



Tinnis Castle and Fort, Thirlestane Barrows and Merlin's Grave Surveys and Excavation Data Structure Report Project 5181

Tinnis Castle and Fort, Thirlestane Barrows and Merlin's Grave Surveys and Excavation Data Structure Report

On behalf of: The Arthur Trail Association

BNG centred: NT 14155 34439 (Tinnis)
NT 11700 35260 (Thirlestane)
NT 13480 34516 (Merlin's Grave)

Project Number: 5181

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Executive Summary

Tinnis Castle and Fort

- 1.1 A topographic survey and archaeological excavation of Tinnis Castle and Fort were led by GUARD Archaeology Ltd between 5th August and 19 August 2022, on behalf of the Arthur Trail Association. The work formed part of the *Drumelzier's Hidden Heritage / Hidden History of Dark Age Tweeddale* project.
- 1.2 The work was carried out principally to examine the fort that underlies Tinnis Castle. The castle comprises the remains of thick mortared walls with traces of round towers at the north-west and south-west corners of the keep. The underlying fort comprises a rampart around the edge of the summit, from which vitrified stone has been previously recovered from the southwest corner. Two pairs of non-concentric ramparts also enclose lower-lying terraces on the north-east and southwest flanks of the hill.
- 1.3 A drone survey was undertaken by members of the Peeblesshire Archaeological Society in order to create a new site plan and 3D model of Tinnis Castle and Fort. Two trenches were subsequently excavated across the summit rampart, with a third trench excavated within one of the lower enclosed terraces.
- 1.4 Trench 1, at the south-east side of the summit, revealed a 1.7m thick NE/SW aligned drystone rampart wall, comprising inner and outer faces of large stone blocks and a rubble core. Traces of vitrified stone and charcoal were recovered from within the rampart core and charcoal from a thin soil deposit underlying the rampart. A smaller E/W aligned wall was found abutting the inner face of the rampart. Near the centre of the trench, discrete patches of flattened mortar and stone slabs directly overlay subsoil and bedrock at around 0.35m below the present ground surface. Animal bones were recovered from a soil deposit associated with this slab surface. The trench was sealed with a layer of stone rubble collapse from the rampart, with finds including a horseshoe, lead, oyster shells, iron and bone, all consistent with the occupation of Tinnis Castle in the fifteenth and sixteenth centuries. The rubble collapse included mortared stone indicating that the rampart wall had been rebuilt and consolidated during the medieval occupation of the hilltop, probably to serve as a bailey.
- 1.5 Trench 2, at the south-west corner of the summit, revealed two parts of the drystone rampart core in the south-east and north-west corners of the trench, each measuring between 1.02m-1.20m thick. The inner and outer face of the rampart were not evident. The south-east segment showed signs for burning and in-situ vitrification, suggesting an earlier phase of destruction. Animal bone was recovered from this rampart core deposit. Between these two segments, a stone platform upon a soil deposit had been inserted during the re-occupation of the hilltop later in the fifteenth century. A further wall was discovered, abutting the north-west segment of the rampart, suggesting a later construction date. The wall ran 3.56m E/W and 3.48m N/S at an approximately 90-degree angle. The earliest occupational layer exposed was within the area enclosed by this wall, much of which was obscured by rubble collapse. Along the south-east edge of Trench 2 was a charcoal rich deposit, from which medieval glazed redware pottery and animal bones were recovered. The entirety of Trench 2 was overlain with a thick rubble and a soil matrix, likely originating from the destruction of Tinnis Castle itself. As apparent in Trench 1, the rubble collapse included mortared stone indicating that the rampart wall around the summit had been rebuilt and consolidated here too during the medieval occupation of the hilltop. This layer had subsequently been truncated by a pit in the north-east corner of the trench, which in turn was also backfilled with demolition material. A variety of finds were recorded from Trench 2, including glazed redware pottery sherds, iron nails, an oyster shell, animal bone and charcoal.
- 1.6 Trench 3, within one of the lower enclosed terraces on the south-west side of the hill, revealed a 0.70m wide face of a N/S drystone rampart at least 1.63m in height. The base of this wall face was not reached. This wall face consisted of at least nine courses of large sub-angular and cuboid stone blocks. Abutting the rampart wall to a depth of 1.20m from the modern ground surface, a clay soil deposit was exposed containing one small find of lead. Overlying this layer, at a depth of 0.58m below the modern ground surface was a charcoal rich deposit. This was in turn

sealed by a layer of drystone blocks, rubble, slate and associated soil matrix measuring up to 1m deep, which appeared to be collapse from the rampart summit above. The overlying topsoil contained multiple small finds including vitrified stone which was likely deposited in the trench as tumble from the summit.

- 1.7 Sufficient environmental and artefactual evidence was recovered for post-excavation analyses to examine the chronology of the fort; and the nature and chronology of the re-occupation of the summit alongside the medieval castle.

Thirlestane Barrows

- 1.8 A geophysical survey and archaeological excavation of Thirlestane Barrows were led by GUARD Archaeology Ltd between 17th and 28th October 2022, on behalf of the Arthur Trail Association. The work formed part of the *Drumelzier's Hidden Heritage / Hidden History of Dark Age Tweeddale* project.
- 1.9 The work was carried out principally to identify the precise location, character and date of four archaeological features identified in two adjacent fields by cropmarks and an aerial photographic survey in July 2018. It was also aimed to establish if any graves or further archaeological features were present, recover human remains that may reveal the pathology, origins and diet of any interred individuals and establish if the Thirlestane Barrows were contemporary with the occupation of Tinnis Castle Fort.
- 1.10 A fluxgate gradiometer survey was successfully completed across the 1.1 ha survey areas by Magnitude Surveys and volunteer participants working under the direction of Magnitude Surveys personnel. Archaeological activity was identified in the form of barrows and associated internal and external features, and additional linear cut features that correspond to cropmarks in satellite images.
- 1.11 The geophysical survey was unable to identify either of the two barrow cropmarks in the eastern survey area. However, two round barrows were identified in the western area. Two trenches were subsequently positioned in the eastern and western survey areas, positioned according to geo-spatially referenced geophysical magnetometer and aerial photographic surveys. A metal detecting survey of the two trenches identified a range of early modern and post-medieval iron objects.
- 1.12 Trench 4, in the eastern area, revealed part of a 5.20 m x 7.30 m square barrow comprising two sub-rectangular grave cuts, orientated East/North-east to West/South-west and enclosed by a rectilinear ditch. A tree bole hole was also identified, located to the immediate east of the barrow ditch. No human remains or finds were recovered from Trench 4. However, soil samples were taken to ascertain the date and chemical presence of former human remains within the square barrow.
- 1.13 Trench 5, in the western area, revealed a c. 6.90 m diameter multi-phased round barrow ditch with an exterior bank. Three interred urns dating from the Middle Bronze Age were identified within the barrow. Two urns were recovered and a third left in-situ with a sample of the human remains retained for analysis. A further cap-stone, sealing a possible fourth cremation was also identified and left in-situ. Stratigraphic analysis ascertained at least two phases of interment with modifications made to the burial mound before a final stone capped seal was placed over the mound. Later ploughing of the barrow mound truncated the latest burial urn, dispersing the urn, charcoal and bone fragments in a southerly direction. Sufficient environmental and artefactual evidence was recovered for post-excavation analyses to examine the nature and chronology of the round barrow.

Merlin's Grave

- 1.14 A geophysical survey of Merlin's Grave was undertaken on 7th November 2022, on behalf of the Arthur Trail Association. The work formed part of the *Drumelzier's Hidden Heritage / Hidden History of Dark Age Tweeddale* project.

- 1.15 A fluxgate gradiometer survey was successfully completed across the 2.13 ha survey area by Magnitude Surveys and volunteer participants working under the direction of Magnitude Surveys personnel. Archaeological activity was identified in the form of one discrete anomaly identified as the most likely candidate for a possible cist grave. This was located at NT 13480 34516, to the south-east of the putative location previously marked on maps. Rig and furrow were also identified. Some other anomalies were also noted but it was not possible to establish whether these were archaeological, agricultural or natural in origin. Modern interference was limited to field boundaries.

Introduction

- 2.1 This report sets out the results of the topographic survey and archaeological excavation of Tinnis Castle and Fort, the geophysics survey and excavation of Thirlestane Barrows and the geophysics survey of Merlin's Grave. The *Drumelzier's Hidden Heritage / Hidden History of Dark Age Tweeddale* project is a collaboration between the Arthur Trail Association, local heritage groups, volunteers, Magnitude Surveys and GUARD Archaeology Ltd, funded by SSE Renewables Clyde Borders Community Fund, Fallago Environment Fund, Society of Antiquaries of Scotland Dr Euan MacKie Legacy Fund, Glenkerie Community Fund and the National Lottery Heritage Fund. The survey and excavation of Tinnis Castle and Fort adhered to the conditions of Scheduled Monument Consent (Case ID: 300040603; Index no SM2984).
- 2.2 The Arthur Trail Association seeks to promote Scotland's Dark Age heritage (between the end of Roman Britain and the coming of St Columba). The fifth, sixth and early seventh centuries AD comprise a dynamic period, when literacy, international trade, the Church and secular statehood first took root in Scotland. In 2018, the Association launched the Merlin Trails to begin the work of promoting access to all the major sites of this period across southern Scotland. As one of the sites on the trail, Tinnis Castle and Fort was chosen to enable public participation in discovering new evidence for Scotland's Dark Age heritage.

Site Location, Topography and Geology

Tinnis Castle and Fort

- 3.1 Tinnis Castle lies within a field of rough grazing ground to the north-east of Drumelzier in Peeblesshire (NGR: NT 14155 34439; Figure 1). The site is a scheduled monument (SM No: 2984) covering 32,630m² in total, though the entirety of the fort itself comprises just 6,450m² and the summit alone 1,417m². Tinnis Castle and Fort sits between 270.74m and 285.69m AOD.
- 3.2 The site lies on a rocky knoll bounded to the south-east by a steep gorge that separates it from the scree slopes and crags of Vane Law which overlook the site. To the south-west the ground drops sharply before rising again towards the summit of Henry's Brae hillfort. To the north and west the ground drops to the level fields alongside the B712 road (Figure 1). The course of the river Tweed runs between 800m and 900m to the west of Tinnis Castle and Fort.
- 3.3 The bedrock geology across the entire site was Gala Group – Wacke; sedimentary bedrock formed between 443.8 and 433.4 million years ago during the Silurian period. The superficial deposits comprise Glaciofluvial Deposits - Gravel, sand and silt; Sedimentary superficial deposit formed between 2.588 million years ago and the present during the Quaternary period (British Geological Survey 2022).

Thirlestane Barrows

- 3.4 The Thirlestane Barrows are located south of Broughton Village and to the east of the A701 road (NGR: centred NT 11700 35260; Figure 1). The barrows straddle two rectangular agricultural fields that sit between 193 m - 205 m AOD on an eastern facing slope. The fields are separated by a narrow watercourse and fence. The area is bounded with agricultural fields to the north and south, the A701 road to the west and Biggar Water to the east.

- 3.5 The underlying drift geology consists of Kirkcolm Formation - Wacke. Sedimentary Bedrock formed approximately 449 to 458 million years ago in the Ordovician Period when the local environment was dominated by deep seas. The superficial deposits formed up to 2 million years ago in the Quaternary Period and comprise of alluvial silts, sand and gravel when the local environment was dominated by rivers (British Geological Survey 2022).

Merlin's Grave

- 3.6 Merlin's Grave is located c. 402m north of Drumelzier, within a flat field near the eastern bank of the River Tweed and the northern bank of the Powsail Burn (NT 13480 34516; Figure 1). Drumelzier Kirk lies near the southern corner of the field. The area is bordered to the northeast by a treeline, by a hedgerow to the northwest and southeast and a footpath and barbed wire fence to the southwest.
- 3.7 The underlying drift geology consists of Kirkcolm Formation - Wacke. The superficial deposits comprise of alluvial silts, sand and gravel (British Geological Survey 2022).

Archaeological Background

Tinnis Castle and Fort

- 4.1 The ruins of Tinnis Castle and Fort occupy a prominent rocky knoll overlooking the Upper Tweed valley. The castle occupies the central part of the summit and comprises a quadrangular keep with two circular towers defining its north-west and south-west corners. The traces of masonry indicate a fifteenth - early sixteenth century date for the castle's construction by the Tweedies of Drumelzier, who held this land from the early fourteenth to the early seventeenth century (RCAHMS 1967, 272). It is understood to have been destroyed around 1525 by the Flemings of Biggar during a feud with the Tweedies of Drumelzier (Maxwell-Irving 2014, 49).
- 4.2 The underlying fort is defined by the remains of a rampart enclosing the natural summit of the knoll, supplemented by the remains of two non-concentric outer ramparts, on the north-east and south-west flanks of the knoll (Figure 2). This layout – a fortified summit with a series of lesser enclosures looping out along lower-lying terraces and crags - is typical of a 'nucleated fort', a type of hillfort unique to Scotland between circa AD 600 to AD 900 (Toolis & Bowles 2017, 111). Nucleated forts are quite rare in the Scottish Borders. Only two others are found in Peeblesshire, another four further south-east in Roxburghshire, and none have as yet been excavated. However, excavations of nucleated forts in other parts of Scotland have revealed these to be high status settlements of the early medieval period (Toolis 2021, 259-262).
- 4.3 The summit rampart is particularly interesting because vitrified stone has previously been recorded below its south-west corner (RCAHMS 1967, 142-144; marked 'x' on Figure 2). This indicates that this was originally a timber-laced rampart that was deliberately burnt to the ground, causing the rubble to vitrify. This phenomenon is apparent on over 100 hillforts across Scotland that can date to anywhere between 800 BC to AD 900, from the Iron Age to the early medieval period (Mercer 2018, 220-223). Vitrified hillforts are particularly unusual in the Scottish Borders and indeed south-east Scotland, with only one other recorded in the Borders, that at Black Hill near Earlston, and only three others across the Lothians (Mackie 1976, 233-235; Mercer 2018, 251-256).
- 4.4 Tinnis Castle Hillfort is thus especially interesting as it offers the opportunity to examine similarities with other nucleated and vitrified forts elsewhere in Scotland but also what distinguishes this hillfort from the many other hillforts in the Scottish Borders. Indeed, the area of Peeblesshire surrounding Tinnis Castle is particularly rich in hillforts and forms part of a cluster within Upper Tweeddale and Upper Clydesdale separate from distributions across the Lothians, Dumfriesshire and the central and eastern Borders (Lock & Ralston 2017). Henry's Brae lies on an adjacent ridge and comprises a single stone rampart enclosing a much larger area containing at least 28 round-house platforms. Across the valley lies Dreva Craig, a hillfort containing several roundhouses, enclosed by two ramparts, chevaux de frise set out on its approaches and

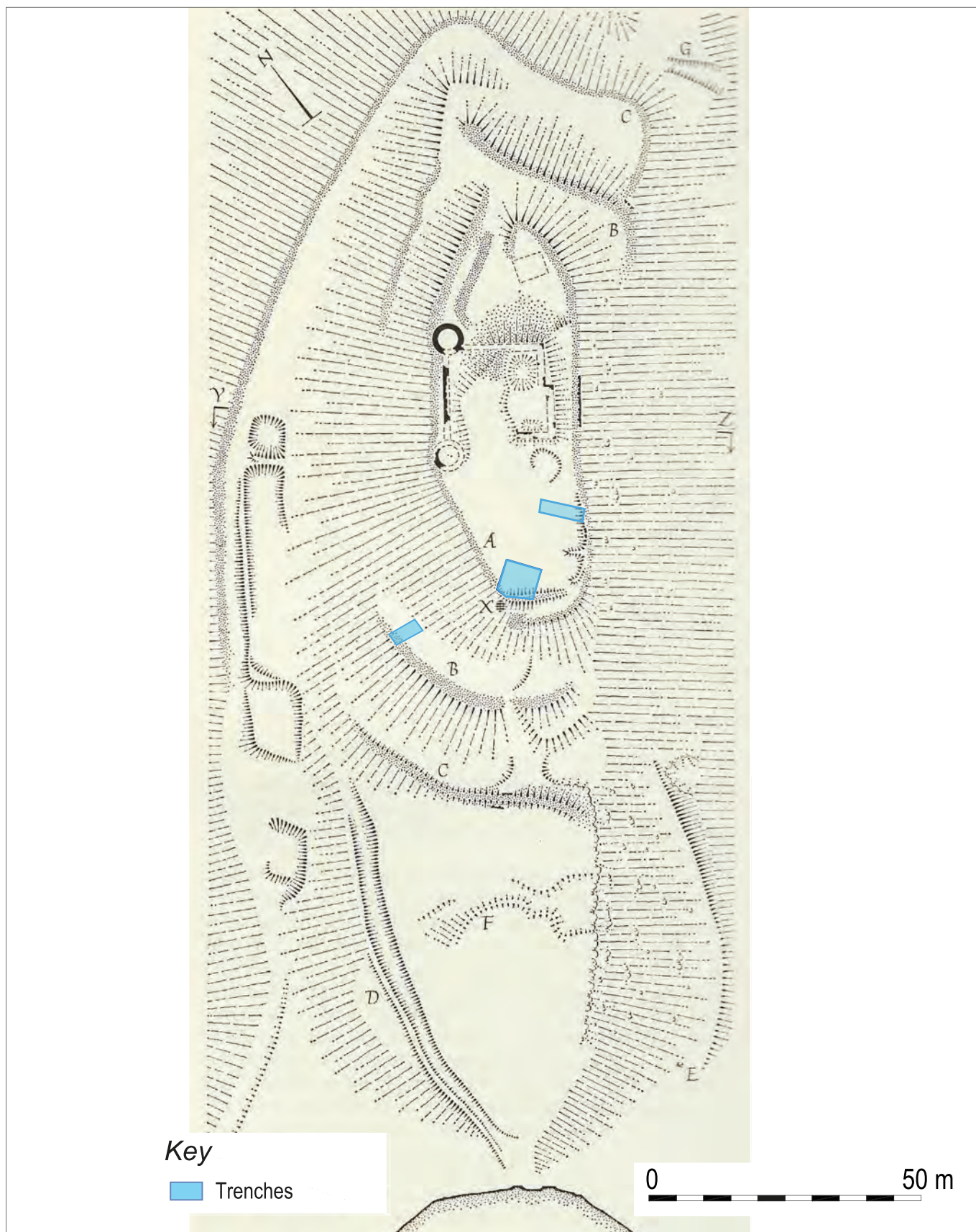


Figure 2: RCAHMS survey of Tinnis Castle and Fort, overlain with 2022 excavation trenches

associated with several clusters of outlying settlements. Further south-west on the other side of the valley is Rachan Hill, which is also enclosed by the remains of two stone ramparts and contains the remains of several roundhouses within its interior. While these hillforts, like most such enclosed hilltop settlements, are understood to be Iron Age, Tinnis Castle Fort stands out as the most likely contender for an early medieval date, a period from which there is as yet very little archaeological evidence recovered from the Scottish Borders and which only a handful of known settlements are considered to date from. The very name of the hill itself may indicate an early medieval origin. Tinnis derives from the word *dinas*, meaning 'fort' (Watson 1926, 372) from the Cumbric (or ancient Welsh) language which was spoken in southern Scotland during the early medieval period. *Dinis* is prevalent in Cornwall while *Dinas* is common in Wales where the same language was spoken at the time. While the site was alternatively known as Thanes Castle, the earliest cartographic depiction of it, in William Edgar and Richard Cooper's map of 1741, names it as Tinice Castle (Figure 3).



