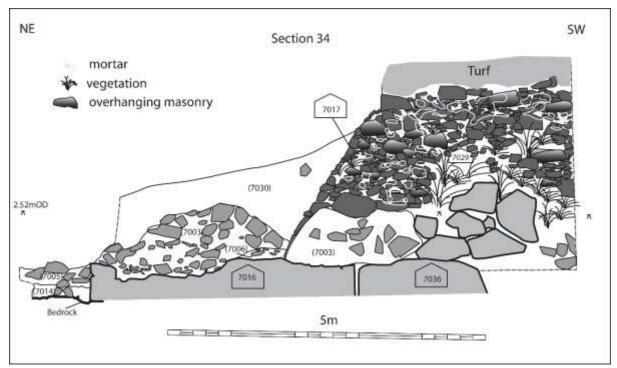


Figure 11 Section 34 through deposits overlying and abutting bastion foundations (7016) and batter (7017). Core of the eroding curtain wall (7029) is also shown, as drawn from photogrammetry. The face of curtain wall (7036) was disturbed above the bottom course, but remaining near to its original position.



Figure 12 Exposed part of batter or buttress (7017) from the north (left) and from above looking west and showing how it abuts face of curtain wall (7029) at the top.

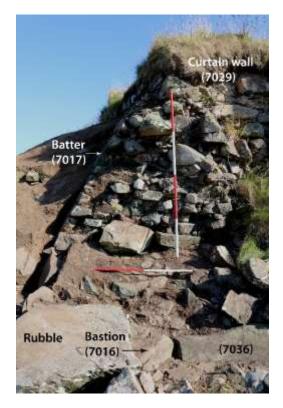




Figure 13 Left: Annotated structural components at the northwest corner of the outer courtyard showing the relationships between bastion (7016), earlier curtain wall face (7036), later curtain wall (7029) and batter (7017); Right: view of batter (7017) and surviving bottom course of curtain wall (7036) in relation to the better surviving face of the curtain wall on the same line in the background demonstrating the volume of masonry lost to erosion.

The northwest bastion was formed of three walls forming an angular base (Figure 14), measuring 5.35m along the west face, 9m along its north face and 7.25m along the east face. They were bound by light yellow brown mortar with shell inclusions, although most of this has been eroded or weathered. The walls have been constructed directly onto bedrock, the angular nature of which suggests it was partially quarried prior to construction. The foundations step out slightly as the walls descend from east to west towards the sea. The walls are of mixed local rubble, split in part to form a vertical face. The highest standing part of the walls was revealed within a slot on the northeast side, where it stood up to 1.3m in height (Figure 15). The coursing was very rough with rough pinning stones between larger blocks. Abutting the wall and underlying rubble (7005) were light brown clay silt (7019) and below it thick layer of mortar (7025), which may have been a wash from the bastion wall.

At the basal courses nearer the apex of the bastion the levelling of the stones and the pinning of the walls was of better quality. Here the largest stone measures 1.16x0.70x0.20m (Figure 16A). The outer walls retain a rubble core, which was likely mortared but this now eroded where exposed to the sea. Much of the core material is angular blocks possibly some deriving from any quarrying of the bedrock prior to construction.



Figure 14 Aerial image of the partially exposed remains of the bastion at the southwest end of Trench 7 showing three-sided angular structure and the large stones protecting the northwest tip in the lower part of the photo. Scales 2m. Drone photography: Sarah Lambert-Gates





Figure 15 Northeast corner of bastion (7016) abutted by rubble (7005) and after the excavation of a slot showing maximum height of walling and the angulating nature of the bedrock it was built on.

We know from the RCAHMS' survey (1984) and the recent work by Mark Thacker (2021) that the curtain wall has two recognisable phases. The earlier phase consists of substantial parts of the core of the wall as well as parts of the surviving wall face, especially along the lower courses. The masonry of this earlier phase is bound by shell-based mortar, while the later phase is bound by limestone-based mortar. The later phase involved insertion of two looped openings, probably created to accommodate canons. At its northwest corner inside Trench 7, the curtain wall, as we have seen is heavily eroded, making the investigation more difficult. The excavation in this area had to be constrained due to health and safety conditions relating to the overhanging and potentially collapsing masonry from the body of the curtain wall and the batter. Nevertheless, the presence of both phases of curtain wall can be demonstrated. The earlier one, (7036), survives in situ as the bottom course represented by a large elongated stone to which the bastion wall was attached to (Figure 16B). Unfortunately any mortar that may have bonded them together has eroded. Several other facing stones were still present above this bottom course of (7036), as shown in Section 34 (Figure 11). Although still forming a recognisable wall face, they have slipped somewhat from their original position. The lower part of the curtain wall would have had a slightly battered face as it is visible further south where the wall is in better state of preservation (Figure 13B). The bastion appears to be in phase with the lower phase of the western curtain wall (7036) with which it forms contiguous wall face along the bottom courses (Figure 14).

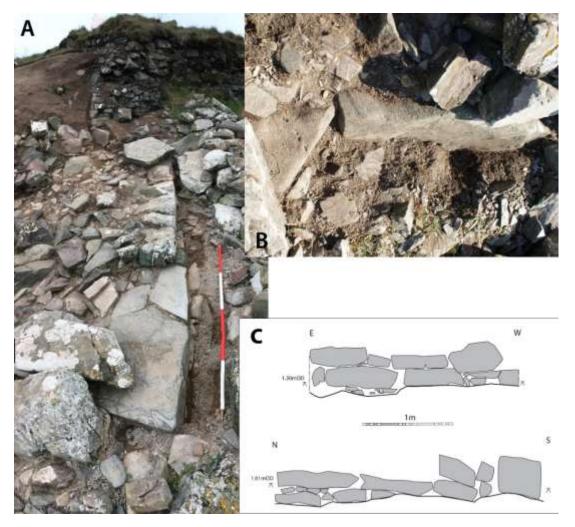


Figure 16 A – Western wall of bastion (7016), view south; B – junction of the western bastion wall (7016) and curtain wall (7036); C – North and west-facing elevations 35 and 33 of exposed bastion walls.



Figure 17 View of excavation in the sondage showing two phases of the curtain wall and the junction with the eastern side of the bastion. The image on the right shows the angle of deviation between the lower curtain wall (7036) and the face of the upper curtain wall (7029).

In order to provide additional evidence about the relationship between the bastion and the curtain wall, a 1.2m by 1m sondage was excavated to the east of the main trench at the location where projected eastern face of the bastion was going to meet the north face of the curtain wall (Figure 8). After the removal of top deposits constituting the material sloping away from the curtain wall in the north-easterly direction, (7000), (7030), (7003), the sondage revealed the continuation of the eastern wall of the bastion and its junction with the curtain wall (Figure 17). The face of the curtain wall was exposed down to the level to which the bastion remains survived at which exact point the corresponding course of the curtain wall was protruding at an angle of c. 5° from the rest of the wall face above it. This was interpreted as being further evidence for two phases of the curtain wall, the lower (7036) in phase with the bastion (7016), which abuts it, and the upper (7029), which appears to have been built after both the bastion and the previous curtain wall were demolished to the same height. The sondage also contained a possible post-hole [7037] set against the lower curtain wall (7036) and filled with soft dark grey sandy clay with small stones and charcoal inclusions.