Figure 3: Edgar and Cooper's depiction of Tinnis Castle 1741 © Crown Copyright, reproduced by permission of the National Library of Scotland

Thirlestane Barrows

- 4.5 During the dry ground conditions of summer 2018, cropmarks were spotted from a nearby hillside by a local resident. These cropmarks were apparent across two fields south of Broughton. An aerial photographic survey in July 2018 further revealed that these cropmarks included at least four potential barrows (Canmore ID 361432; Figure 4). Three of these barrow cropmarks comprise circular ditches enclosing a small area, c. 5 m in diameter, with a central feature. The fourth barrow cropmark comprises a square shaped ditch enclosing a small area containing a central feature. Where sites such as this have been excavated, the central feature is a grave, which was originally buried beneath a small mound of earth cast from the enclosing ditch. However, ploughing over the subsequent centuries has usually removed the mound, leaving only the buried archaeological remains, which are often only visible from the air. Such barrow graves can be Iron Age or early medieval in date. It is possible that these barrow graves represent the graves of some of the inhabitants of the numerous hillforts that are distributed around this location.

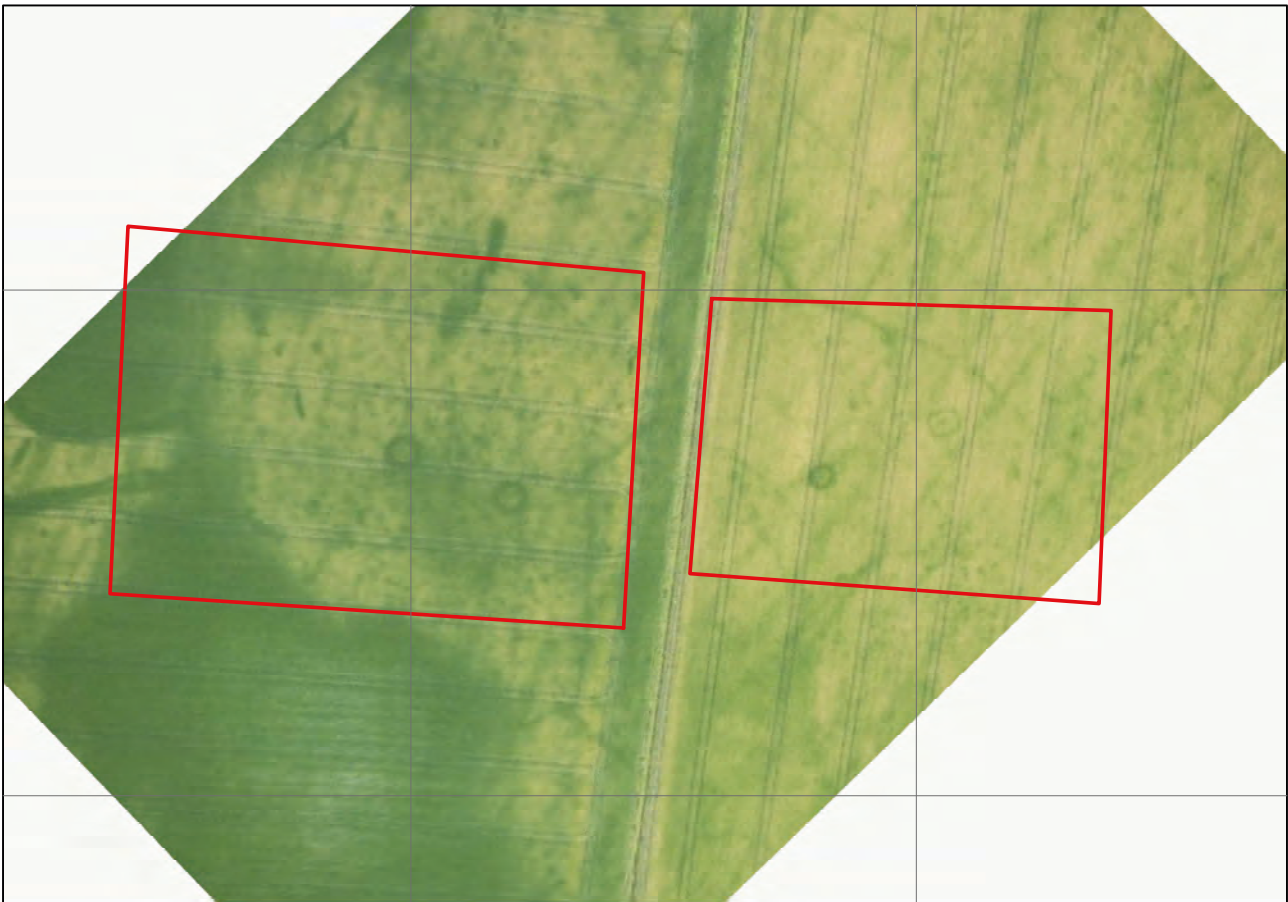


Figure 4: Aerial photograph of Thirlestane Barrows, DP 277947 © Historic Environment Scotland

- 4.6 A map regression exercise examined eighteenth, nineteenth and twentieth century maps, including Ordnance Survey maps, to establish the land use during this period. The general aim of the exercise was to ascertain if any historical maps had recorded the locations of archaeological remains within the areas of interest.
- 4.7 Roy's eighteenth-century map (Figure 5) demonstrated that the Site was then within unenclosed agricultural land on the east side of what later became the A701 road. Whitsleck [Whitslade] farmstead was to the SSW and Rachan farmstead was to the south-east.
- 4.8 In 1858, the Site straddled two enclosed agricultural fields (Figure 6). A small plantation lay to the south-west of the western pair of barrows. A track defined the south border of the field and a road defined the west boundary. A wedge-shaped plantation lay at the southern edge of the fields. Rachan turnpike and a well lay to the west of the site amidst a belt of trees along the western edge of the field.
- 4.9 The 1900 Ordnance Survey map recorded a further small plantation near the location of the eastern pair of barrows. The 1909 revision depicted the same features as on the 1900 map, but the course of a conduit for the Edinburgh and District Water Trust had been excavated on the east side of the A701 road (Figure 7).
- 4.10 By 1965 the small plantations near the barrows had been felled (Figure 8). Two vertical aerial photographs from the National Collection of Aerial Photography were viewed on-line. The image from 1946 recorded the plantations shown on the Ordnance Survey maps and a parch-mark was visible to the immediate north of the wedge-shaped plantation of trees at the southern edge of the fields. By 1988, all of the trees within the western field had been removed.



Figure 5: Extract from Roy's 1747-55 Military Survey of Scotland with approximate Site location. reproduced with permission of the Trustees of the National Library of Scotland.

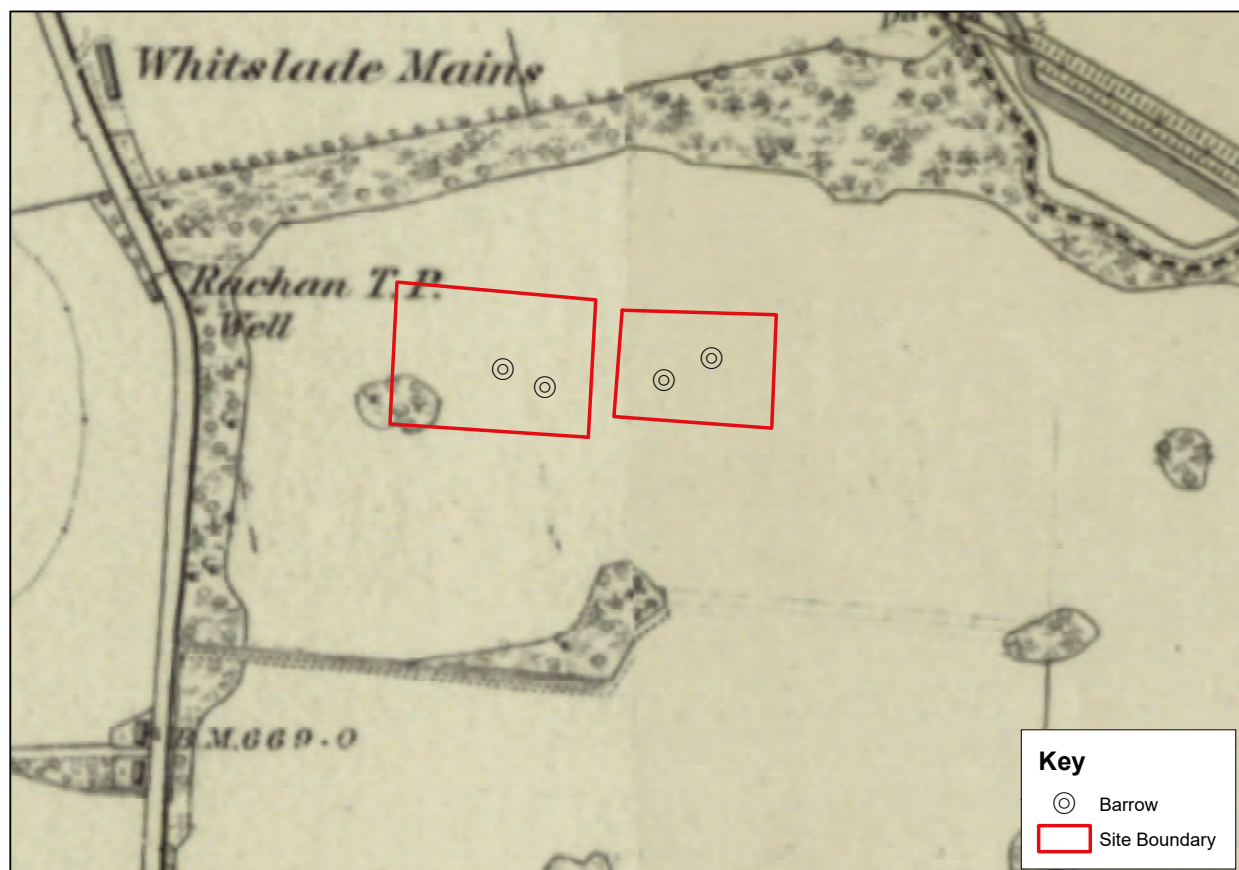


Figure 6: Extract from Ordnance Survey 1858 25" map Peebles-shire, XV.4 with Site location. Reproduced with permission of the Trustees of the National Library of Scotland.

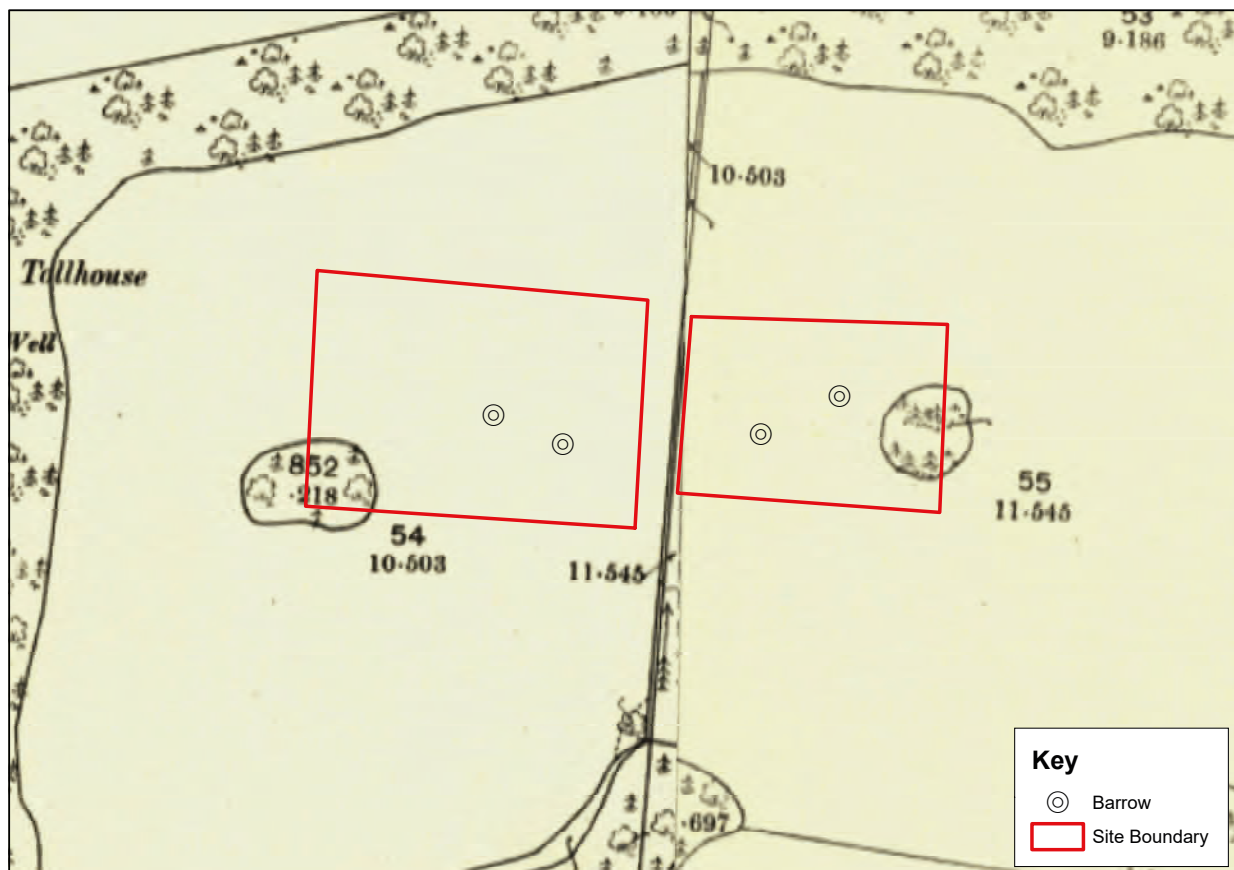


Figure 7: Extract from Ordnance Survey 1909 6" map Peebles-shire Sheet XV.NE with Site location. Reproduced with permission of the Trustees of the National Library of Scotland.

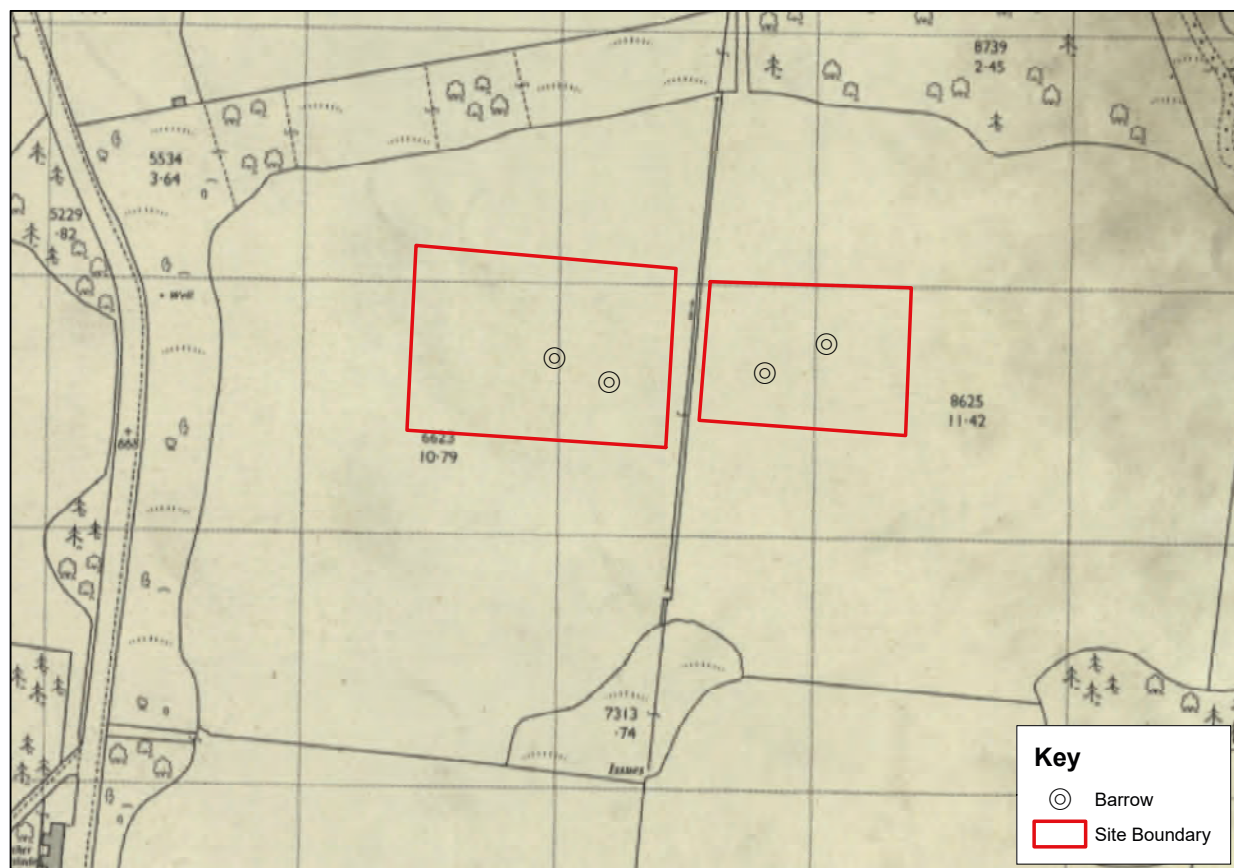


Figure 8: Extract from 1965 Ordnance Survey 1:2500 maps NT1035-NT1135 – AA and NT1235-NT1335 – AA with Site location. Reproduced with permission of the Trustees of the National Library of Scotland.

- 4.11 Within the wider landscape surrounding Thirlestane Barrows is an area rich in archaeological sites including the scheduled monuments of Holm End Fort and Settlement (SM 2945) located to the west, while to the east is Dreva Craig Fort and field systems (SM 28950). Further to the east are the scheduled monuments of Henry's Brae Fort (SM 2985) and Tinnis Castle and Fort (SM 2984), the latter also investigated as part of the Drumelzier's Hidden Heritage / Hidden History of Dark Age Tweeddale project. Approximately 500 m to the north is the Bronze Age Ratchill Platform Settlement and Ring Enclosure (SM 2828). Other sites within the locale include Gallow Knowe (Canmore ID 49859) where in the nineteenth century a stone cist grave with a skeleton is recorded to have been found, while at Broughton a late Bronze Age socketed spearhead was discovered (Canmore ID 49862). Approximately 500m to the south is Whitslade prehistoric roundhouse and souterrain (Canmore ID 288113), while further to the south is Rachan Mill (Canmore ID 361300) prehistoric barrow, possible souterrain and Medieval rig and furrow cultivation. To the immediate west of the present site is Rachanside comprising a plantation bank, medieval rig and furrow cultivation and an undated settlement (Canmore ID 271871).
- 4.12 In addition to the stone cist grave found at Gallow Knowe (Canmore ID 49859), the New Statistical Account records that
- 4.13 'Near the confluence of Biggar Water with the Tweed, on the estate of Rachan, in the midst of a knoll or tumulus, stone coffins containing human skeletons were discovered about forty years ago. One of the bodies was of gigantic size and had golden bracelets round its arms (Paul 1845, 87).
- 4.14 This site is considered to be Whinny Knowe (Canmore ID 49858) which has since been removed (RCAHMS 1967, 62), one of a number of apparent tumuli noted in the Ordnance Survey Name Books (Ordnance Survey 1848-1878) in the vicinity of Thirlestane Barrows along the west side of the Tweed:
- Whinny Knowe - a small knowe which was formerly covered with whins at the east side of the Biggar Water on the farm of Whiterig, from which sepulchral remains were previously encountered during furze cutting and ploughing around it. This is considered to be a barrow rather than one of the other large natural mounds in the vicinity (RCAHMS 1967, 62).
 - Harehill Knowe - a small circular knowe planted with fir trees near Rachan Mill, considered then to be a tumulus, but since then excavated and revealed to be a natural alluvial mound of sand and gravel (Ward 2007, 170).
 - Deadman's Knowe - a small knowe covered by fir trees a short distance from the west bank of the River Tweed on the then property of James Tweedie Esq of Rachan, from which sepulchral remains were previously encountered, this is now considered to be a natural mound (RCAHMS 1967, 60);
 - Haggies Knowe - a small clump of fir trees a short distance from the west bank of the River Tweed on the then property of James Tweedie Esq of Rachan, from which a skeleton was previously encountered, but now considered to be a natural mound (RCAHMS 1967, 61);

Merlin's Grave

- 4.15 According to local legend, Merlin was reputedly buried on the haugh on the east bank of the Tweed, north of Drumelzier Church. This legend appears to be at least as old as the early fifteenth century, given the date of the surviving copy of the *Vita Merlini Silvestris*, if not earlier to the twelfth century (MacQueen & MacQueen 1989a, 77). An abbreviated version of this legend is also included in Walter Bower's *Scotichronicon* written in the 1440s (MacQueen & MacQueen 1989, xiii). While the location is marked on maps from 1775 onwards (Figure 9), no actual remains have ever been recorded here. It has been speculated that the tradition of this site at Drumelzier may have originated from the discovery of a Bronze Age cist grave (RCAHMS 1967, 61).



Figure 9: Extract from Mostyn Armstrong's map of the County of Peebles. Reproduced with permission of the Trustees of the National Library of Scotland.

Aims and Objectives

- 5.1 The aim of the *Drumelzier's Hidden Heritage / Hidden History of Dark Age Tweeddale* project was to examine the archaeological roots of the local Merlin legend, which is set around Drumelzier during a specific period around the end of the sixth century AD. Tinnis Fort has been assumed to be the likely abode of one of the legend's principal characters, sub-king Meldred (Clarkson 2016, 69; Crichton 2017, 69). If archaeological evidence can demonstrate occupation of Tinnis Fort at this time, then this may demonstrate that the legend originated at Drumelzier. That does not confer any historical veracity to the story. Furthermore, if no such evidence can be found, then this demonstrates that the legend was brought to Drumelzier and transposed onto local landmarks.
- 5.2 The archaeological works therefore sought to enhance understanding of the Fort underlying Tinnis Castle by establishing the dates for its construction and destruction, and the duration and nature of occupation. The project also sought to establish if there are any archaeological remains near the reputed site of Merlin's Grave that may have given rise to the association of the legend with this site. The results from Tinnis are also to be examined in comparison with the dating evidence from the survey and excavation of Thirlestane Barrow Cemetery, situated approximately two miles away, in order to test the basis of an early medieval landscape context for Tinnis Castle Fort.
- 5.3 Given the comparisons between the clustering of nucleated forts across southern Scotland and the proximity between various nucleated forts and barrow cemeteries (see paragraphs 3.5-3.9 in Appendix G), this project aimed to examine a sample of early medieval high-status settlement and burial representative of not only other sites in the Scottish Borders but relevant and applicable to sites in other regions of Scotland. The project will thus seek to understand the role of individual sites within wider local, regional and national settlement systems, and develop chronological frameworks to chart the changing nature of early medieval settlement.

5.4 The survey and excavation work at all three site also aimed to enable the participation of around 12 volunteers per day working over 33 days spread between August and November 2022. This represents the highest practical level of volunteer participation for the scale of the excavations. Professional supervision by GUARD Archaeologists was planned to ensure that high standards of survey and excavation were met and adhered to.

5.5 There were four main objectives for the archaeological works:

1. *To enhance our knowledge and understanding of the sites with particular reference to:*
 - the chronology of the sites
 - the material culture of the sites
 - relationships to nearby sites
 - relationships to other similar sites in Scotland
 - the significance of the sites within local, regional, national and supranational contexts
2. *Engage the local community and volunteers in helping to investigate the site, providing the opportunity to develop new skills and experience in archaeological fieldwork;*
3. *Apply high quality techniques to the recovery of archaeological evidence (excavation) and the analyses of that evidence (post-excavation) to maximise the information we retrieve, collaborating with an array of specialists from different sectors;*
4. *Produce and disseminate accurate and detailed records to enable the wider public to learn about the site and its context in the history of the Scottish Borders, enhancing the relevant historic environment records, interim data structure reports and publications.*

5.6 These objectives accord with all five aims of Scotland's Archaeology Strategy (HES 2016, 15-23).

5.7 Another objective, of the survey and excavation of Tinnis Castle and Fort specifically, was to accord with Scheduled Monument Policies:

- SMP1: When undertaking works to scheduled monuments, their significance should be maintained.
- SMP2: Conservation and research works should always be aimed at the lowest level of intervention that is consistent with achieving a monument's preservation.

5.8 The proposed works at Tinnis Castle and Fort also accorded with the following Scheduled Monument Consent Policies:

- SMCP1: Works to scheduled monuments will normally only be permitted if they have minimal impact upon a monument's cultural significance.
- SMCP2: Extensive intervention at scheduled monuments will not normally be permitted.
- SMCP3: Extensive intervention to a scheduled monument will only be allowed where:
 - i) it has minimal effect on the cultural significance of the monument; or
 - ii) it will clearly generate public benefits of national importance which outweigh the impact on the nationally important cultural significance of the monument. Such public benefits could come from, for example, interventions which improve public access to a scheduled monument (where appropriate), or assist public understanding once the works are completed, or provide economic benefits of national importance once completed.

- SMCP4: Proposals for change should be carefully considered, based on good authority, sensitively designed, and properly planned and executed. The level of information provided should be in proportion to the sensitivity of the monument or feature and the level of change proposed.

Methodology

Tinnis Castle and Fort

- 6.1 All work was conducted in line with a Method Statement (Appendix K) agreed in advance with Historic Environment Scotland during the preparation of a successful application for Scheduled Monument Consent (Case ID: 300040603; Index no SM2984). The work followed the standards and guidance of the Chartered Institute for Archaeologists (CIfA), of which GUARD Archaeology Ltd is a Registered Organisation:
- Code of conduct (2022);
 - Standard and guidance for archaeological field excavation (2020); and
 - Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (2020).
- 6.2 The archaeological fieldwork commenced with an aerial drone survey of the site in order to take colour photographs of the site. Using photogrammetry, this record was then used to create a 3D digital elevation model of Tinnis Castle and Fort and a 2D measured site plan, thus updating the previous survey plan of the site (RCAHMS 1967, 144). This required the placement of a small number of survey pegs into the ground to act as survey control points to be used for the GPS survey of the site. This formed a network of points from which detailed survey and recording could proceed during the field work.
- 6.3 The locations of the three trenches are illustrated on Figures 2 and 13.
- 6.4 Photographs were taken of each trench area prior to the commencement of the excavation (Plates 1-3).

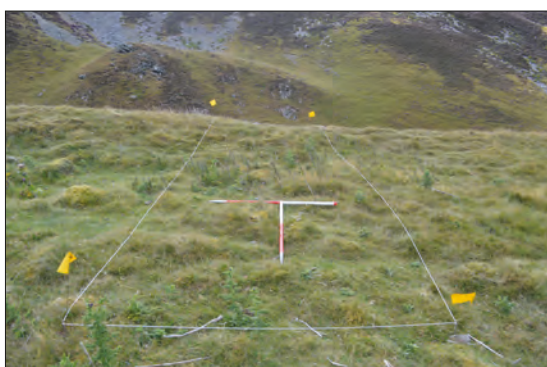


Plate 1: Pre-excavation shot of Trench 1, from NW



Plate 2: Pre-excavation shot of Trench 2, from NE



Plate 3: Pre-excavation shot of Trench 3, from E

- 6.5 Trench 1, on the eastern side of the summit, measured 2m x 7m. Trench 2, on the south-western side of the summit, measured 5.35m x 6m. Trench 3, on the lower-lying southwestern side, measured 2m x 5m. The excavation of the trenches was undertaken by approximately 12 volunteers each day supervised by a team comprising four professional archaeologists from GUARD Archaeology Ltd. The GUARD Archaeology team comprise one Project Director in overall charge, assisted by one Project Officer and two Project Archaeologists. A ratio of 4 volunteers per professional archaeologist was considered to offer the best value/return for the training and supervision of volunteers.
- 6.6 The excavation of each trench commenced with de-turfing by hand. The turfs were stacked appropriately face down on the grass of the adjacent ground (stacked grass to grass, earth to earth, grass to grass) and regularly checked and watered to ensure that they recovered upon re-turfing at the completion of the excavation. The backfill soil was stored separately on plastic sheets, laid out across the adjacent ground on the other side of the trench, after being dry-sieved.
- 6.7 The topsoil at each trench location was removed in spits *by hand* to the first undisturbed archaeological horizon. The ramparts were exposed and cleared of sufficient loose rubble to reveal their form and structure, by exposing the wall faces, internal post voids and horizontal beams. A 0.85m wide sondage was excavated through the summit rampart in Trench 1 to enable a section of the rampart to be recorded. It was not possible to safely excavate another c. 0.5m wide sondage through the lower rampart to enable a section of this rampart to be recorded. Instead, a 0.6m wide sondage was therefore excavated through the rubble core of the summit rampart in Trench 2 to enable a section of the rampart here to be recorded. The ramparts were otherwise left intact and in situ.
- 6.8 All other archaeological features encountered were cleaned by hand and fully excavated in order to extract sufficient evidence to determine their date, form and nature. Unless located high in the stratigraphic sequence and therefore overlying significant earlier deposits, any internal stone structures encountered within the trenches were cleaned by hand and appropriate samples taken but left intact and in situ. With this caveat and the caveat above pertaining to the ramparts, the sequence of archaeological deposits was otherwise excavated by hand to the depth at which natural undisturbed subsoil was encountered within the timeframe of the excavation.
- 6.9 A full record of excavated features was made using a single context planning system using pro forma sheets, drawings and photographs in order to determine their character, extent and stratigraphic relationship with other archaeological contexts. The full depth of sections of each trench were recorded by written, drawn and photographic recording and the stratigraphic sequence of each trench established using Harris matrices. All archaeological features were photographed and recorded at an appropriate scale. Sections were drawn at 1:10 and plans at 1:20 and 1:50. A aerial drone survey of each trench was undertaken to enable photogrammetry to be used to create accurate plans and sections for each trench. All levels were tied into Ordnance Datum and the trenches were accurately located with the National Grid. All on-site recording, written, drawn and photographic, were to ClfA standards.
- 6.10 All excavated soil deposits were dry-sieved on-site and all finds encountered during this process were recovered. All archaeological finds were recorded and bagged. Finds and animal bone were collected as bulk samples by context. Significant small finds were three dimensionally located prior to collection. All finds will be processed to MAP2 type standards and subject to specialist assessment. Conservation of finds will be appraised to allow for specialist study.
- 6.11 Bulk soil samples of 20-40 litres, worked stones and representative samples of vitrified stone were recovered from each excavated deposit, targeting charcoal for radiocarbon dating and charred macroplants for assessment and analyses of palaeo-environmental evidence. It was intended to take monolith samples for soil micromorphology for the analyses of soil development and the formation of archaeological deposits from secure stratigraphic contexts in trench sections. However, no suitable deposits and trench sections were identified. A spatial

distribution of 100ml soil samples was taken from selected archaeological deposits (such as floor layers or midden spreads) to enable multi-element analyses to be undertaken. The exact spatial distribution for this sampling was subject to the extent of such deposits but aimed to collect sufficient evidence for differential use of different parts of the settlement.

- 6.12 On completion of the excavation, the backfilling of each trench was undertaken by hand, under the supervision of GUARD Archaeologists. A layer of geotextile membrane was laid over the excavated areas. Backfill soil was then deposited over this and then the turf laid back over the surface and watered. Care was taken to backfill the site so that the original contours, such as the perimeter ramparts, were restored.
- 6.13 The site was revisited by GUARD Archaeology one month after the completion of backfilling to check that the restored trenches had settled and if any further remedial work was required.

Thirlestane Barrows

- 6.14 All work was conducted in line with a Written Scheme of Investigation (Appendix L) agreed in advance with the Scottish Borders Council Archaeology Officer. The work followed the standards and guidance of CIfA, of which GUARD Archaeology Ltd is a Registered Organisation:
 - Code of conduct (2022);
 - Standard and guidance for archaeological field excavation (2020)
 - Standard and guidance for archaeological geophysical survey (2020); and
 - Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (2020).
- 6.15 A geophysical magnetometer survey was conducted at 0.5m spacing across two areas totalling 1.1 ha (Figure 10) to confirm if the cropmarks are indeed barrow graves and if more buried archaeological features survive here than previous aerial photography has revealed. The work was conducted by Magnitude Surveys and volunteer participants working under the direction of Magnitude Survey personnel.
- 6.16 Magnitude Surveys employed a bespoke modular cart-based magnetometer system which can easily be configured to be pulled by hand, towed by quad, or carried with a backpack harness. The magnetometer survey was undertaken at 0.5m spacing, to provide a higher level of detail, both for guiding excavation strategy and for recording the barrows.
- 6.17 A preliminary georeferenced greyscale plot of the data was produced by Magnitude Surveys at the end of the day. Magnetic data was streamed back to the office in real-time via a secure Wi-Fi unit which allowed for quality assurance checks on magnetic data to be undertaken on the data while it was being collected in the field.
- 6.18 Once the geophysical survey had been completed, an archaeological excavation across the square barrow and one of the round barrows was conducted by volunteer participants under the supervision of GUARD Archaeologists (Figure 10). The two trenches measured 6 m by 6 m.
- 6.19 The trenches were set out on the ground and photographed. Orange net fencing, secured with road pins, were set out to demarcate the area around each of the trenches.
- 6.20 The trenches were then subjected to a metal detecting survey and any anomalies were marked with yellow flags and investigated via small test-pits. The test-pits also established the depth of topsoil prior to machine excavation.
- 6.21 The trenches were then machine excavated using a c 2 m wide flat-bladed (toothless) ditching bucket in shallow spits under constant archaeological supervision. The excavated turf was stored separately from the topsoil from the trenches, both on plastic sheeting adjacent to each trench.