It is worth noting that although based on the relationships on either side of the bastion the current interpretation represents the simplest possible scenario offered by the evidence. The actual architectural history and the sequence of development may have been more complex. Current interpretation assumes that the lower phase of the curtain wall in the west is the same phase as the lower phase of the wall in the north and while this makes sense in as much as both appear to be in phase with the same bastion structure, it is also possible that further remodelling of the curtain wall took place both before the construction and after the demolition of the bastion.

#### Structure 5

Topsoil (7002) covered the entire northern flat part of the trench and was overlying successive deposits (7004), (7008) and (7010), which also extended across this entire area (Table 1, Figure 18). Deposit (7004) was dark grey sandy silt containing many roots and frequent stones. Deposits (7008) and (7010) were extensive rubble deposits. In couple of places the rubble was piled up in discrete concentrations of larger stones, but for the best part it was evenly spread and graded to stones smaller than 0.30m in size, suggesting that extensive levelling of the area was undertaken by laying of this material. All three deposits contained multitude of finds including Fe objects, glass, clay pipe fragments and occasional pottery. Deposit (7010) contained three small finds: bronze strap SF184, stone hammer SF186 and bone point SF187.

The western edge of the trench was somewhat different due to the mixing of the material with the sandy beach deposits through sea action. Gritty mid-brown sandy silt (7021) was overlying deposit (7010) in this area. The edge of the trench was essentially the erosion scar created by the sea and dominated by a scatter of large boulders and bedrock outcrops. The boulders were clearly either remains of a substantial structure. Initially, it was thought that this could turn into a slipway because of its location in line with the boat landing in the form of a channel cleared of rocks in the intertidal zone. Its location was also in the right place for the high magnetic linear anomaly targeted by this part of the trench (Figure 2). As the excavation progressed, however, the line of boulders along the edge of the trench extended towards the northeast, while a perpendicular line of masonry was emerging through the rubble (Figure 18). The excavation of rubble (7010) helped to define and connect these remains revealing two sides of a substantial building on a NW-SE alignment, named Structure 5



Figure 18 Aerial photo of Trench 7 north of the bastion showing extensive area of rubble and the emerging walls of Structure 5 at the northeast end.

The northeast end of the trench was occupied by rubble (7011), a mixture of medium to large stones, which included both rounded beach cobbles and angular blocks. The rubble was mixed in with light brown gritty silt, most likely degraded or disturbed mortar. Deposit (7011) was directly overlying the remains of northeast wall (7015) of Structure 5 and may have been a product of the robbing of the wall. The edge of the trench was extended for 0.4m, having been initially put 1m shorter than set out in the Project Design. The extra room was needed to explore the outer face of wall (7015), which was obscured by rubble (7011). Further excavation established that at this level wall (7015) did not have outer face. Instead the core of the wall was mortared directly onto protruding bedrock outcrop, thus creating a wall base up to 2.35m in width and extending further to the northeast beyond the edge of the trench (Figure 19).



Figure 19 Rubble (7011) over wall (7015) from the southeast showing extended edge of the trench (left) and detail of robbed wall (7015) mortared onto the bedrock outcrop (right). Scales 1m.

To the southwest of this wall deposit (7013) extended across the entire estimated width of the structure and beyond, as the corresponding south-eastern wall did not emerge (Figure 20). (7013) was a dark brown gritty loam still mixed with rubble, but less so than the overlying (7010). The excavation inside the structure was continued within a 3.5m by 2.5m wide slot set against wall (7015) and the remaining part of the surviving interior face of the south-western wall (7031), thus extending across approximately half of the width of the interior. Deposit (7013) was producing increasing number of animal bones in comparison to the overlying deposits and a single coin SF185 (Figure 21), a billon hardhead of James VI minted between 1588 and 1590 (NMS).



Figure 20 Deposit (7013) and walls (7015) and (7031) of Structure 5 prior to the excavation of 2.5m slot between the walls and the 2m scale.



Figure 21 A billon hardhead of James VI found in deposit (7013).

Underlying deposit (7013) was a mixed deposit of loose mixed dark brown grey silt and light yellow brown mortar containing large stones, many of which also had mortar attached to them. These stones were also considerably larger than previous rubble deposits, unevenly jumbled and tipping from east to west, thus resembling an inward wall collapse from the direction of wall (7015) (Figure 22).



Figure 22 Mortar and rubble collapse (7018) from the southwest.

At the base of the deposit a series of flat slabs have been found resting on the interface with the underlying midden (7012). Other than their flat shape these slabs were not distinguishable from the general bulk of the rubble in deposit (7018), but on closer inspection it was noticed that several had faint incisions, often in the form of criss-crossing lines identified as designs of gaming boards for strategy games such as 'Fox and Geese' and possibly 'Alquerque', but also other markings including zigzags and even a possible gaming tally (Figures 23 and 24).

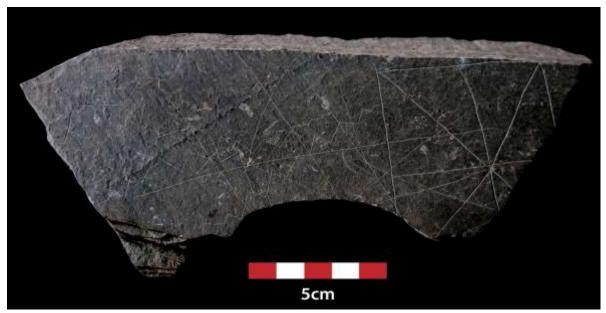


Figure 23 Incised stone SF197 with part of game board design on the right and zig-zags on the left.

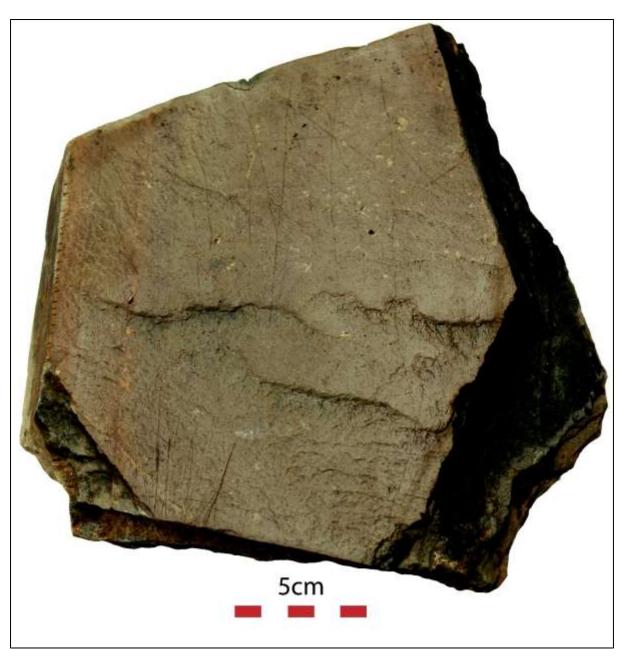




Figure 24 Incised slab SF203 with game board and other markings (top) and the detail of the edge with the notches relating to a possible game tally (bottom).

The recovered incised stones vary in size tremendously from thin pieces of slate, only few centimetres long, to up to 1m long slabs of epidiorite almost too heavy to lift. Most of them have been broken with some of the pieces refitting. The context of these finds in the structural rubble poses the questions of the timing and nature of not only their incision but also the games that were presumably played on them. Some of the slabs have mortar attached to them, suggesting they were part of a structure, others have incisions on both sides indicating that the incisions were not made while the slabs were *in situ*, as part of a floor for example. In some instances the incisions are scored across the remains of the mortar, which gives an indication that the gaming activity probably occurred during or after the demolition rather than prior to the use of the slabs in construction (Figure 25).



Figure 25 Incised stone SF202 showing detail of gaming board design and other scoring including lines that cross mortar residue adhering to the stone.

The incised slabs were laying on top of very different deposit to rubble (7018), a soft dark grey brown humic silt (7012), rich in animal bone and other organic material including periwinkle and limpet shells and charcoal. The abundance of animal bone suggests that the deposit represents a kitchen midden presumably accumulated after Structure 5 went out of use, but perhaps prior to the wall collapse or demolition represented by (7018). In addition to kitchen waste a skeleton of a small dog SF188 was discovered in the northwest corner of the structure. The skull was the uppermost part of the skeleton surrounded by periwinkle shells (Figure 26). The remainder of the skeleton, excavated as deposit

(7026), was a cluster of articulated dog bones, but perhaps also including other disarticulated remains relating to the general midden deposition in (7012).

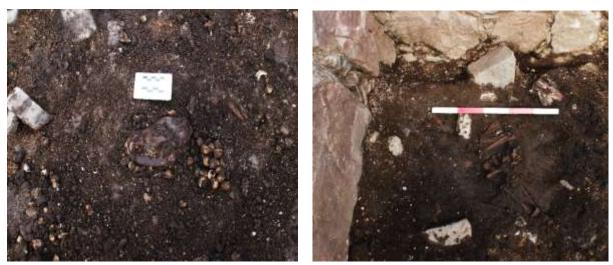


Figure 26 Dog remains (7026)/SF188 in the northwest corner of Structure 5

Underlying midden (7012) was dark brown silty clay (7032), which also contained bone, charcoal and pottery. This was a basal deposit in Structure 5, directly overlying mortar floor (7034). It is not clear whether this deposit represents the initial deliberate infilling of the abandoned structure or the last use of the building. A micromorphology sample SA141 was taken through deposits (7034), (7032) and (7012) from Section 40 created by the excavation of the slot through the internal deposits (Figure 27).

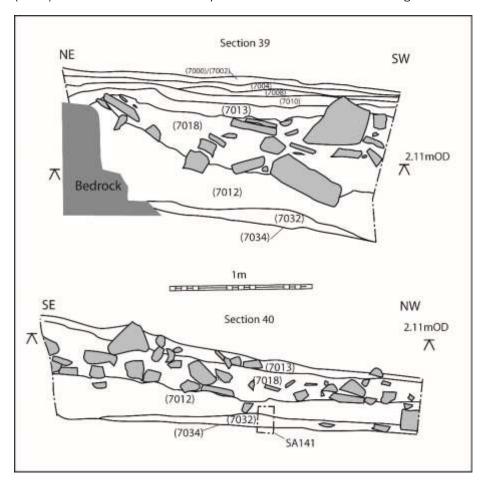


Figure 27. Sections 39 and 40 through deposits inside Structure 5

Floor (7034) was composed of dark reddish angular gravel make-up topped by light brown mortared surface with a lighter grey mortar area in the southeast part of the slot, which could indicate a repair. The surface has worn through over most of the exposed part of the floor (Figure 28). The floor abutted both walls and covered their bases. The floor was sloping from the east to the west, which was also the general direction of tipping of rubble (7018) above. Four evenly spaced XRF samples for chemical trace analysis have been taken from the surface of the floor deposit within the slot after which no further excavation took place, so it remains unknown if (7034) was the original floor surface or whether earlier surfaces survive underneath.





Figure 28 Slot through deposits in Structure 5 at the end of the excavation showing floor (7034) and the internal elevations of walls (7015) and (7031). Views from SW and SE, scale 2m.

The excavation of slot through deposits in Structure 5 exposed the internal elevations of walls (7015) and (7031), while the external faces of neither wall survived. As already described, wall (7015) was mortared onto the existing bedrock outcrop c.0.8m higher than floor (7034), thus creating a sunken interior. The wall was heavily robbed and probably toppled inwards, so the external face did not survive. It is apparent that the base created for the wall is very wide (Figure 19) and thus capable of supporting a very substantial wall including a hypothetical second storey. The external face of wall (7031), on the other hand, has collapsed to the shore and several of its larger stones are still present, but no longer *in situ*. This wall may have also been robbed, but the final damage appears to have occurred as a result of coastal erosion (Figure 18).

From the inside of the structure it is immediately apparent that the two walls were built in completely different ways. The face of wall (7015) was constructed from roughly coursed blocks of different shapes and sizes, which presumably reflect the availability of locally available material, with numerous pinning stones squeezed to fill the gaps and maintain level coursing (Figures 28 and 29). It is worth noting that the wall contains many flat blocks similar to those with incised motifs in rubble (7018). Where wall (7015) meets the southeast edge of the trench it straddles a bedrock outcrop protruding up to the half of the surviving height of the internal wall face. The surviving part of wall (7031) was constructed from a series of large blocks of stone, which have an orthostatic appearance, with columns of pinning stones filling the vertical spaces between them (Figures 28 and 29). The relationship between the two walls was very clear when seen from the interior where all surviving courses of wall (7015) abutted the first 'orthostat' of wall (7031), but the wall core beyond their respective faces could not be separated and may indicate that although built in different ways the walls were built at the same time.

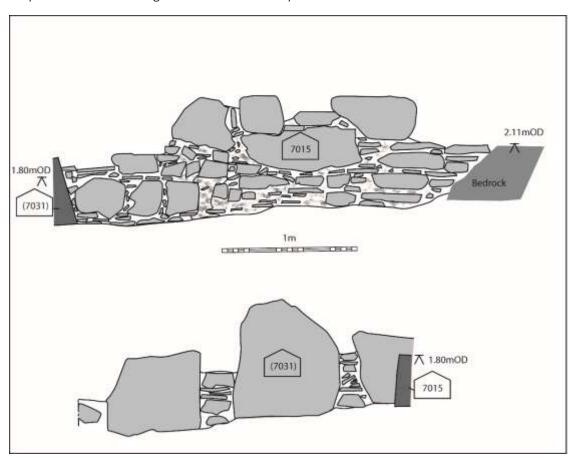


Figure 29 Internal elevations of the walls of Structure 5 exposed within the excavation slot.