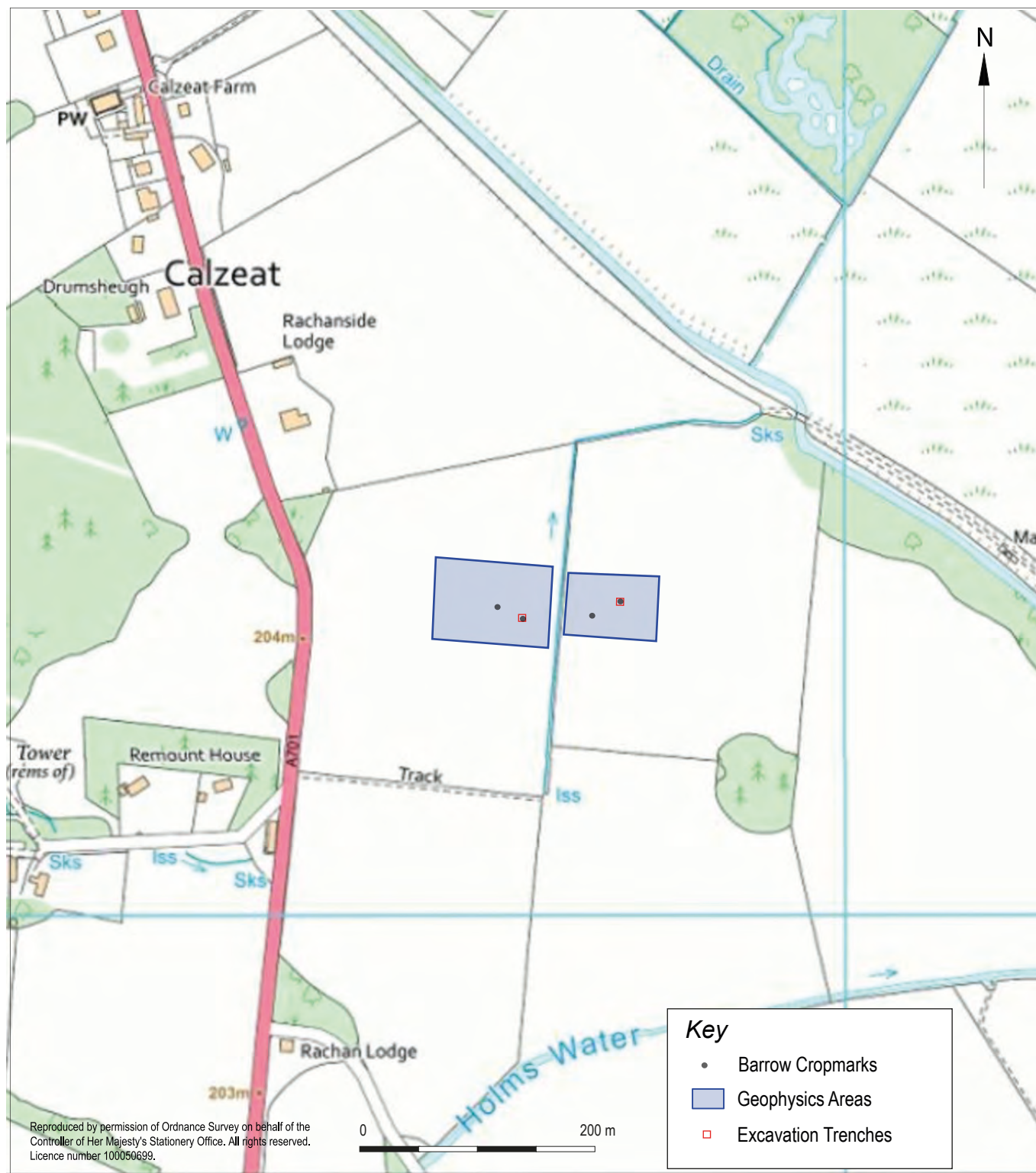


Figure 10: Thirlestane Barrows Geophysics Survey Areas and Excavation Trenches

- 6.22 The topsoil at each trench location was removed in shallow spits to just above the first archaeological horizon (as determined by the test-pits). The remaining topsoil was then cleaned by hand to determine the extent of any underlying archaeological features.
- 6.23 All significant archaeological features encountered were hand excavated by approximately nine volunteer participants each day under the supervision of two professional archaeologists from the GUARD Archaeology team, comprised of one site director and one osteoarchaeologist. Up to 100% of negative-cut features, excepting the barrow ditches, were excavated in order to determine their significance, date and function. A full record of excavated features was made using a single context recording system using pro forma sheets, drawings and photographs. All archaeological features were photographed and recorded at an appropriate scale. Sections will be drawn at 1:10, and plans at 1:20. All trenches were accurately surveyed using a sub-centimetre GPS and located within the National Grid. GUARD Archaeology also applied drone-based aerial photogrammetry to the excavated features during the excavation to produce a detailed plan and sections.
- 6.24 All archaeological finds were dealt with by the on-site Archaeologists. Finds and animal bones were collected as bulk samples by context. Significant small finds were three dimensionally located prior to collection. All finds were processed to MAP2 type standards and subject to appropriate specialist assessment. Conservation of finds was appraised to allow for specialist study.
- 6.25 All excavated features and horizons were sampled as appropriate, using bulk soil samples, for palaeo-environmental evidence. When grave cuts though no human remains were discovered then the soil within the base of the grave cuts was removed using a grid system to enable soil samples to be taken for multi-element analysis to determine if human remains had ever been buried there.
- 6.26 A representative section was recorded denoting depth of topsoil, any stratigraphy present and the nature of the soil. This information was logged in the day book together with a sketch drawn to scale and a photographic record of deposits.
- 6.27 When human remains were revealed by the excavation, the local police, the client and the Scottish Borders Council Archaeologist (SBCA) were informed immediately. After the agreement of the police to excavation, all human remains were accurately recorded, and selected cremated bone deposits excavated, while others were recorded but left in situ.
- 6.28 On completion of the recording of the archaeology, the backfilling of trenches was undertaken. Re-instatement of the topsoil was first undertaken by machine, before the turf was reinstated by hand and levelled to accord with its condition prior to excavation.

Merlin's Grave

- 6.29 All work was conducted in line with a Written Scheme of Investigation (Appendix M) agreed in advance with the Scottish Borders Council Archaeology Officer. The work followed the standards and guidance of ClfA of which Magnitude Surveys is a Registered Organisation:
- Code of conduct (2022);
 - Standard and guidance for archaeological geophysical survey (2020); and
 - Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (2020).
- 6.30 Magnitude Surveys employed a bespoke modular cart-based magnetometer system which can easily be configured to be pulled by hand, towed by quad, or carried with a backpack harness. The magnetometer survey was undertaken at 0.5m spacing across a 2.13ha area of land (Figure 11).



Figure 11: Merlin's Grave Geophysics Survey Area

- 6.31 A preliminary georeferenced greyscale plot of the data was produced by Magnitude Surveys at the end of the day. Magnetic data was streamed back to the office in real-time via a secure Wi-Fi unit which allowed for quality assurance checks on magnetic data to be undertaken on the data while it was being collected in the field.

Results

Tinnis Castle and Fort

- 7.1 The results should be read with reference to the records in Appendices A-E and Figures 12-23.

Topographic survey (Eduardo Perez-Fernandez)

- 7.2 An aerial drone survey of Tinnis Castle and Fort was undertaken on 5 August 2022 by members of the Peeblesshire Archaeological Society (Plate 4). Using photogrammetry, this photographic record was then used to create measured site plans (Figures 12 & 13), thus updating the previous survey (RCAHMS 1967, 144; Figure 2). The new survey confirms that the central oval enclosure measures 65 m north-east/south-west by 25 m crosswise and is defined by a rubble stone rampart largely reduced to a grassy escarpment (Rampart A in Figure 2). The summit wall encloses an area of 1,415m². The area of the summit has a relatively flat surface except in the central sector where a slight elevation stands out and the mortared masonry remains of Tinnis Castle, a medieval fortification with a square plan of about 15 x 15 metres, reinforced by two circular towers on the NW and SW corners.
- 7.3 The new survey also confirms that the summit rampart is flanked by two smaller enclosures on the lower-lying south-west side of the hill (Figures 12 & 13). These are defined by a rubble stone rampart (Rampart B in Figure 2) that rises about 7 metres above another lower rubble stone rampart (Rampart C in Figure 2). It is unclear if the gaps through the centre of these ramparts relate to an original entranceway feature, or simply mark a later modern approach to the summit. It is also unclear if the middle stone rampart (Rampart B in Figure 2) continues along the north-western flank of the hill to join the ramparts defining the northern and southern middle terraces; a break of slope is apparent here but not quite on a continuous course from the southern rampart.
- 7.4 A clearer entranceway to the summit is apparent on the northeast side of the hill (Figure 13). This is approached via a ramp along the north-western foot of the summit, the north-western edge of which is defined by a sharp break of slope rather than a rampart. The underlying ground along this ramp appears to comprise levelled stone rubble, likely derived from the collapsed summit rampart. The course of this break of slope merges into a rubble stone rampart that encloses a terrace below the north-eastern side of the summit (Rampart C in Figure 2). A further rubble stone rampart encloses another terrace lying between the lower terrace and the summit (Rampart B in Figure 2). Both of these enclosures open to the entranceway up to the summit, which leads through a small gap in the summit rampart. The area between the entranceway and the mortared remains of Tinnis Castle is obscured with loose rubble. Only to the southwest of upstanding remains of Tinnis Castle is the summit levelled, though rubble can be felt underfoot.
- 7.5 The new survey record also enabled a 3D digital elevation model of Tinnis Castle and Fort (Figure 14), which further demonstrates the internal configuration of the various enclosures and the course of the rubble stone ramparts.

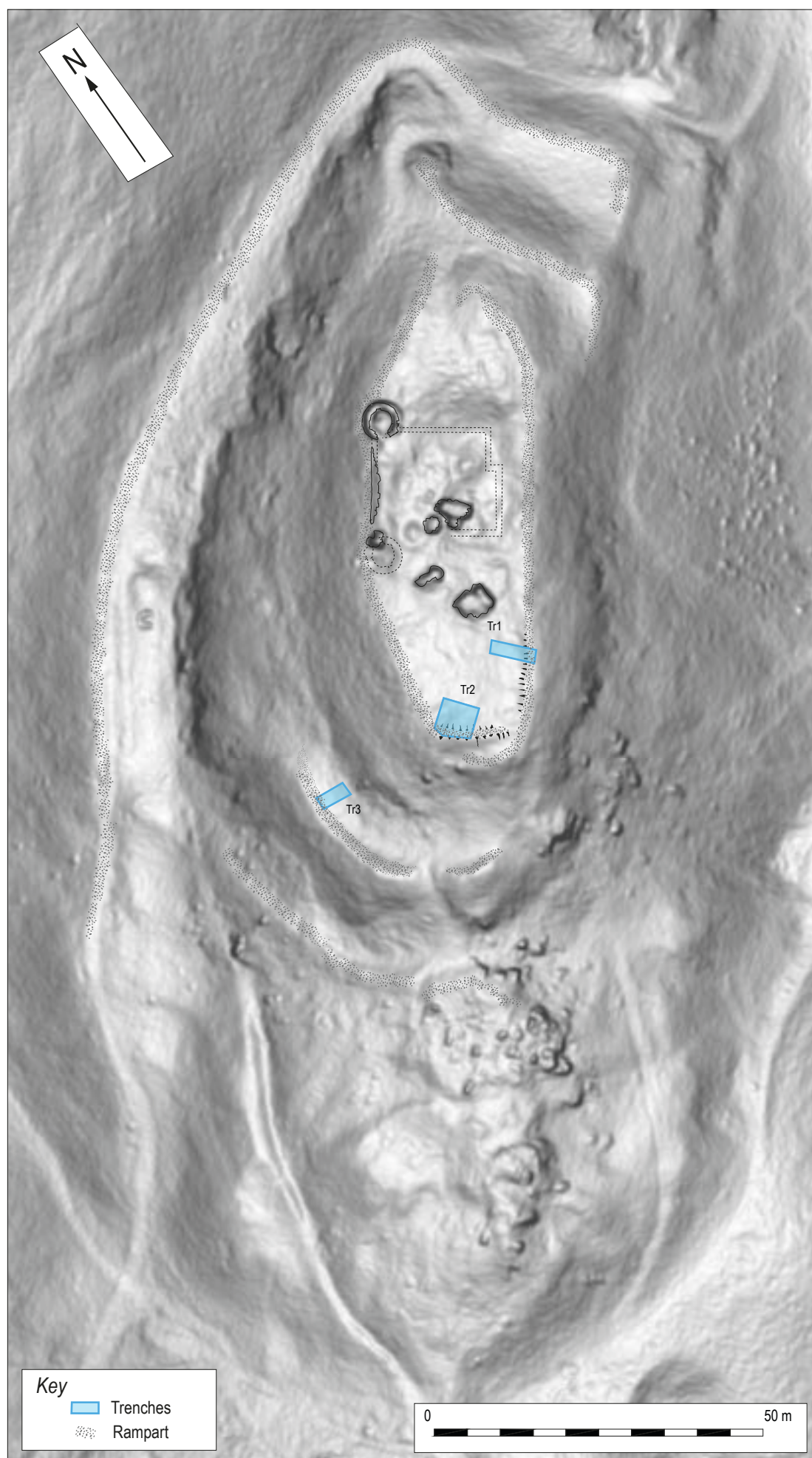


Figure 12: Photogrammetry Digital Surface Model generated by drone of Tinnis Castle and Fort

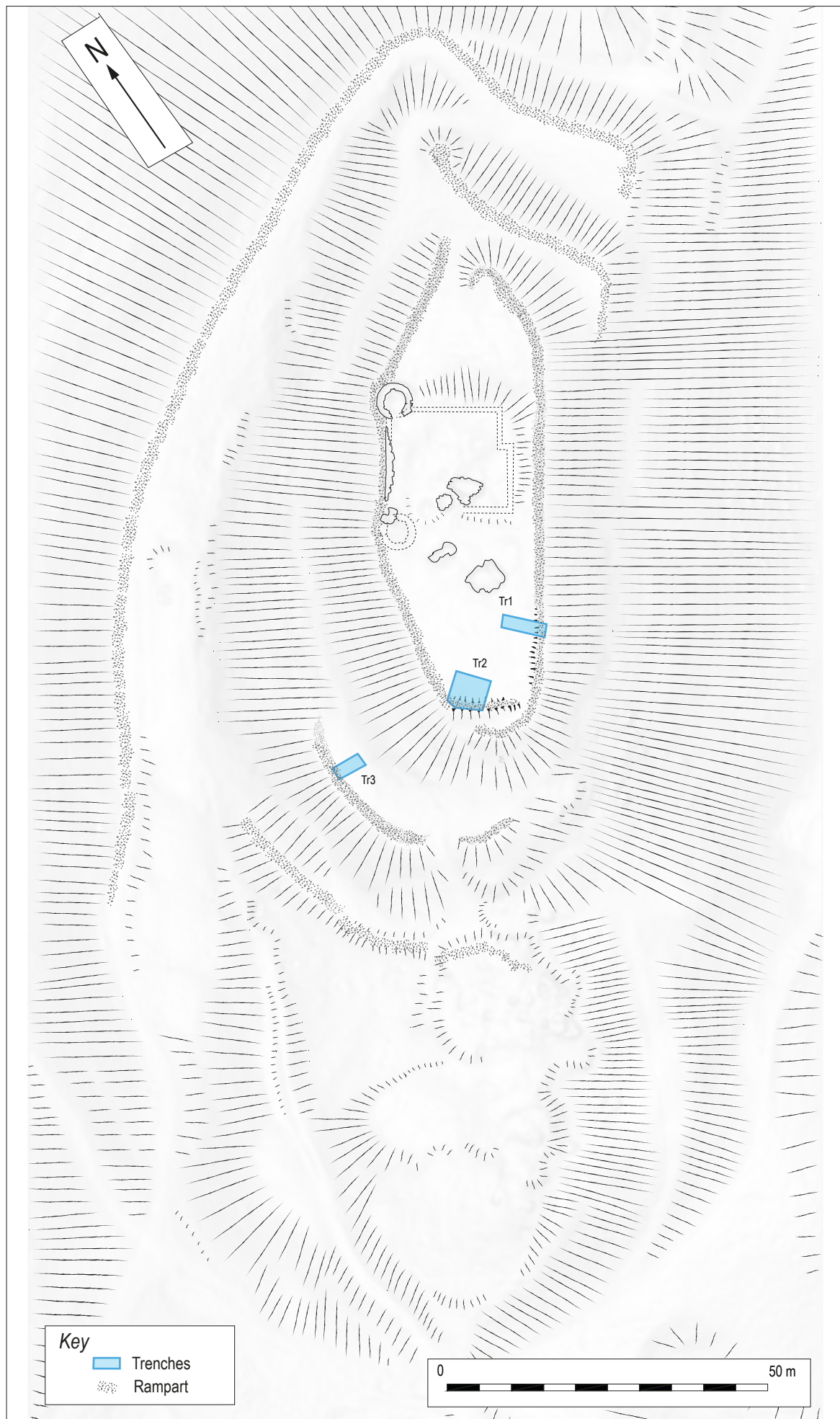


Figure 13: Tinnis Castle and Fort Site Plan



Plate 4: Oblique aerial photograph of Tinnis Castle and Fort, from W

Trench 1 (Thomas Muir)

- 7.6 Trench 1 measured 14m² and was located on the south-east edge of the summit, to the south of the visible ruins of Tinnis Castle (Figure 13).



Figure 15: Southwest facing section of Trench 1

- 7.7 Overlying outcrops of natural greywacke bedrock (1012) was a friable, dark brown grey silty sand subsoil (1011). Fragments of charcoal, bone, slag, flint and mortar were recovered from the processing of the soil sample (S023). The earliest stratigraphic deposit within Trench 1 (Figure 15), overlying the subsoil and bedrock, was a compact, dark grey brown silty sand layer (1010) with frequent small sub-angular and rounded stones, and charcoal flecks throughout, and a fragment of vitrified stone (SF 170). Charcoal, bone, slag, flint, quartz and daub fragments were recovered during the processing of the soil sample (S027). This deposit (1010) was 0.18m thick, and extended 2.38m north-west from the north-east corner of the trench, and across the width of the trench. It was overlain by the drystone rampart wall (1003). The rampart was aligned northeast/southwest along the south-eastern edge of the summit and was 1.7m in width (Figure 16). It comprised of two courses (Plate 5; Figure 17) and survived to a height of 0.83m. It was constructed of medium to large sub-angular greywacke stones, the larger stones forming an interior face on the northwest side and an exterior face along its southeast edge. The smaller stones formed a rubble core between these stone faces (Plate 6). A 0.85m wide slot was excavated through the rampart wall (1003) and its soil matrix (1004) along the northeast edge of the trench. The soil matrix (1004) of the rampart wall consisted of a firm, mid grey brown sandy silt with inclusions of bone (SF 143, 146 & 191), vitrified stone (SF 144 & 148), charcoal (SF 149 & 192) and a small loose piece of mortar (SF 147). Fragments of charcoal, bone, quartz and daub were recovered during the processing of the soil sample from the top of this matrix (S024). Further charcoal, bone and slag fragments were recovered during the processing of the soil sample from the lower part of this matrix (S025). Fragments of charcoal, bone, slag and daub were recovered during the processing of the soil sample from the base of this matrix (S026).