The inner face of wall (7031) survived in the area of the excavated slot, but then gradually dissolved into a jumbled line of disturbed rocks caused at least partly by robbing, but also the coastal erosion. The line of the wall was explored by an additional elongated slot in attempt to locate the returning southwest wall of the building, but this appeared to have been robbed away completely at the junction with wall (7031). The missing wall must have returned where the line of stones of wall (7031) ran out because of the rising bedrock beyond this point (Figure 30), which was much higher than the level of floor (7034). Deposit (7027), a soft reddish gritty silt was encountered on the inside of wall (7031) and probably represents another infilling deposit similar or equivalent to midden (7012). On the outside of wall (7031), another reddish brown silt deposit (7028) containing occasional charcoal filled the gaps between the outcrops and was underlying disturbed stones of wall (7031). Due to the disturbed nature of the wall it was not possible to be certain whether the deposit predates the construction of wall (7031), although this appears to have been most likely.



Figure 30 Area of raised bedrock at the end of wall line (7031) where Structure 5 was unlikely to have extended.

#### Central Area

The area between Structure 5 and the bastion was initially covered with the same levelling rubble deposits (7004), (7008) and (7010) that also extended over Structure 5. Much of this area remained unexcavated below deposits (7010) and (7013) except in the area immediately northeast of the bastion where several different deposits were revealed below (7010), most notable of which was clean golden sand (7022). The extent of the sand was in two elongated and ephemerally connected spreads (Figures 31 and 32). The soft deposit impacted by many stones imbedded from above and protruding from below. Between the two areas of sand was a light brown gritty sandy silt with high concentration of pea gravel and frequent small stones. To its immediate east was a small area of cobbling (7024) created by laying of small flat stones to even out jugged surface of the underlying bedrock. The sand was somewhat mysterious occurrence, because it did not resemble the local beach sand, which is not as clean and has high proportion of fine gravel. The nearest sources of clean beach sand occur at Am Fasach and Tràigh Liath, three miles westwards and four miles eastwards, respectively. A local source has commented by saying that visually, at least, the nearest match for the colour of sand (7022) is at Kilnaughton Bay, 6 miles to the west as the crow flies (Niall Colthart pers.comm.).

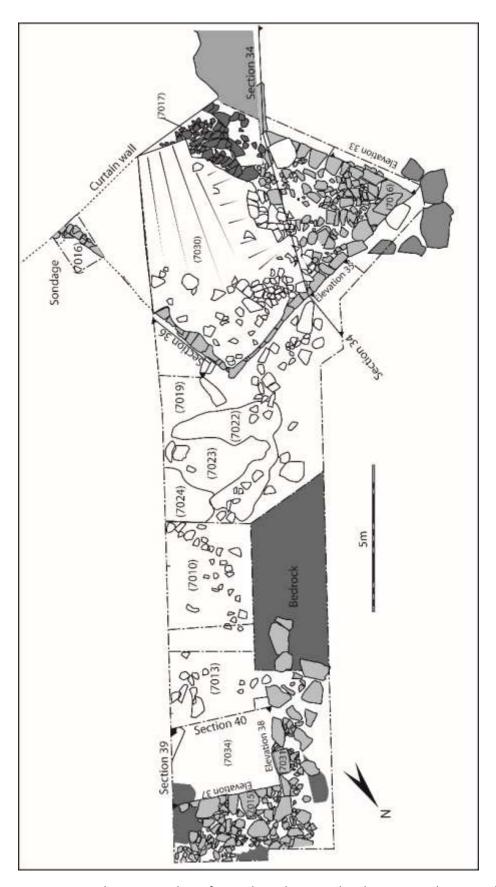


Figure 31 Multi-context plan of Trench 7 showing the deposits in the central area, extent of the excavation and the location of section and elevation drawings.



Figure 32 deposits underlying rubble (7010) in the central part of the trench, showing sand (7022), gritty silt (7023) and cobbled surface (7024).

The sand and the surrounding area were inspected for structural features, such as beam slots and post-holes, but none were found reducing the possibility that the sand was brought in as an internal floor surface, unless any organic superstructure such as turf-built walling had completely perished. Alternatively, the sand was just another of deposit dumps brought in to level the area, although if it was imported from some distance, this was probably for a more specialised activity. The sand may have been the refuse related to an industrial activity, such as mixing of mortar, following which it was rapidly buried under rubble. The examination of mortars within the matrix of the castle walls by the Scottish Medieval Castles & Chapels C-14 Project (Thacker 2021) suggests that the local foreshore aggregate was primarily used in the construction of the castle.

A 3m long and 0.5m wide slot (Figure 33) was excavated through deposits (7022) and (7023) in order to gain better understanding of their relationships and formation. This revealed that sand (7022) was a very thin deposit overlying more substantial (7023), which was in turn overlying cobbled surface (7024) in the northeast and mortar (7025) in the southwest, mentioned previously in relation to the slot against the east wall of the bastion.



Figure 33 Slot through deposits (7022) and (7023) excavated down to natural (7035).

#### Reinstatement

Following the end of the excavation the trench was covered in geotextile with particular attention to the walls, floors and other structural elements, all of which were carefully protected (Figure 34). The exception was the lowest part of the bastion, which would not benefit from such treatment. Being exposed to the action of the sea, the slick surface of the geotextile would in this case aid the erosion of any material put on top of it. Instead, this part of the bastion was protected by the materials which were originally on top of it, i.e. rubble and shingle (Figure 35). Section 34 created by the erosion of the slope above the bastion remains was lined with geotextile against which a dry wall was built. The batter and the overlying material was similarly fortified with a retaining dry walling built into a slope and mixed with backfill soil. The top of the slope where no excavation took place other than deturfing, geotextile was not used due to the exposed nature of the location, which would have made any reinstated turf liable to blow away from the surface of the geotextile prior to taking root. Large stones and rubble was additionally used along the western edge of the trench to help to retain the soil and rubble of the backfill and protect the archaeology from the sea erosion.





Figure 34 Laying of geotextile across excavated trench



Figure 35 View of lower bastion area covered in rubble and dry stone walling and soil/turf cover ove5r the slope overlying the bastion and batter



Figure 36 fully reinstated Trench 7 with retaining rubble edge along the shore side edge

## Summary and discussion

The aim of Trench 7 was to answer two main questions: 1. What is the level of preservation and threat to the remains of the northwest bastion and its relationships with the adjacent castle architecture?; 2. Does the substantial geophysical anomaly north of the castle represent response to a defensive line, such as a moat/ditch or a wall, traversing the narrowest part of the peninsula? Both of these questions have been answered successfully, but the excavation has also provided some unexpected results relating to the previously unknown archaeology on the site. This primarily concerns discovery of Structure 5, a large and well-built building in the immediate vicinity of the castle walls, which increases the ove5rall number of structures outside the castle walls (Figure 27).

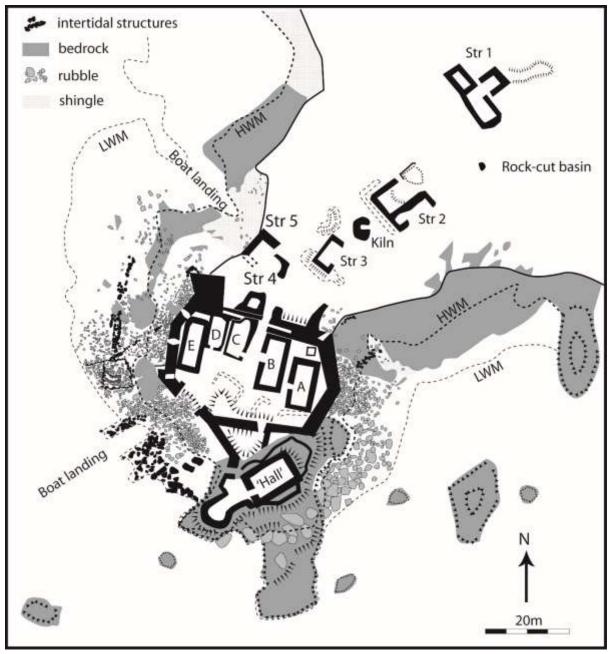


Figure 27 Updated plan of Dunyvaig Castle and environs

The building was constructed on northwest-southeast alignment at an angle to the castle walls, but on similar alignment to the other structures in the environs (Structures 1-4). The partial layout of Structure 4, which occupies the same space as the unexcavated part of Structure 5, is based on the earthwork survey conducted in 2019, when Structure 5 was still unknown. The re-examination of this area in 2021 leaves this interpretation in question due to the ephemeral nature of the possible earthworks and the nature of the vegetation cover. Nevertheless, it is possible that the survey picked up a smaller structure built on top of the remains of Structure 5, but this can only be confirmed by excavation.

Structure 5 was built with northwest gable facing the bay, while the side walls were squeezed among the bedrock outcrops to which some of the walls were mortared onto directly. The bedrock may have been partially quarried to provide level space for the floor. The walls were more substantial than any other building sampled by excavation to date whether inside or outside the castle walls. Although the southwestern wall was not found due to being robbed and the limited time for further excavation, we can be fairly confident about its location, which gives the building overall width of c. 9-10m and the internal width between 5 and 6m. We can only speculate about its length, but the probability is that the line of the main castle gate was not obscured even after the castle walls were brought down by bombardment in 1615, as this remained the main access into the courtyard occupied by the 17<sup>th</sup> century buildings A-E (Figure 27). If this was so, than the end of Structure 4, which is in line with the gate, might also provide most likely location of the southeast gable of Structure 5 giving it the length of 11-12m. The overall dimensions estimated in this fashion measure comparably to Structure 2, which is unexcavated and poorly understood, and the 'hall'- building at the summit of the castle. The analysis of the pottery, animal bone assemblage and environmental samples will shed further light on what Structure 5 may have been used for and when it was occupied.

The re-examination of the geophysical results with the benefit of the ground truth information from Trench 7 helps to explain the targeted anomalies to a certain degree. Structure 5 is located directly in line of the geophysical anomalies in question. The building was filled with rubble, which together with the walls of the structure would have provided high magnetic response, but so would the layers of levelling rubble and the near-surface bedrock, which more or less covered the entire trench. This is reflected in the results of the magnetic survey, but the highest magnetic response continues beyond the remains of Structure 4 across the approach to the gate of the castle towards 2018/19 Trench 1b marked red in the magnetic plot in Figure 28. Similarly, there is a very good correlation between the electrical resistance results and the walls of Structures 4 and 5, but the unexplained part remains a much longer straight high resistance edge running across the approach to the gate and, once again, towards Trench 1b.

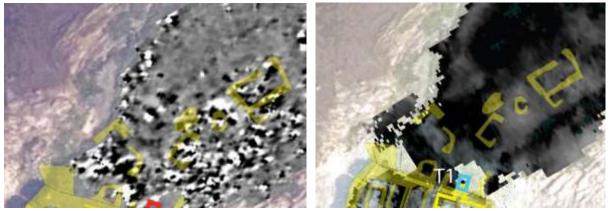


Figure 28 Geophysical results in relation to the surveyed and excavated structures in the environs of the castle: left – magnetic gradiometry; right: electrical resistance.

Overall, the geophysics present a picture of a multitude of other possible structures in the area immediately outside the castle walls. Some of the anomalies in question can be explained by the presence of Structures 2 and 3, as well as the kiln and associated rubble, but others suggest presence of buried structures that can only be confirmed by further targeted fieldwork.

The investigation of the bastion was crucial in terms of assessing its preservation and the threat posed to its remains by the sea. The excavation has established that the bastion must have been disassembled to its current level for the remodelling of the curtain wall and the construction of the battered buttress to have taken place. This indicates that the low lying masonry has mainly withstood the erosive processes, but the mortar has been almost completely washed out. Be that as it is, these flat lying remains are in safer position than the face of the upstanding curtain wall which is in perilous state from further collapse.

The excavation has provided some very important stratigraphic information by illustrating that the bastion is a relatively early feature of the castle architecture, either contemporary in construction or added to compliment the earliest recognisable phase of the curtain wall. Its remains indicate that it is extremely unlikely that this structure was never completed, as speculated by the RCAHMS (1984), and that it must have been disassembled either as part of the remodelling design of the castle defences, following a collapse or both. This was carried out unevenly leaving the walls on the inland eastern side much higher than on the seaward western side. The same was the case with the curtain wall, which was dismantled to the same levels. The need to dismantle the western seaward side to a lower level may well have been associated with the insertion of the looped openings in the western curtain wall, which belong to a later recognised phase. Finally, a battered buttress was added on top of the bastion remains, probably for added stability of the curtain wall at this location.

## Post-excavation and reporting

This report is an interim statement only and it relates primarily to the description of the fieldwork and the recording carried out in 2021 season in addition to the DSR for 2018 and 2019 seasons (Maričević et al.2019, Maričević 2020). It includes only the initial level of interpretation that is possible without further post-excavation work including specialist analyses of the environmental samples, material culture and 3D modelling. More detailed programme of post-excavation work will be laid out in the Post Excavation Research Design.

#### Records archiving

All written and drawn records are being scanned and manually entered or digitised into the project database (Integrated Archaeological Database – IADB). The IADB was originally designed by the Scottish Urban Archaeological Trust and then developed at York Archaeological Trust under the direction of Mike Rains. The IADB provides a data-management tool and allows digital versions of excavation records to be made easily accessible, queried and analysed for use in post-excavation analysis. It has been developed to cater for numerous types of data including single context plans, photographs and written documents. A version of the generic IADB was customised for the project, being designed to meet the needs of all aspects of planned fieldwork from survey and excavation recording, through finds management and post-excavation analysis, to dissemination and archiving.

#### Finds processing and conservation

All artefactual material has been retained, catalogued, listed and entered into the IADB. The list of finds is appended to this report. All finds have been subject to on site processing, such as pot washing and cleaning where appropriate, supervised by the project finds specialist Rosa Campos Blade and in accordance with the Institute of Conservation's Conservation Guidelines No.2. The Excavation Director is ultimately responsible for overseeing the processing, marking, cataloguing and archive standard packaging of all artefacts and ecofacts.