Plate 5: Interior face of rampart 1003, from NW



Plate 6: Rampart 1003, from NE

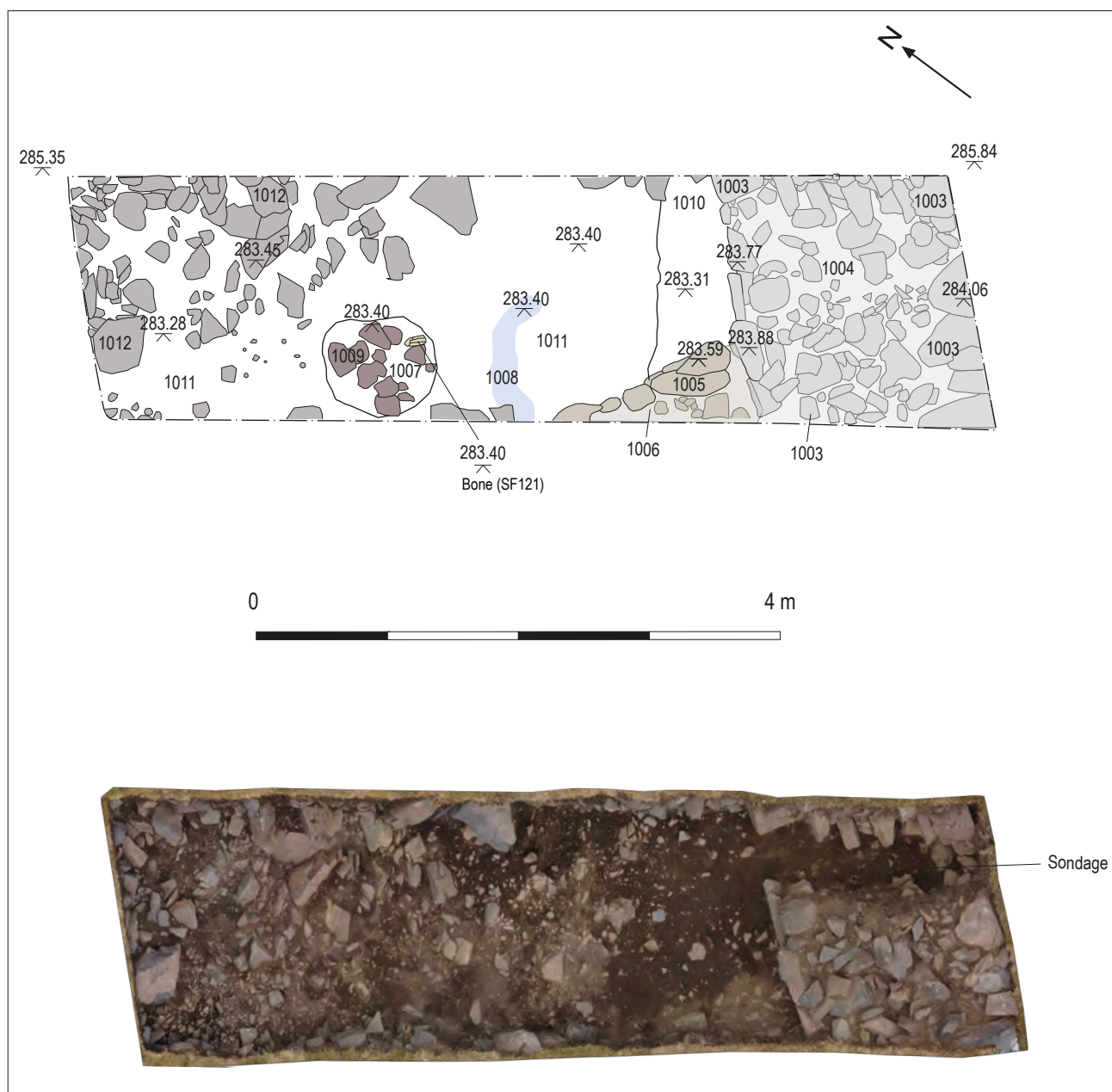


Figure 16: Plan of Trench 1

7.8 Separately, near the centre of Trench 1 were the remains of a surface identified in two discrete areas (Figure 16). From 1.40m north-west of the interior face of the stone rampart (1003) was an area of compact, light yellow grey sandy mortar (1008) with frequent small to medium sub-angular stones (Plate 7). The main bulk of this survived in a roughly east-west curvilinear shape measuring 0.9m long by 0.23m wide and 0.07m thick, with three smaller patches identified around its southern and eastern extents. At 2.34m from the north-west of the interior face of the stone rampart (1003), a cluster of broken stone slabs (1009) was also identified in a small, uneven circular pattern measuring 0.38m east/west and 0.30m north/south (Figure 16; Plate 8). The slabs were flat, hand shaped greywacke stones, 0.08m thick. The stones were set in a friable, dark brown grey sandy silt matrix deposit (1007). This was 0.08m in depth, and survived in an uneven-oval shaped deposit, measuring 0.88m long east/west and 0.8m wide north/south and continuing into the south-west section. Three pieces of unburnt animal bone (SF 121, 122 & 127) were recovered from the deposit as well as a small piece of charcoal (SF 128). Four sherds of medieval pottery as well as further fragments of charcoal, bone, metal, quartz, mortar and daub were recovered during the processing of the soil sample (S013). The surface of both the mortar and the stone slabs lay at the same level (Figure 14) and both features lay directly upon subsoil (1012).



Figure 17: Northwest facing elevation of Rampart 1003



Plate 7: Mortar surface 1008, from SW



Plate 8: Stone slabs 1009 with matrix 1007 and SF 121, from NW

- 7.9 Abutting the interior face of the rampart wall (1003) and overlying the mortar surface (1008) was a stone wall (1005), oriented east/west and surviving as a single course of medium to large greywacke stones (Plates 9 & 10). It measured 0.37m wide and 0.32m in height and a length of 1.25m was revealed within Trench 1. The matrix deposit (1006) was a friable, mid grey brown silty sand with occasional small stones, mortar and evidence of rooting throughout. A small sample of mortar (SF 126) was recovered from this deposit. Fragments of bone, daub, slag and mortar were also recovered from the processing of the soil sample (S011).



Plate 9: Wall 1005 abutting rampart 1003, from NW



Plate 10: Wall 1005, from N

- 7.10 Overlying the wall (1005) was a layer of tumbled small to large sub-angular greywacke stones (1001), including several stones with mortar attached. This covered the entire length and width of Trench 1 from the interior face of the rampart (1003) and was up to 0.50m deep (Figure 15; Plate 11). The soil matrix of this rubble spread comprised a friable, mid grey brown silty sand (1002) with occasional rooting throughout and numerous inclusions of bone fragments (SF 57, 58, 84, 87, 97, 100, 123 & 125), charcoal (SF 83, 98, 99 & 101), vitrified stone (SF 051), mortar (SF 61), oyster shells (SF 63 & 91), a fragment of slate (SF 71), a piece of daub (SF 60), a small piece of lead (SF 56), pieces of iron (SF 59 & 86), a nail (SF 90) and a horseshoe (SF 124; Plate 12). This deposit was sealed by a thin turf and topsoil layer (1000) comprising friable, mid grey brown silty sand up to 0.16m deep in places. Numerous pieces of bone (SF 11, 12, 31, 33, 44 & 52), mortar (SF 32, 34 & 35) and charcoal (SF 30) were recovered from the topsoil. Further fragments of bone, mortar, slag and daub were recovered during the processing of the soil sample (S002).

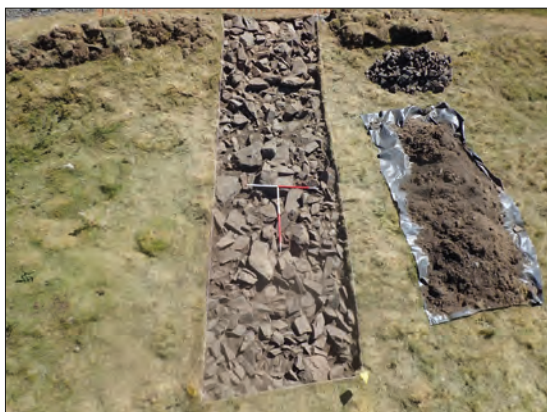


Plate 11: Rubble spread 1001, from NW



Plate 12: Horseshoe (SF 124) in situ, from NE

Trench 2 (Laura Muser)

- 7.11 Trench 2 measured 32.1m² and was located at the south-west edge of the summit, south-west of the visible ruins of Tinnis Castle (Figure 13).
- 7.12 The earliest stratigraphic features within Trench 2 comprised two discrete parts of the drystone rampart that encircles the summit, located at the southern corner (2010) and the north-west corner (2011) of the trench (Figure 18).

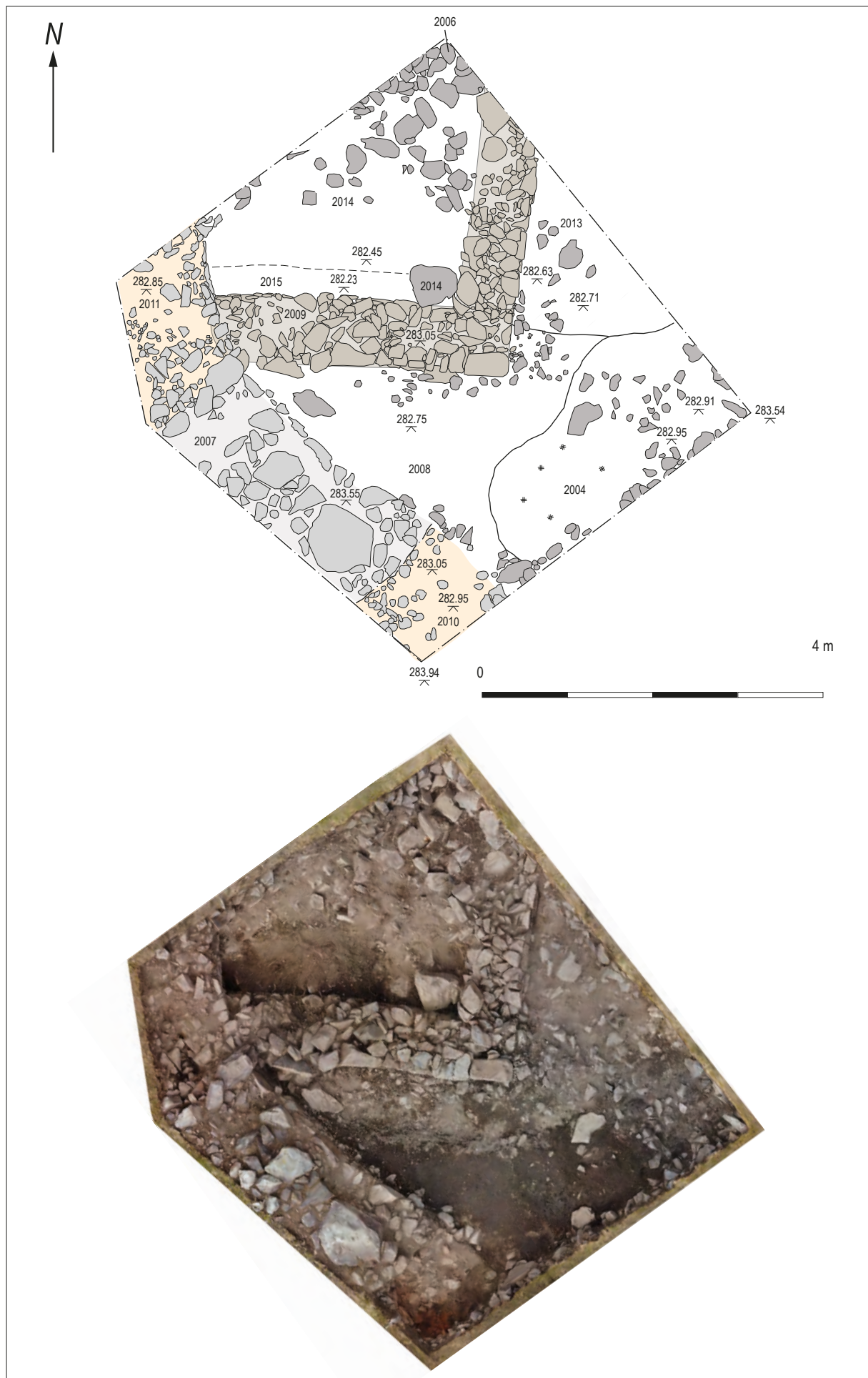


Figure 18: Plan of Trench 2

7.13 Rampart (2010) was apparent 0.08m below the modern ground surface and comprised of a 1.09m long and 1m wide rubble spread of medium to large sub-angular and angular stones with a mid-grey brown silty sand matrix. A sondage, measuring 0.6m wide, was excavated at the southern corner of Trench 3 to a depth of 0.56m (Figure 19), though the base of the rampart core itself was not reached. The sondage through (2010) revealed vitrified stones in situ (Plate 13) immediately adjacent to burnt, discoloured and fire-cracked stones in situ (Plate 14) and a burnt animal bone (SF 167; Plate 15). Inclusions of burnt and vitrified stone (SF 131, 158, 168, 179), animal bone fragments (SF 139, 156, 159, 176, 178, 180) and charcoal (SF 138, 157, 160, 175, 177, 181) were recovered from the rampart core (2010). Further fragments of charcoal, nutshell, bone, slag, metal, mortar, quartz and flint were recovered during the processing of soil samples (S028 & S031).



Plate 13: In situ vitrified stone (2010) from NE



Plate 14: Burnt and discoloured rampart core (2010) from NE



Plate 15: Burnt bone (SF 167) in situ within rampart core (2010), from NE

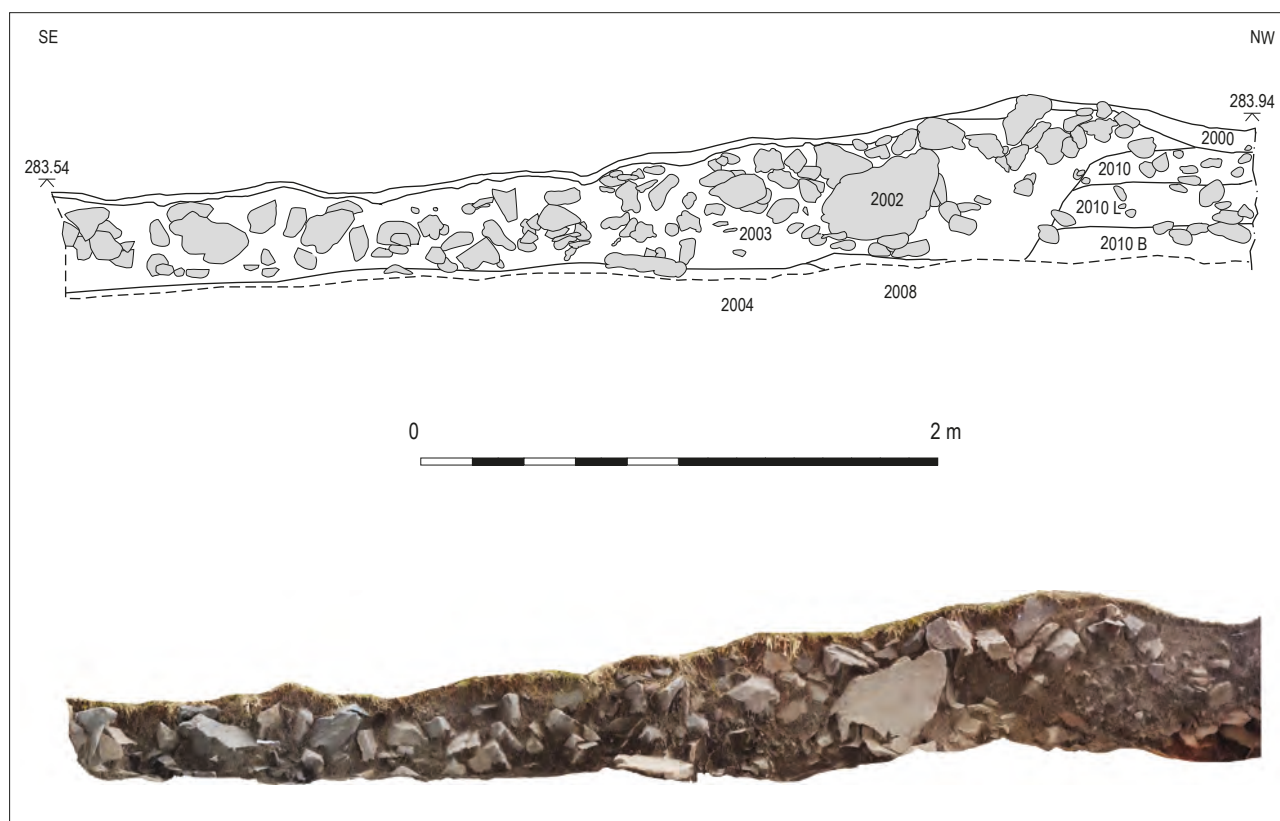


Figure 19: NW-facing section of Trench 2

- 7.14 At the north-west corner of Trench 2 was rampart core (2011) again comprised of medium to large sub-angular and angular stones with a mid-grey brown silty sand matrix. This was first apparent 0.05m below the modern ground surface and comprised of a 1.51m long and 1.20m wide rubble spread, of which a depth of 0.32m was exposed but no further excavation to its actual base undertaken. While a fragment of vitrified stone (SF 162) was recovered from rampart core (2011), no in situ vitrified stone or burnt and discoloured stone was apparent. Inclusions of animal bone fragments (SF 161) and charcoal (SF 163) were also recovered from rampart core (2011).
- 7.15 Merging with the NNW/SSE aligned interior side of rampart core (2011; Plate 16) was stone wall (2009), which ran 3.56m east/west before turning 90° and continuing for a further 3.48m north and beyond the edge of the trench (Plate 17). It measured 0.70m in width, and was constructed with a mixture of angular and cuboid dressed stones with mortar bonding visible in some areas. The base of the wall was not reached during the excavation. At its deepest visible point, the wall was 0.81m and four courses high (Plate 18).



Plate 16: Integration of wall 2009 with rampart core 2011, from NE



Plate 17: Wall 2009, from SE



Plate 18: Wall 2009, from N



Plate 19: Green glazed redware pottery sherd (SF 151) in situ, from NE

- 7.16 A slot measuring 2m by 0.5m was excavated along the inner, north facing wall face of wall (2009) to reveal a friable, light greyish brown sandy silt deposit (2015). This 0.17m deep deposit contained very frequent inclusions of mortar (SF 169, 188), and charcoal (SF 187, 190) as well as piece of daub (SF 189). Charcoal, bone, slag, quartz and mortar fragments were recovered during the processing of the soil samples (S029).
- 7.17 In the south-eastern corner of Trench 2 was apparent a deposit layer (2004) of friable, dark black brown sandy silt with frequent inclusions of medium angular stones and very frequent inclusions of charcoal (Figure 19). This deposit extended over an area of 3.60m by 1.43m, extending beyond the south-eastern edges of the trench and though a depth of 0.04m was excavated, its base was not reached. This layer (2004) was a particularly artefact-rich deposit, from which green glazed redware pottery sherds (SF 106, 109, 145, 151; Plate 19), animal bone

fragments (SF 096, 108, 110, 172), an iron nail (SF 171) and charcoal (SF 095, 107, 152, 173) were recovered. Further charcoal, nutshell, bone, slag, non-ferrous metal, quartz and daub fragments were recovered during the processing of the soil samples (S010 & S022).