All finds have been reported to the Treasure Trove and the application for borrowing unallocated Treasure Trove for research purposes was submitted to the Queen's and Lord Treasurer's Remembrancer.

#### Reporting and publication

Short report featuring the summary of the fieldwork was submitted to the Discovery and Excavation in Scotland. A summarized field report has been posted on the Islay Heritage website. This Data Structure Report will be submitted to the Historic Environment Scotland and WoSAS.

Publication plans will be detailed in the forthcoming PERD, but considering the amount of information and material collected it is currently envisaged that this will be in the form of a monograph.

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# Appendix 1 – DHAP2021 Finds, samples, photos and drawing registers

## Small Finds

Find	Material	Context	Description
SF183	Clay	7002	Clay Pipe Bowl Fragment
SF184	Bronze	7010	Bronze alloy strap - decorated
SF185	Silver Copper Alloy	7013	King James VI coin - billon 1 hardhead
			(equivalent to 2 pence), silver copper alloy
SF186	Stone	7010	Hammerstone with bevelling on both ends
SF187	Animal Bone	7010	Worked bone - possible point
SF188	Animal Bone	7026	Dog skull and skeleton
SF189	Animal Bone	7012	Bone pin
SF190	Animal Bone	7012	Worked Animal Bone
SF191	Stone	7018	Incised stone
SF192	Stone	7018	Incised stone
SF193	Stone	7018	Incised stone
SF194	Stone	7018	Incised stone
SF195	Stone	7018	Incised stone
SF196	Stone	7018	Incised stone
SF197	Stone	7018	Incised stone
SF198	Stone	7018	Incised stone
SF199	Stone	7018	Incised stone
SF200	Stone	7018	Incised stone
SF201	Stone	7018	Incised stone
SF202	Stone	7018	Incised stone
SF203	Stone	7018	Incised stone
SF204	Stone	7018	Incised stone
SF205	Stone	7018	Incised stone
SF206	Stone	7018	Incised stone

## **Bulk Finds**

Find	Material	Context	Description	Weight (g)
BF712	Stone	7000	Pumice ? / Scoria	5
BF713	Stone	7002	Pumice ? / Scoria	24
BF714	Stone	7004	Pumice ? / Scoria	
BF715	Slag	7006	Slag	130
BF716	Slag	7002	Slag	111
BF717	Slag	7000	Slag / Fly Ash	0

	T	1		
BF718	Stone	7002	Pumice / Scoria	4
BF719	Iron	7006	Fe object	48
BF720	Slag	7007	Slag	149
BF721	Flint	7002	Flint	18
BF722	Slag	7004	Slag	15
BF723	Iron	7004	Fe Pin	54
BF724	Flint	7007	Flint	6
BF725	Slag	7007	Slag	88
BF726	Animal Bone	7004	Bone including 3 teeth fragments	26
BF727	Pottery	7006	Rim shard	61
BF728	Animal Bone	7006	Bone including singular tooth	27
BF729	Flint	7005	Flint	9
BF730	Animal Bone	7007	Bone including 3 teeth fragments	32
BF731	Animal Bone	7005	Bone including 5 teeth fragments	70
BF732	Slate	7007	Roof tile complete	1568
BF733	Ceramic	7007	Clay pipe stem	0
BF734	Slag	7004	Fe slag	34
BF735	Flint	7008	Flint fragments	51
BF736	Animal Bone	7008	Bone including 5 teeth fragments and 1	32
			burnt fragment	
BF737	Ceramic	7008	Clay pipe stem	0
BF738	Animal Bone	7004	Bone including 5 teeth fragments	4
BF745	Animal Bone	7008	Bone including 8 teeth fragments	33
BF746	Animal Bone	7002	Bone including 20 teeth fragments	156
BF747	Animal Bone	7009	Bone including 4 teeth fragments	76
BF748	Flint	7009	Flint fragments	14
BF749	Pottery	7009	Reduced Grey layer, late medieval pottery	43
BF750	Quartz	7009	Worked?	1
BF751	Wetstone	7009	Wetstone (Hone?)	91
BF752	Animal Bone	7004	Bone - 4 teeth fragments	35
BF753	Flint	7004	Flint	23
BF754	Pottery	7004	Pottery	1
BF755	Glass	7004	Glass bottle rim fragments	12
BF756	Animal Bone	7007	Bones - 7 teeth fragments	78
BF757	Flint	7007	Flint	88
BF758	Animal Bone	7007	Bone	59
BF759	Animal Bone	7008	Bone (+ 26 tooth fragments)	198
BF760	Flint	7008	flint - 1 heat cracked	39
BF761	Animal Bone	7008	bone - 1 tooth fragment	1
BF762	Ceramic	7008	Clay pipe stem	5
BF763	Animal Bone	7002	Bone (+ 5 tooth fragments)	42
BF764	Flint	7002	Flint	9
BF765	Slag	7002	slag	22
BF766	Pottery	7008	Pottery - 1 x green glaze, 1 x white glaze	9
BF767	Lead	7008	Lead - possible strap	10
BF768	Iron	7008	Iron (Fe) object	89
	· ·		\ -/J	

BF769	Pumice	7008	Pumice	1
BF770	Animal Bone	7001	Bone (+ 1 tooth)	129
BF771	Slag	7002	Slag	34
BF772	Iron	7001	Iron (Fe) object	25
BF773	Iron	7009	Iron (Fe) Pin	16
BF774	Flint	7001	Flint	2
BF775	Animal Bone	7006	Bone	1
BF776	Slate/shale/coal	7003	Slate - roof tile fragment	18
BF777	Flint	7000	flint	18
BF778	Iron	7009	Iron (Fe) Pin + corrosion	29
BF779	Animal Bone	7009	Bone (+ 1 tooth)	10
BF780	Iron	7009	Iron (Fe) Objects	26
BF781	Animal Bone	7012	Bone	129
BF782	Pottery	7012	Pottery sherd	8
BF815	Animal Bone	7010	Teeth (Mostly bovid and 2 pig molars)	476
BF816	Metal	7010	Iron (Fe) Objects - corroded	951
BF817	Animal Bone	7010	Bone including 2 teeth	200
BF818	Animal Bone	7010	Bone including 1 petrous bone	139
BF819	Animal Bone	7010	Bone including 2 burnt fragments	243
BF820	Flint	7010	Flint fragments	113
BF821	Glass	7010	Glass fragments	8
BF822	Pottery	7010	Pottery fragments	58
BF823	Ceramic	7010	Clay pipe - 3 stems, 1 bowl, and 1 bowl /	14
			stem	
BF824	Coal	7010	Possible coal fragments	10
BF825	Chalk ?	7010	Possible chalk	23
BF826	Animal Bone	7013	Bone including 1 phalange and 1 petrous bone	74
BF827	Animal Bone	7013	Bone including 1 tooth fragment	124
BF828	Animal Bone	7013	Bone including mandible fragment with teeth	102
BF829	Ceramic	7013	Clay pipe stem	<1
BF830	Animal Bone	7013	Bone including 9 teeth and 2 teeth fragments	217
BF831	Animal Bone	7013	Bone including 4 teeth	214
BF832	Animal Bone	7013	Bone including 5 teeth	249
BF833	Metal	7013	Iron (Fe) objects	567
BF834	Metal	7008	Iron (Fe) objects	8
BF835	Coal ?	7008	Possible coal / charcoal fragments	17
BF836	Glass	7008	Glass fragments	4
BF837	Animal Bone	7018	Bone fragments	156
BF838	Animal Bone	7010	Cow/Sheep Skull?	228
BF839	Animal Bone	7010	Bone, inc. 11 teeth and 1 antler	378
BF840	Flint	7012	Flint	13
BF841	Animal Bone	7012	Bone	23
BF842	Animal Bone	7012	Bone	217
BF848	Animal Bone	7012	Animal Bone inc. 1 tooth	145
BF848	Animal Bone	/012	Animal Bone inc. 1 tooth	145

BF849	Metal	7012	Metal (Fe) objects inc. 9 nails?	352
BF850	Animal Bone	7012	Animal Bone inc. 1 tooth	39
BF851	Animal Bone	7012	Animal Bone inc. 3 teeth fragments	229
BF852	Animal Bone	7012	Animal bone - 3 mandiables	52
BF853	Animal Bone	7013	Animal Bone inc. 1 tooth and 1 antler	246
BF856	Animal Bone	7018	Animal Bone	
BF857	Animal Bone	7018	Animal Bone inc. 2 teeth	165
BF858	Animal Bone	7018	Animal Bone inc. 6 teeth	466
BF859	Animal Bone	7012	Animal Bone inc. 2 mandibles with teeth	340
BF860	Metal	7002	Metal (Fe) object	78
BF861	Flint	7002	Weighs less than 1g	1
BF862	Animal Bone	7012	Animal Bone inc. 1 tooth	180
BF863	Animal Bone	7012	Animal Bone inc. 1 piece of burnt bone	210
BF864	Animal Bone	7012	Animal bone inc. 6 teeth fragments	163
BF865	Animal Bone	7012	Animal bone - inc. 1 tooth	226
BF866	Animal Bone	7012	Animal Bone	264
BF867	Pottery	7012	Pottery	7
BF868	Animal Bone	7012	Animal Bone	240
BF869	Metal	7012	Metal (Fe) Nail?	64
BF870	Metal	7010	Metal	70
BF871	Coal	7010	Coal	7
BF872	Flint	7010	Flint	3
BF873	Animal Bone	7010	Animal Bone inc. 6 burnt fragments	15
BF874	Pottery	7018	Pottery	8
BF875	Animal Bone	7018	Animal Bone inc. horn	220
BF876	Animal Bone	7013	Animal Bone Animal Bone	232
BF877	Pottery	7012	Pottery inc. 2 glazed pottery fragments	35
BF878	Animal Bone	7012	Animal Bone	241
BF879	Flint	7019	Flint	7
BF880	Metal	7019	Metal	56
BF881	Coal	7018	weighs less than 1g	<1
BF882	Metal	7018	Metal	88
BF883	Animal Bone	7018	Animal Bone	195
BF884	Flint	7010	Flint	133
BF885	Metal	7010	Metal	4
BF886	Animal Bone	7010	Animal Bone inc. 7 tooth fragments	164
BF887	Flint	7012	Flint - weighs less than 1g	1
BF888	Animal Bone	7012	Animal Bone inc. 1 tooth	164
BF889	Animal Bone	7012	Animal Bone inc 1 tooth	315
BF890	Animal Bone	7013	Animal Bone Animal Bone	290
BF891	Animal Bone	7012	Animal Bone	324
BF892	Slate	7018	Slate roof tiles with mineral inclusions	731
BF893	Slate	7019	Slate roof tile with peg hole	722
BF894	Slate	7025	Slate roof tile with peg hole	374
BF895	Animal Bone	7023	Animal Bone	13
BF896	Animal Bone	7019	Animal Bone	11
טפט וט	Allinai Dolle	1023	Animai Done	1 11

BF897	Animal Bone	7018	Animal Bone inc. 1 tooth	104
BF897	Animal Bone Animal Bone	7018		280
BF898 BF899	Animal Bone Animal Bone	7012	Animal Bone Animal Bone inc. 1 tooth	280
BF900	Animal Bone	7010	Animal Bone inc. 6 teeth	474
BF901	Metal	7032	Metal	168
BF902	Metal	7032	Lead	29
BF903	Pottery	7032	Pottery	69
BF904	Animal Bone	7032	Animal Bone inc. 1 tooth	158
BF905	Animal Bone	7012	Animal Bone	238
BF906	Animal Bone	7012	Animal Bone inc. 1 mandible with teeth	353
BF907	Animal Bone	7010	Animal Bone inc. 1 mandible with teeth. + 1 scapula	251
BF908	Animal Bone	7010	Animal Bone inc. 2 teeth	95
BF909	Pottery	7032	Pottery	68
BF910	Metal	7032	Metal (Fe) inc. 1 nail	28
BF911	Animal Bone	7032	Animal Bone inc. 3 teeth, 1 mandiable with teeth, 1 antler	408
BF912	Animal Bone	7008	Animal Bone	13
BF913	Metal	7012	Metal	5
BF914	Pottery	7012	Pottery	40
BF915	Metal	7012	Metal	12
BF916	Animal Bone	7012	Animal Bone inc. 2 tooth fragments	79
BF917	Animal Bone	7012	Animal Bone inc. 3 mandible fragments with teeth, and 2 tooth fragments	201
BF918	Animal Bone	7012	Animal Bone inc. 1 tooth	118
BF919	Animal Bone	7012	Animal Bone inc. 2 mandible fragments with teeth	265
BF920	Flint	7021	Flint	4
BF921	Animal Bone	7021	Animal Bone inc. 1 tooth fragment	110
BF922	Metal	7010	Metal	26
BF923	Animal Bone	7010	Animal Bone inc. 1 mandible fragment with teeth	188
BF924	Animal Bone	7012	Animal Bone inc. 1 mandible fragment with teeth	362
BF925	Clay Pipe	7010	Clay Pipe Stem - weighs less than 1g	1
BF926	Animal Bone	7012	Animal Bone inc. burnt bone	334
BF927	Animal Bone	7012	Animal Bone	288
BF928	Animal Bone	7012	Animal Bone inc. burnt bone	228
BF929	Metal	7023	Metal	2
BF930	Animal Bone	7023	Animal Bone inc. 1 mandible fragment with teeth, + 1 tooth	107
BF931	Animal Bone	7026	Animal Bone - Fish Bone (2 vertrbrae). Weighs less than 1g	1
BF932	Animal Bone	7023	Animal Bone	260
BF933	Animal Bone	7012	Animal Bone inc. 3 teeth, 1 mandible with teeth, and 1 antler	367