- 7.18 Edging deposits (2004) and (2008) at their northern extents was a friable, mid grey brown silty sand deposit layer (2013) with frequent inclusions of angular stones and occasional charcoal, which covered an area of approximately 2.2m² and abutted the east facing side of wall (2009). This deposit layer (2013) was at least 0.26 m deep though it was not fully excavated.
- 7.19 Overlying layer (2004) and abutting the southern side of wall (2009) was another layer of 0.37m deep friable, mid black brown sandy silt (2008) with frequent small to medium angular and sub-angular stones and infrequent inclusions of charcoal (SF 154), animal bone (SF 153, 174) and vitrified stone (SF 155). While deposit layer (2008) also abutted the rampart core (2010), it underlay stone structure (2007), which was located between the rampart segments (2010) and (2011).
- 7.20 Situated along the south-western edge of Trench 2, stone structure (2007) intersected the rampart segments (2010) and (2011). However, it was not similar in composition, comprising instead two large flagstones on the surface embedded in a compact, dark grey brown sandy silt matrix with frequent medium to large sub-angular and angular stones and occasional charcoal flecks. It measured 3.53m long, 1.02-1.20m wide and was 0.46m deep in elevation (Plate 20). While it was defined during the excavation, it was left unexcavated.
- 7.21 Both deposit (2015) to the north and deposit (2008) to the south of wall (2009) were sealed by rubble (2014) and its soil matrix (2012). While the rubble (2014) was predominantly light brownish grey greywacke stones with mortar still attached in some cases, its matrix (2012) comprised friable, mid grey brown silty sand and small to medium sub-angular stones with occasional inclusions of charcoal. Together this 0.31-0.64m deep rubble spread covered an area of 3.01m long by over 2.24m wide and beyond the northwest edge of the trench (Plate 21). A variety of finds was recovered from the rubble matrix (2012), ranging from mortar (SF 132, 183), charcoal (SF 165, 184), and bone (SF 166, 186) to glass (SF 182), possibly burnt bark (SF 164) and slag (SF 185). Further fragments of charcoal, bone, chalk, quartz, daub and mortar during the processing of the soil samples (S014 & S018).



Plate 20: NE facing elevation of stone structure 2007,
from NE



Plate 21: Rubble spread 2012/2014, from NE

- 7.22 Overlying this interior rubble spread was a further 0.21-0.49m deep layer of rubble (2002) comprising small to large sub-angular and angular light brown grey greywacke stones (Plate 22). Amongst the rubble spread, mortared stone (SF 089) was observed. The rubble (2002) and soil matrix (2003) covered most of Trench 2, including the rampart segments (2010 & 2011). The soil matrix (2003) comprised friable, mid grey brown silty sand with numerous inclusions such as one sherd of green glazed redware pottery (SF 078), a clay pipe bowl fragment (SF 135), a sample fragment of slate (SF 073), various animal bones (SF 062, 066, 074, 079, 080, 081, 104, 111, 112, 120, 129, 133, 134), a shard of glass (SF 136), daub (SF 067), a partial oyster shell (SF 103), an iron nail (SF150), two flat strips of metal (SF 075, 105) and charcoal (SF 077, 082, 137). Charcoal, nutshell, bone and metal fragments were recovered during the processing of the soil sample (S009).



Plate 22: Rubble spreads 2002/2003 and 2001/2006, from NE

- 7.23 In the north-eastern corner of Trench 2, the rubble spread (2002/2003) was truncated by a 4.72m² and 0.46m deep curvilinear pit (2005), which was visible in the trench section (Figure 20), extending 2.19m NW/SE and beyond the south-east facing section and 1.86m SW/NE and beyond the south-west facing section of the trench. It was filled with rubble (2006) comprising light brown grey, medium to large greywacke stones, though including a fragment of red sandstone (SF 072), within a soil matrix (2001) of friable, dark black brown sandy silt with very frequent inclusions of small rounded stones and mortar fragments, animal bones (SF 021, 054, 076, 102) and an iron nail (SF 045).

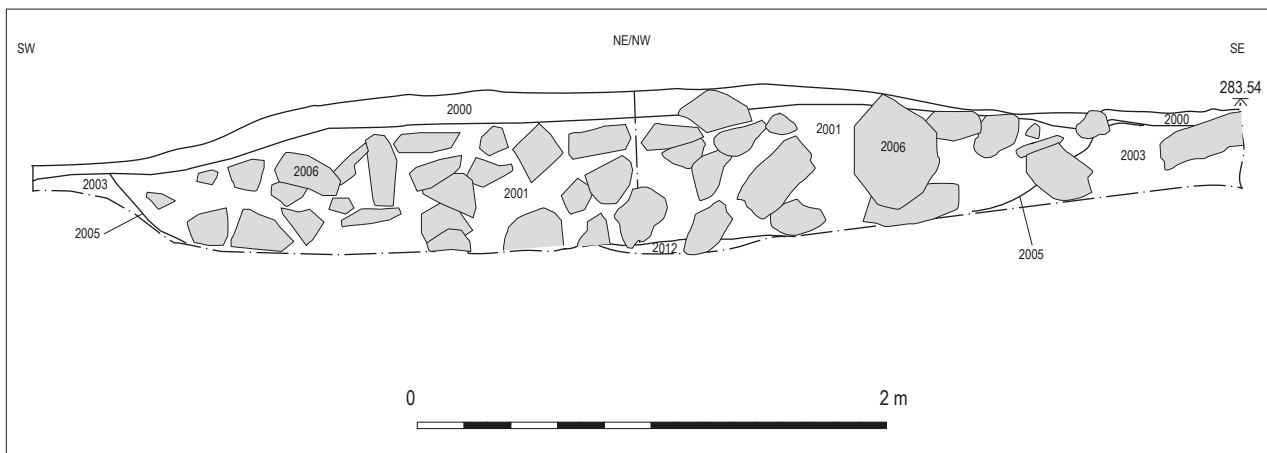


Figure 20: Wrap around section of NE corner of Trench 2, showing pit [2005]

- 7.24 The topsoil (2000) overlying Trench 2 comprised friable, mid grey brown silty sand with very frequent small to medium angular and sub-angular stone under mossy grass with an average depth of 0.11m. The finds recovered from the topsoil (2000) included a sherd of green glazed redware pottery (SF 047), vitrified stone (SF 003, 005), a water-worn rounded stone (SF 004), a sample fragment of slate (SF 014), pebbles with mortar (SF 022, 026, 027, 028), mortar (SF 016, 024, 025, 029, 042; S003), animal bone (SF 001, 002, 010, 013, 020, 046, 049, 068; S003), glass shards (SF 015, 023), an iron nail (SF 043), a small metal ring or chain element (SF 048), slag (S003) and possible daub (S003).
- 7.25 A loose fragment of mortar (SF 130) was collected from the masonry ruins of Tinnis Castle as a sample for comparison with the mortar collected from Trenches 1-2.

Trench 3 (Lauren Reid)

- 7.26 Trench 3 measured 10m² and was located to the west and downslope of the south-west edge of the summit (Figure 13).

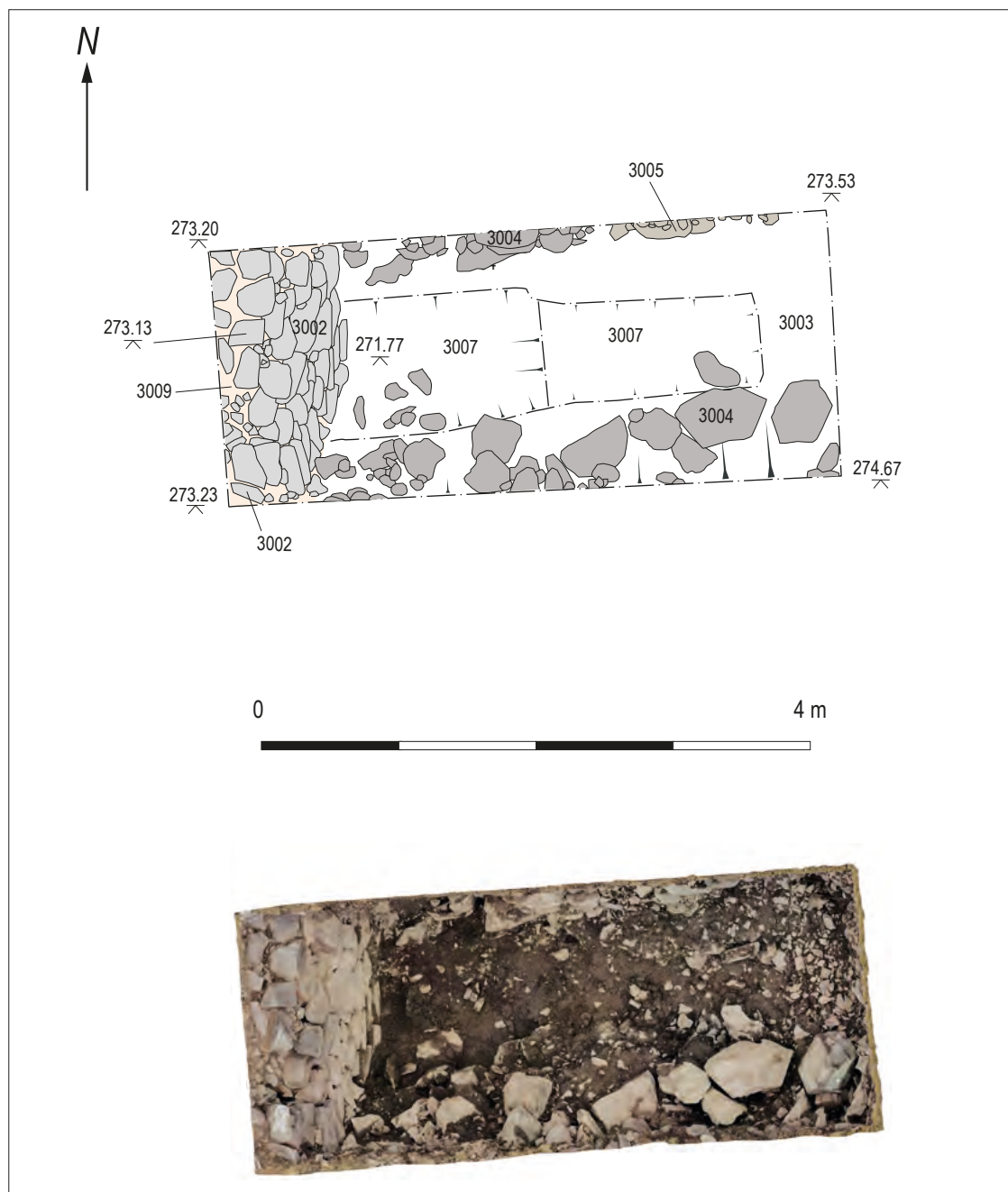


Figure 21: Plan of Trench 3

- 7.27 Though the top of it was located close to the surface, the earliest observed stratigraphic feature in Trench 3 was a N/S aligned drystone rampart wall (3002) located on the western edge of the trench (Figure 21). Only the east face of this wall, measuring 1.63m in height was exposed (Figure 22). The wall comprised of at least nine courses of large angular stones measuring from 0.15m x 0.09m to 0.45m x 0.20m, dressed on the eastern face and embedded within a silty sand and clay matrix (3009; Plate 23). The base of the wall (3002) was not exposed due to the safety limits of the 2m wide trench.

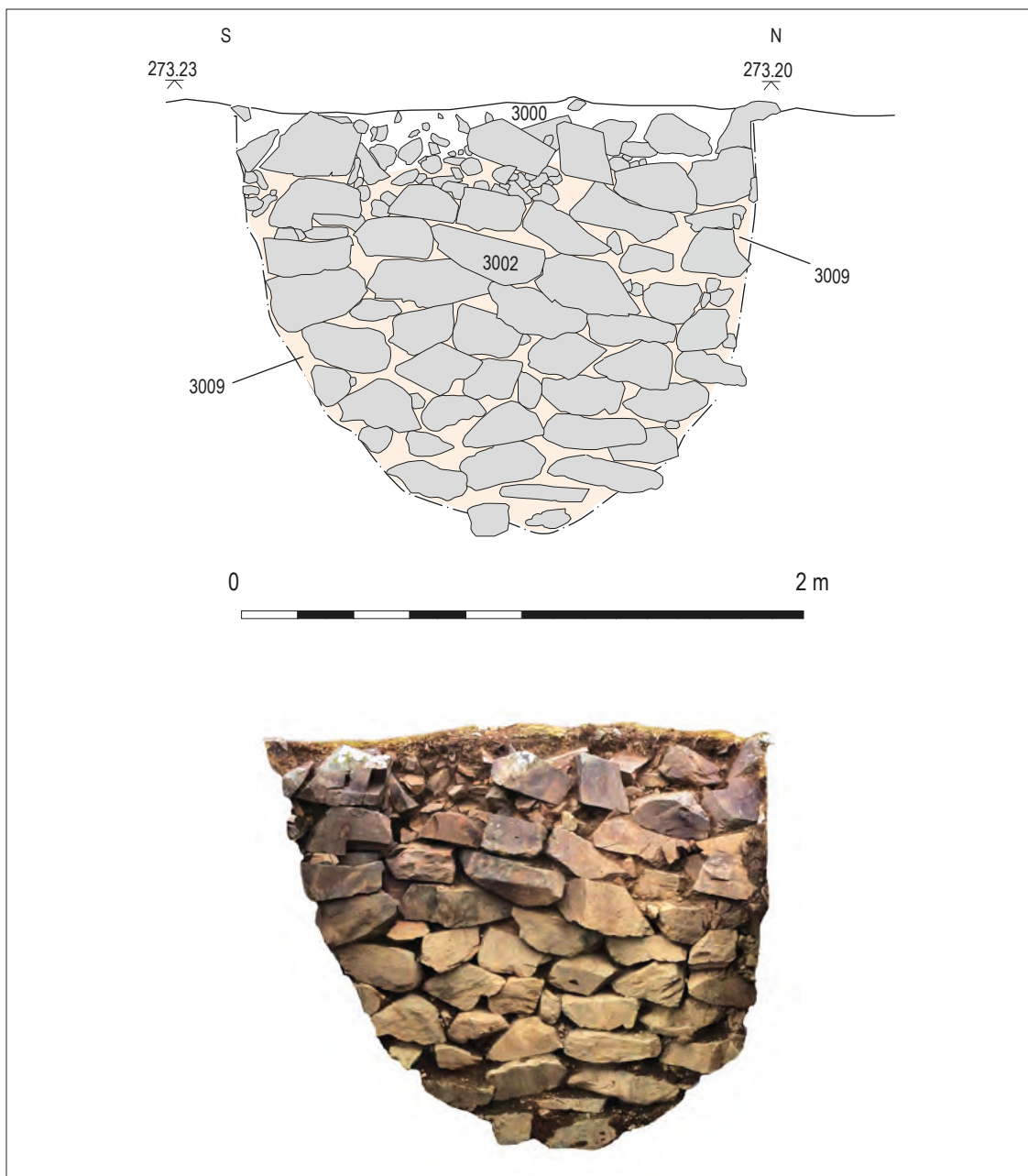


Figure 22: East facing elevation of wall 3002



Plate 23: Interior face of rampart wall 3002, from E

- 7.28 Abutting the wall (3002) at a depth of 1.20m was a 0.40m deep layer (3007), comprising mid-brown silty sand sloping down westwards towards the wall (Plate 23). A lead artefact (SF 117) was recovered from this deposit (3007) close to the wall face. Fragments of charcoal, cereal, nutshell, bone and slag were recovered during the processing of the soil sample (S020).
- 7.29 The lowermost layer (3007) was partially overlain by a 0.05m deep layer of scree (3008), from which fragments of charcoal, bone, slag quartz and egg cases were recovered during the processing of the soil sample (S016). This layer was itself overlain by a 0.25m deep compact layer of mid-dark brown charcoal rich clay (3003) again sloping down westwards towards the wall, containing frequent inclusions of sub-angular stones and charcoal (SF 064, 065, 092, 141) as well as animal bones (SF 142), slate (SF 094), a water-worn rounded pebble (SF 069) and an oyster shell (SF 088). Charcoal and slag were also recovered during the processing of soil samples (S007; S008). Embedded within this layer (3003), at a depth of 0.70m from the modern ground surface was a 0.20m x 0.20m and 0.10m deep lens of black silty clay (3006) containing very frequent inclusions of charcoal (SF 115; Plate 24). Further fragments of charcoal, cereal, bone and slag were recovered during the processing of the soil sample (S017).
- 7.30 The deposits (3003 & 3006) were overlain by a 0.40m deep layer of rubble (3005) comprising smaller red sub-angular stones exposed in the eastern end of the trench (Figure 23). This was itself overlain by a 1m deep layer of large greywacke stones (3004), sloping down westwards (Plate 25). Concentrations of large angular stones were apparent at the eastern and western limits of rubble spread (3004) with smaller rubble deposited between (Figure 23). Both rubble layers (3004 & 3005) had the same mid-dark brown silty sand matrix (3001) which included frequent animal bones (SF 055, 070, 118), slate fragments (SF 093, 113, 119), charcoal (SF 053, 116) and oyster shell (SF 050, 140). Charcoal, bone, glass and slag were recovered during the processing of the soil sample (S006).



Plate 24: Charcoal deposit (SF 115) in lens 3006
embedded in layer 3003



Plate 25: Rubble spread 3004, from E

- 7.31 The patchy 0.10-0.28m deep topsoil (3000) overlying Trench 3 comprised of mid brown silty sand with frequent sub-angular greywacke stones (Plate 3). The topsoil included vitrified stone (SF 006, 040, 114), mortar (SF 008, 017), animal bone (SF 009, 019, 037, 039), oyster shells (SF 036, 038), slag (S001), as well as one water-worn rounded pebble (SF 041) and modern pottery (SF 007).

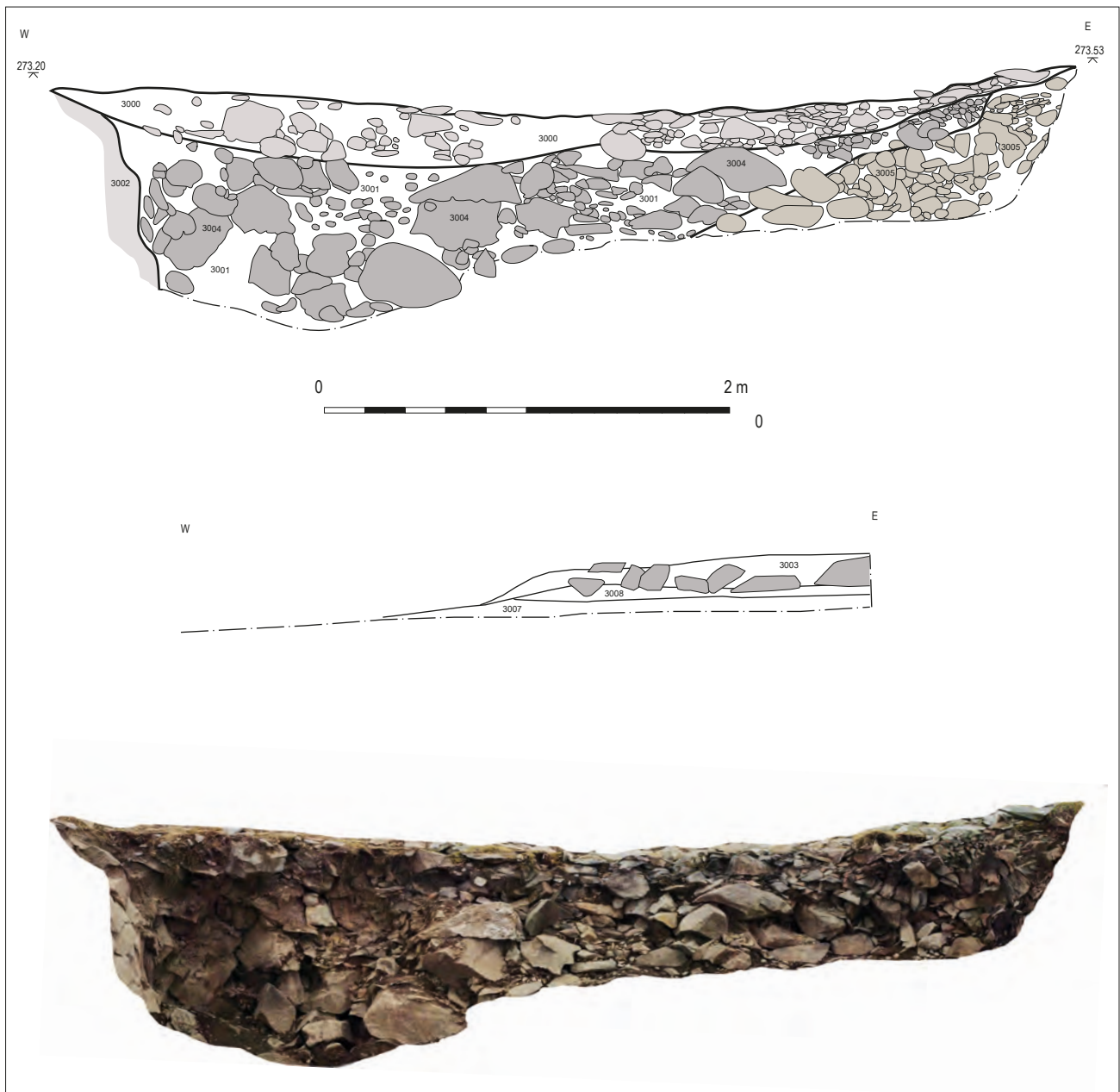


Figure 23: South facing section of Trench 3 [merged with S-Facing 'stepped' section]

Consolidation of trenches

- 7.32** In compliance with the methodology (see 6.13 above), the site was revisited by GUARD Archaeology on 20 September, one month after the completion of backfilling (Plates 26-28), to check that the restored trenches had settled to the original contours and that no further remedial work was required (Plates 29-31). It was observed that though the excavated turfs were routinely watered on a daily basis during the excavation, these had yet to fully recover one month after the backfilling of the trenches. It is expected that after more time, the grass turf will fully recover.



Plate 26: Backfilled Trench 1 (19 August 2022)



Plate 27: Backfilled Trench 2 (19 August 2022)



Plate 28: Backfilled Trench 3 (19 August 2022)



Plate 29: Backfilled Trench 1 (20 September 2022)



Plate 30: Backfilled Trench 2 (20 September 2022)



Plate 31: Backfilled Trench 3 (20 September 2022)

Thirlestane Barrows

Geophysics Survey (Magnitude Surveys)

7.33 A fluxgate gradiometer survey was completed and identified anomalies of an archaeological, agricultural, natural and undetermined origin across the two survey areas (Figure 24). The full geophysical results are presented in Appendix F.

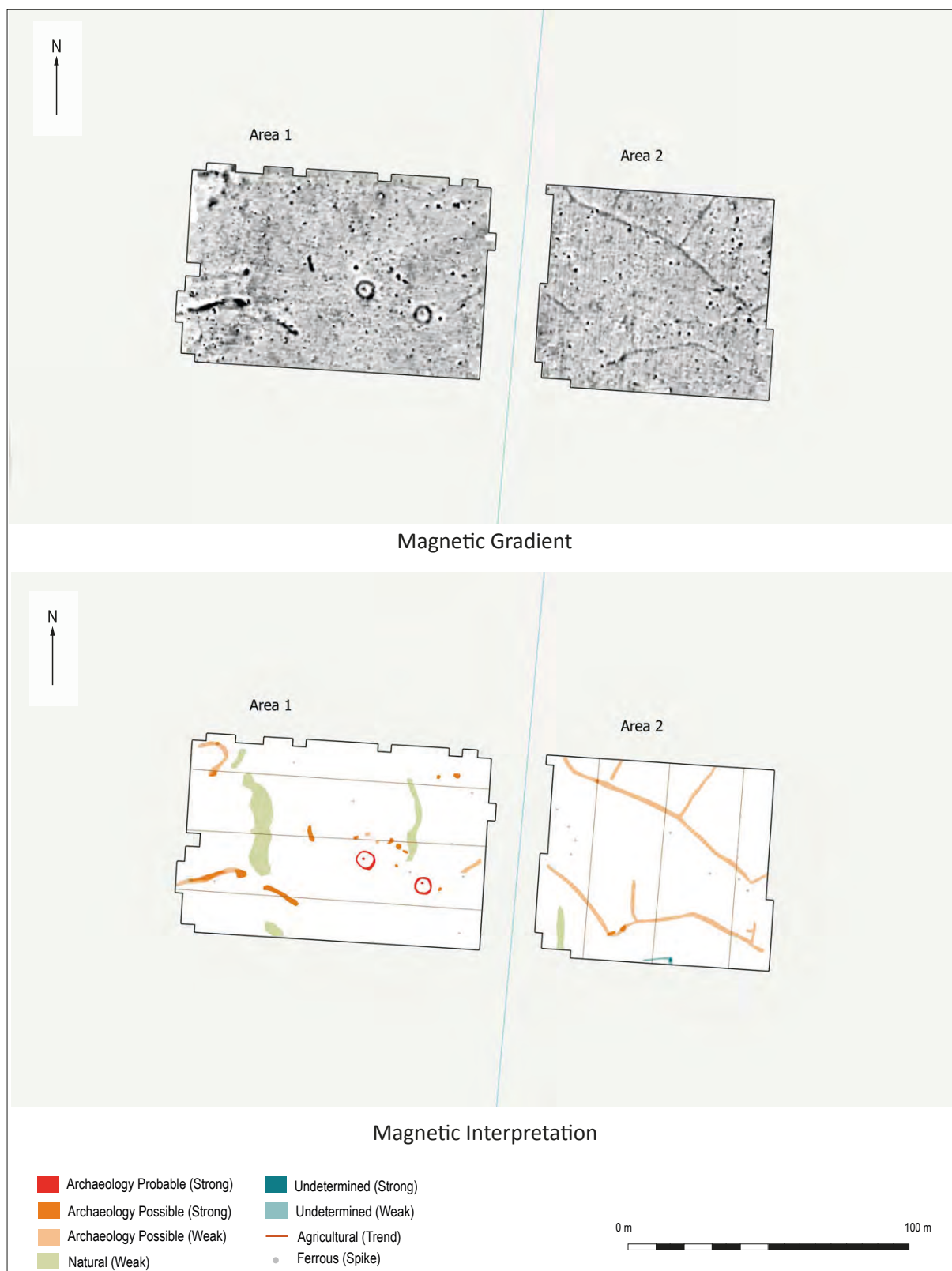


Figure 24: Thirlestane Barrows Geophysics Survey Results

- 7.34 Archaeological activity was identified two round barrows (centred at NT 11699 35265 and NT 11719 35257) and associated pit like features in the western field. These correspond to cropmarks visible in the survey area (Figure 4). Further rectilinear anomalies were also identified in the western field and though their morphology is indicative of periglacial formations, due to the detection of probable archaeology in the survey area, these have been classified as possible archaeology and may represent ditch like features. Broad sinuous linear anomalies were apparent across both survey areas. No barrows were apparent in the eastern field though cropmarks are evident here too (Figure 4).
- 7.35 Following completion of the geophysical survey, consolidated results from the aerial and geophysical surveys were employed to enable accurate positioning of two 6 m x 6 m archaeological excavation trenches.

Trench 4 (Lauren Reid & Tamsin Scott)

- 7.36 Trench 4 measured 36m² and was centred at NT 11806 35272 in the eastern survey area (Figure 10).
- 7.37 The earliest observed stratigraphic feature truncating the natural subsoil (4001/4009) in Trench 4 was that of a square barrow ditch (4004/4007) enclosing two sub-rectangular graves (4010 & 4012; Figure 25). Approximately 50 percent of the barrow ditch was visible in plan within Trench 4, it extended beyond the limit of excavation to the West and South. The full extent is therefore, unknown. The barrow ditch was rectilinear in shape, extended 3.94m WSW/ENE in the north of Trench 4, turning NNW/SSE and extended 4.96m in the east of the trench. Two slots were excavated through the square barrow ditch.

- 7.38 Ditch cut (4004) was excavated at an oblique angle to the western limit of excavation. It was present at a depth of 0.28m from the modern ground surface and measured 0.90m wide and 0.36m deep. The barrow ditch had steep faces, a flat base and contained a single fill (4005) comprised of a mid-orange brown clayey silt with moderate inclusions of small to medium sub-rounded and sub-angular stones (Plate 32). Frequent fine root bioturbation was recorded throughout the fill. No artefacts were encountered during the excavation but charcoal, nutshell and quartz fragments were recovered during the processing of the soil sample (S033). A sample was recovered from the ditch cut (4004) at the west facing section (Figure 26) to be assessed for optically stimulated luminescence dating.



Plate 32: ENE facing section of square barrow ditch (4004)

- 7.39 Ditch cut (4007) was excavated at the north-east corner of the square barrow ditch. It was present at a depth of 0.28m from the modern ground surface and measured 0.91m wide and 0.37m deep at the west/north-west facing section and 0.75m wide and 0.39m at the east/north-east facing section (Figure 26). The barrow ditch had steep faces, a flat base and contained a single fill (4008) comprised of a mid-orange brown clayey silt with moderate inclusions of small to medium sub-rounded and sub-angular stones (Plates 33 & 34). Frequent fine root bioturbation was recorded throughout the fill. No artefacts were encountered during the excavation. Fragments of charcoal and cereal were recovered during the processing of the soil sample (S037).
- 7.40 In the South of Trench 4 two sub-rectangular graves (4010 & 4012), oriented ENE/WSW were excavated within the area enclosed by the rectilinear ditch. The graves were present at a depth of 0.29m from the modern ground surface and were excavated using a grid (Plate 35). The grid split the two graves into 8 quadrants each (A-H), allowing for sufficient multi-element sample collection to enable analyses for traces of human remains (Figure 25).