# **Environmental Samples**

Sample	Туре	Context	Quantity Bags
SA129	Bulk Sample	7010	2
SA130	Bulk Sample	7014	1
SA131	Bulk Sample	7013	2
SA132	Bulk Sample	7019	2
SA133	Bulk Sample	7025	2
SA134	Bulk Sample	7010	2
SA135	Bulk Sample	7012	2
SA136	C14	7026	1
SA137	Bulk Sample	7027	2
SA138	Bulk Sample	7028	1
SA139	Bulk Sample	7033	1
SA140	Bulk Sample	7032	2
SA141	Micromorphology	7032	1
SA142	XRF	7034	1
SA143	XRF	7034	1
SA144	XRF	7034	1
SA145	XRF	7034	1
SA146	Bulk Sample	7012	1

# Section and Elevation register

Section No.	Context numbers	Scale	Description	Date	Initials
33	7016	1:10	SW-facing elevation of bastion wall 7016	09/09/21	KS
34	7030, 7003, 7005, 7014, 7006, 7016, 7017, 7029, 7036	1:20	NW-facing section of the deposits overlying bastion 7016, batter 7017 and curtain wall	09/09/2021	RR
35	7016	1:10	SW-facing elevation of bastion wall 7016	13/09/21	RR
36	7016, 7019, 7025	1:10	E-elevation of bastion wall 7016 and section through abutting deposits	13/09/21	RR
37	7015	1:10	SW-facing elevation of wall 7015	13/09/21	RR
38	7031	1:10	NE-facing elevation of wall 7031	13/09/21	RR
39	7000, 7002, 7004, 7008, 7010, 7013, 7012, 7018, 7032, 7034	1:10	NW-facing baulk section in Structure 5	13/09/21	RR

40	7013, 7018, 7012, 7032, 7034	1:10	NE-facing section in Structure 5	13/09/21	RR
41	7022, 7023, 7025, 7035		NW-facing section of the slot in central area drawn from photogrammetry	06/12/21	DM
42	7029, 7036, 7016		N-facing elevation of curtain wall in the sondage drawn from photogrammetry	06/12/21	DM

# Photographic registers

CAMERA	000000000000000000000000000000000000000	Washington and		SF#	ter	200,000	75,4550
No./Name	FRAME NOs.	CONTEXT NO.	DESCRIPTION & USEFUL KEYWORDS	/Direction facing	SCALE used	Name	DATE
NE DRO	1-5		Repor Tapacia Saure			8-004	31/8/21
dia 070	6-24		Tremen 7 Warring Smits			Keun	31/2/21
may - 152	1-25	1	TERREN I LSIP SHOTE FOR HES			KEUN	1/1/21
h	24-27-26	2003	There + THE GOVERN			17.55	
41	21-33	7002	FRETHAN LANGER				
11	34.40	_	MARLOWY ROBERT			House	
	41-50	7019	Lerrah			100	
	61-16		dur.s.				
	5%-5%	Zock	Layer				
	57-60		LINGUE SHEET J				
	61-66		ARRITHMEN TRAVERS				
	67 - 72		NOW WE SHOT!				
	7t- 77-	7010					
	75- 32	7811	hims or accession				
	\$3- # <del>7</del>	7013	Layen -				
	84 - 92-		Sevene 33			heave	
76	33 - 55	7-018	Consist subjected	NE	g	Decico	10/03/01
10	SE- 28	4	- It -	L/J	- 64	3	17
	50-102	7-021	CAS COBBER FOR	HE	-0	- 14	N.
40	101-105		MALLES Sono, Manual - Larger	MU	J,n.	Darke	i (e
U.	501 - 303	44	Did 11	ME	1,1	ч	100
75	011 - 701		A 14	SE	- 22	14.	
iA	110-113	7012	DOG SHULL 1885, IN MIDDEN FOR	ww	(0 0	19	4
M	14-113	moeumy shot	Toger with 188 , former 189	梅			
V	119-122	7421,7060	PROPERTY OF CONTROL (FUE)	HE	2~	69	19

CAMERA No./Name	FRAME NOs.	CONTEXT NO.	DESCRIPTION & USEFUL KEYWORDS	SF# /Direction facing	SCALE used	Name	DATE
Surt	124 - (80	Fort	more were transval	4	Log	h	11 M too!
-	111-136	Tore	Oio Skrey				-
1/	137-160	Tou	AN MAN CLUTTE				
12	161-145	7011	has digget				
b	49-47-	7015	MOSTAR OF TOIS, TRENDS FORE	-NE-	G-5-	Dawren	12/9/21
	146-154	7016	ELEANING IT FORMS MENT AR ENVIRON JOB	W	2 ×1m	DM	12-12-12-2
1	95-165	7425	GATTER MEUTING CHERON WALL 7029	Europh	EW 1 mg	- M	
1	14-171	Tot	MEASURE A FOR PROPERT MADE	NE	05	Marcan	12/9/21
	FE - 195	702	Riturds Staver ?		Im	Resof	13/4/21
	174-175	7016 7029	JUNETHER OF S.E. BASTHIN WALL & CLUSTER	SWV	LM.	Kevin	13/2/2/
	176	p		5		Keen	13/9/2/
	177-178	W #	*	SSW		Kai	13/9/21
	174 - (48	Parent	GENTEN SHOTS of 17 FEST COMEDING	ME	5×2-m	DM	
	183 - 863	7-6/6	sectorificant the currently was	- 7	5×5-	- U	9
	204-2013	17044	COMPOSITE SHOPS (COLLIEVE) OF TH			b™.	4
	22-24	2016	CONFECTE MASTICAL	N	1×2-	1/4	· ·
	812-54	2055	SUD FORZ FROM GARTION	₩	142-4	VI.	9.
	218-222	7024	emond suspect in suspect off	HAN HE	(x/w	t.i	40
	222-522	Princen.	excepted before someth a bunding		1×2-	- 4	- 4
	26-279	748	beessen some feet wedle 3-12	P. P. LESS 1 1815	(×0.4~	ч	У.
	230-256	706. 7029	DECKED SMALE FRAT DARKE JOLY Transmitted of the Breton Wall Book Bocketon Mya. 3020 (Robert 174-18) Transmitted of the Breton Wall Food. John Court of the Breton Wall Food.	55W,	10	V.S	14/3/21
	237-241	7016, 7027	BASE CHETTON SHALL FOR (REPORT 250-25)	SSW	(print	155	*
	242 - 244		NW-FREIND SECTION OFTERMENTA	NW	l may	100	4
	245 - 247		SE- FALLING SECTION DO TRIVER #	SE	100	K5	4

CAMERA No. j Name	FRAME NOs.	CONTEXT NO.	DESCRIPTION & USEFUL KEYWORDS	/Direction facing	SCALE used	Name	DATE
070 w.K	28 - 436	70%, 7029	TEDRON TA PHOTOGRAMMERY SWETS		Lin.	VC.S	14/9
Seed	245 - 238	1984, All, Tell	bound of Asses of Assessind	Citocari	2- 2 0 Cm	ne	14/9
Cont.	274 - 449	W.	Asia commercial laborate burning	-		0.40	14/9
Sing	448-455	7-02,7-05	SLOT THROUGH DIRECTS	-	12/4	ч	14
				+	V		