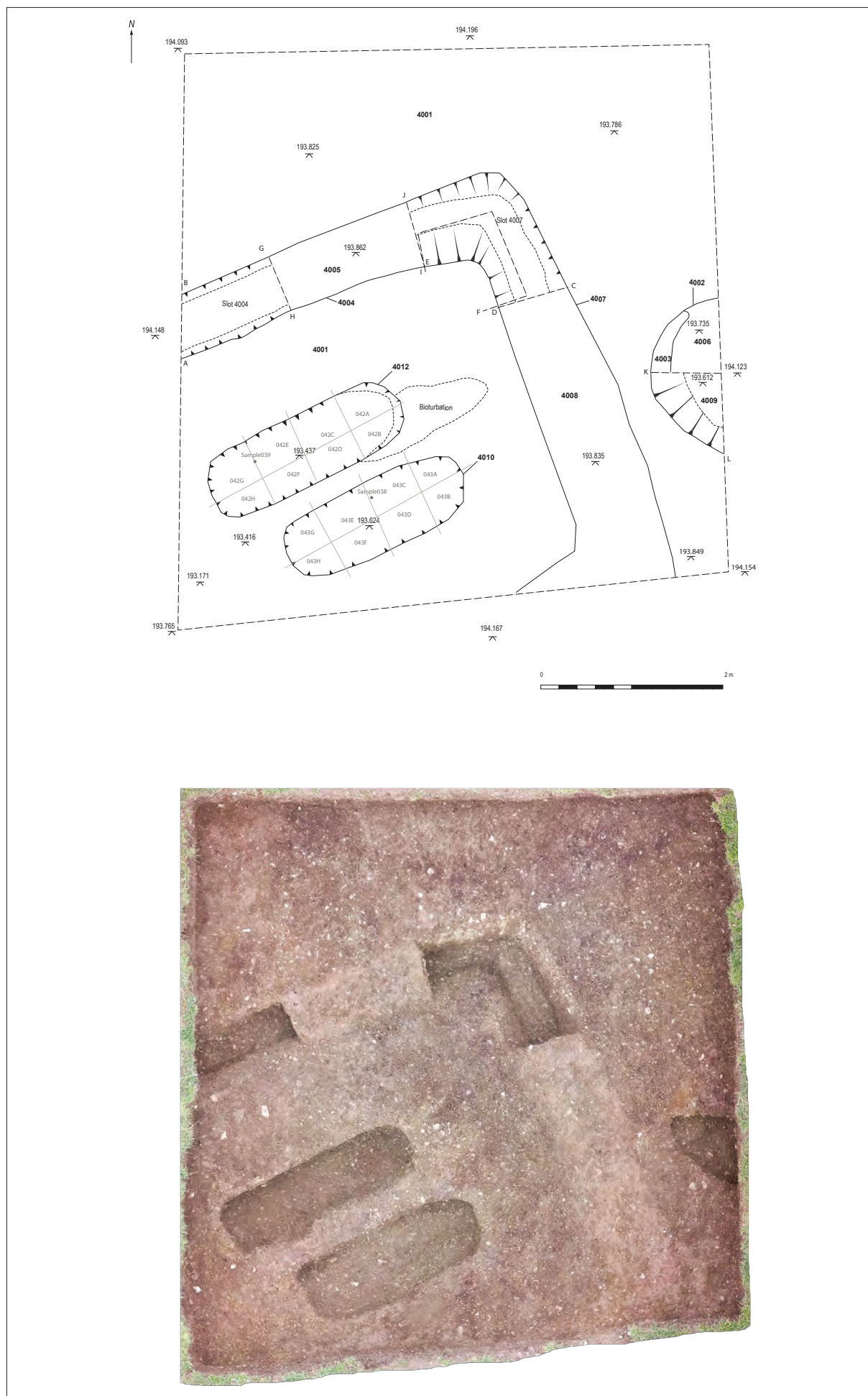


Figure 25: Plan of Trench 4

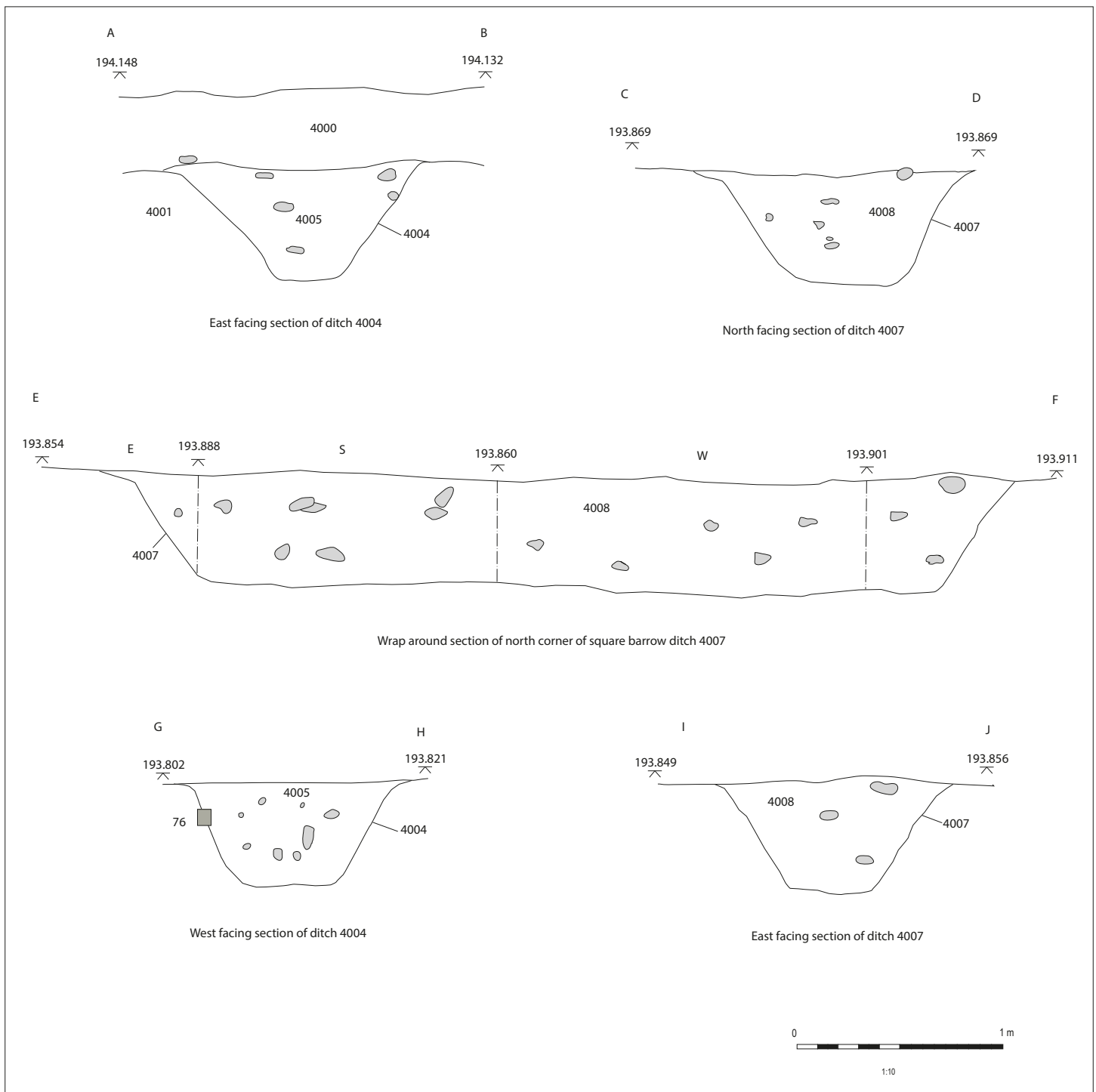


Figure 26: Sections of Square Barrow Ditch, Trench 4



Plate 33: Mid-excavation view of square barrow ditch (4007), from SSE



Plate 34: Post-excavation view of square barrow ditch (4007), from NNW



Plate 35: Mid-excavation shot of graves (4010) and (4012) with excavation grid



Plate 36: Post-excavation view of graves (4010) on right and (4012) on left

- 7.41** The southern grave (4010)] measured 2.10m long, 0.80m wide and 0.27m deep. It contained a single mid-brown silty sand fill (4011) with frequent inclusions of small-medium sub-rounded and sub-angular stones. Frequent fine root bioturbation was recorded throughout the fill. No artefacts or human remains were identified during the excavation (Plate 36). Fragments of charcoal and bone were recovered during the processing of the soil sample (S038). Further soil samples were taken for multi-element analyses.
- 7.42** The northern grave (4012) measured 2.30m long, 0.65m wide and 0.30m deep. It contained a single mid-brown silty sand fill (4013) with frequent inclusions of small-medium sub-rounded and sub-angular stones. Frequent fine root bioturbation was recorded throughout the fill. No artefacts or human remains were identified during the excavation (Plate 36). Fragments of quartz and egg case were recovered during the processing of the soil sample (S039). Further soil samples were taken for multi-element analyses.
- 7.43** A tree bole hole (4002) was identified near the eastern limits of Trench 4, located 0.32m east of the square barrow and present at a depth of 0.21m from the modern ground surface (Figure 25). It measured 1.84m long and 0.28m deep and 0.85m wide extent was exposed from the limit of excavation (Figure 27). It contained two fills (4003 & 4006). Fill (4003) comprised of a light-brownish orange sandy silt with frequent inclusions of small-medium sub-rounded and sub-angular stones (Plate 37). Fragments of charcoal, daub, quartz and modern plastic were recovered during the processing of the soil sample (S034). Fill (4006), a redeposited natural subsoil comprised of dark-brownish grey silt with abundant small to medium sub-rounded and

sub-angular stones. A fragment of quartz was recovered during the processing of the soil sample (S035). Frequent fine root bioturbation was recorded throughout both fills. No other artefacts were encountered during the excavation of either fill.

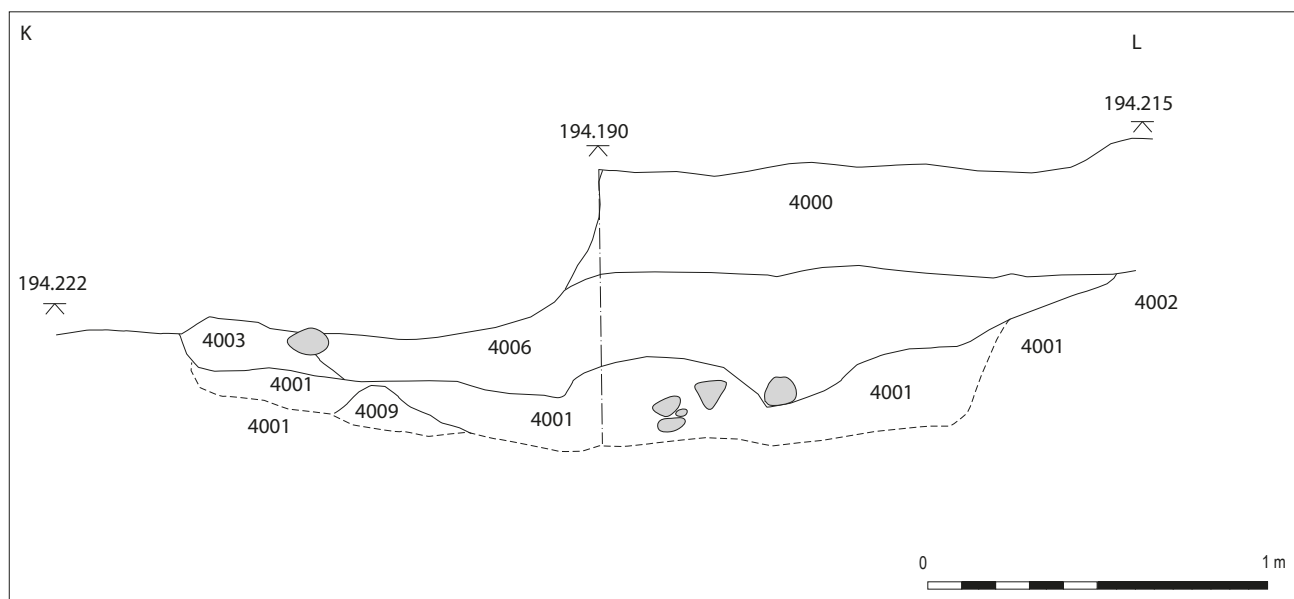


Figure 27: Wrap around section of Pit 4002, Trench 4

7.44 All features identified in Trench 4 were discretely cut into natural subsoil with no intercutting of features evident. The natural subsoil (4001/4009) comprised of dark-grey small to medium sub-rounded and sub-angular stones with occasional brownish yellow clayey silt lenses and mottling. Present at a depth of 0.29m from the modern ground surface, frequent fine root bioturbation was evident throughout the subsoil surface. Fragments of charcoal, flint and quartz were recovered during the processing of the soil samples (S036 & S083). The trench was covered by a 0.29m deep layer of topsoil (4000) comprised of a mid-brown silty loam. Twelve metal artefacts (SF 193) of modern date were recovered from metal detecting of the topsoil immediately prior to excavation. Charcoal and cereal/seed were recovered during the processing of the soil sample (S032).



Plate 37: West facing section of tree bole hole (4002)

Trench 5 (Amanda Gilmore & Tamsin Scott)

- 7.45** Trench 5 measuring 36m² was centred at NT 11719 35257 within the western survey area (Figure 10). The underlying natural subsoil (5001) comprised of dark-grey small to medium sub-rounded and sub-angular stones with occasional brownish yellow clayey silt lenses and mottling. Present at a depth of 0.29m from the modern ground surface, frequent fine root bioturbation was evident throughout the subsoil surface. Charcoal was recovered during the processing of the soil sample (S085).
- 7.46** The earliest observed stratigraphic feature overlying the natural subsoil (5001) in Trench 5 was that of an inhumation deposit (5027). The feature was identified by a capstone (SF 222; Plate 38) in close proximity to barrow ditch (5009) in the north-west of the barrow (Figure 28). Present at a depth of 0.65m below modern ground level the deposit was left in-situ unexcavated due to time constraints. The deposit (5027) comprised of mid-orange-brown silty clay containing occasional small to medium gravel inclusions.

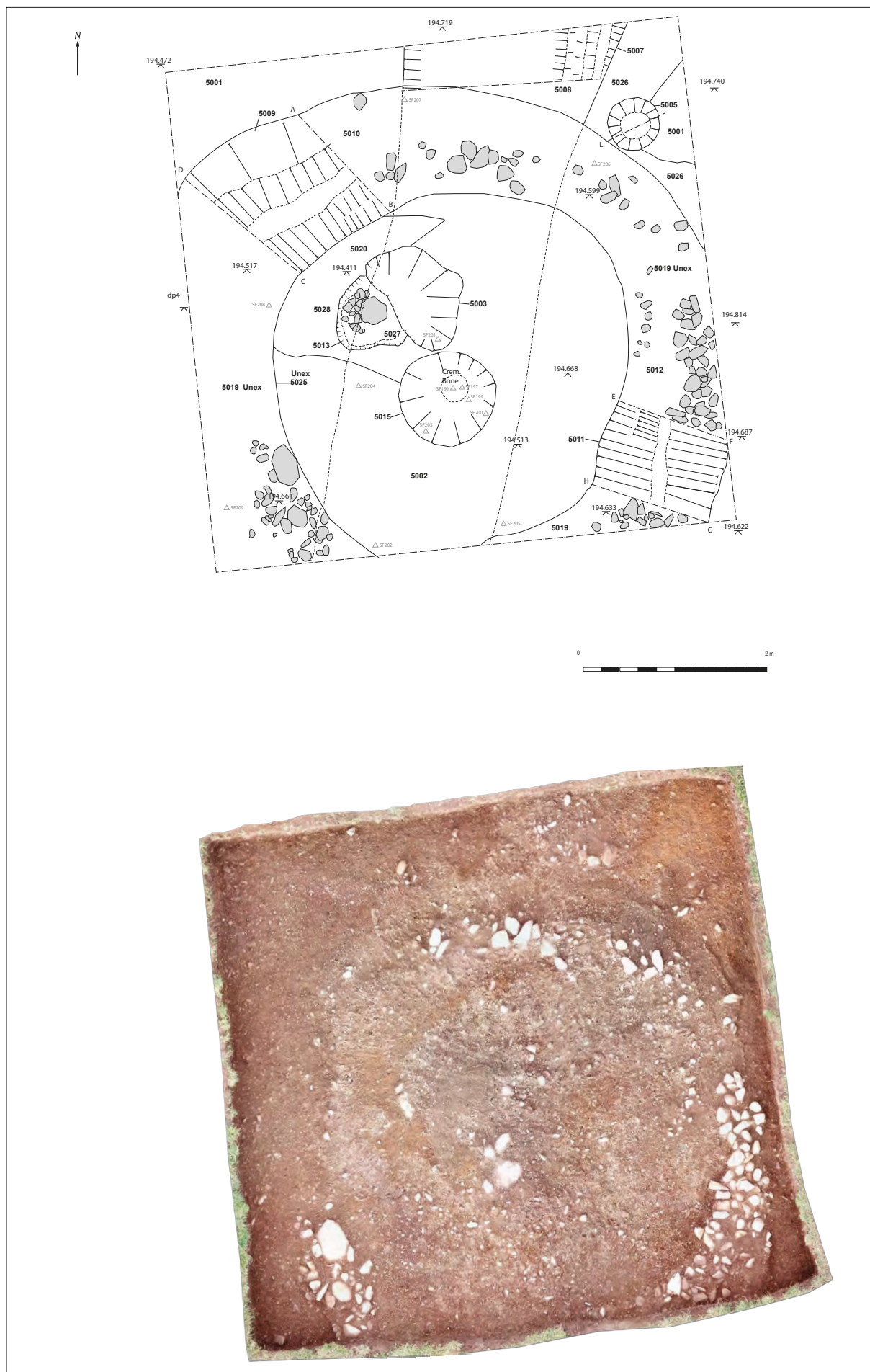


Figure 28: Plan of Trench 5 (drone photo taken pre-excavation)



Plate 38: In-situ Capstone SF 222 and barrow mound deposit (5028) truncated by (5013). Image taken prior to removal of SF 221 from (5014)



Plate 39: Mid-excavation shot of barrow ditch (5009), from SSW

- 7.47** Deposition of the primary burial appeared to have been followed by the cutting of sub-circular barrow ditch (5009 / 5011 / 5025), measuring 6.90m in diameter and enclosing a 3.80m diameter area. Approximately 80 percent of the barrow ditch was visible in plan within Trench 5 (Figure 28). It extended beyond the limit of excavation to the east, west and south. Two slots were excavated across the ditch.
- 7.48** Ditch cut (5009) was excavated in the north-west (quadrant 4) of Trench 4 (Figure 28). It was present at a depth of 0.34m from the modern ground surface (Plate 39). The ditch here measured 1.55m wide and 0.51m deep with a gentle break of slope and moderately sloping sides on the external ditch face and a u-shaped base (Figure 29). The internal ditch face was under-excavated to preserve the unexcavated burial (5027) to the immediate south-east of the barrow ditch.

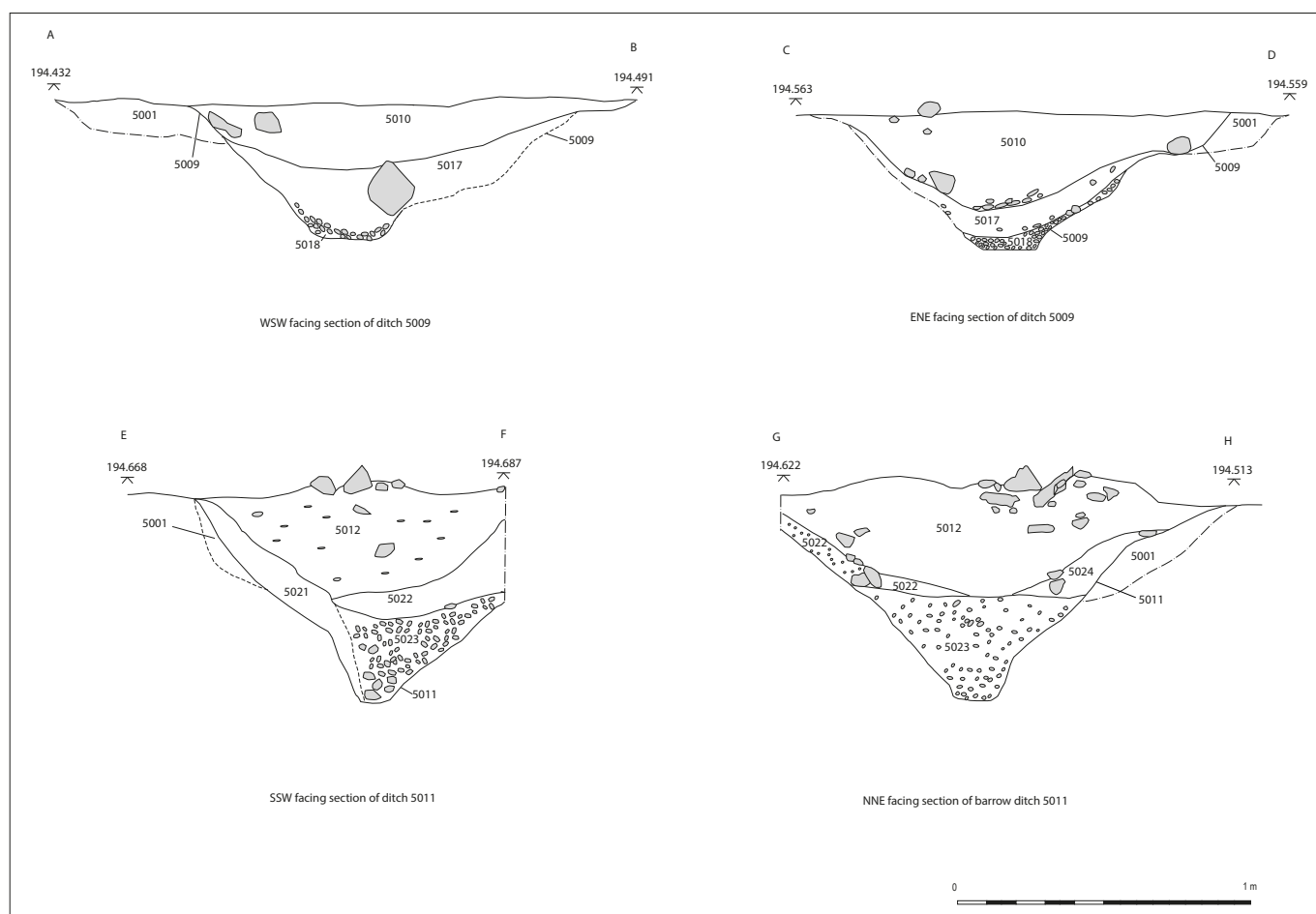


Figure 29: Sections of Round Barrow Ditch, Trench 5

- 7.49 Ditch cut (5011) was excavated in the south-east (quadrant 1) of Trench 4 (Figure 28). It was present at a depth of 0.26m from the modern ground surface. The ditch here measured over 1.55m wide and was 0.81m deep with a moderate break of slope and moderately steep sides on the internal ditch face, a gentle break of slope and moderately sloping sides on the external face, and a u-shaped base (Figure 29). The external ditch face was excavated abutting the limit of excavation and is estimated to have extended approximately 0.12 m further south-east.
- 7.50 Unexcavated sections of the round barrow ditch were recorded in plan as ditch cut (5025) and fill (5019); bone (SF 202) and charcoal (SF 206-209) were recovered from the surface of this deposit.
- 7.51 The primary burial (5027) was sealed by re-deposited barrow ditch material (5028) comprising light orange clayey sand with occasional sub-angular and sub-rounded stone inclusions. Located in the north-west of the barrow, this unexcavated deposit was truncated by two inhumation cuts (5013 & 5015) while the deposit horizon was diffused with overlying redeposited barrow mound deposit (5020). A lens of re-deposited barrow ditch material (5026) was also identified to the exterior the unexcavated barrow ditch (5025) to the north-east (Figure 28). This comprised of light-orange sandy clay with occasional sub-angular and sub-rounded stone inclusions. Probably stratigraphically contemporary with these deposits was primary ditch fill (5026) encountered within the south-east section of the barrow ditch.

- 7.52 Inhumation cut (5013) was located in the north-west part of the barrow (Figure 28). Present at a depth of 0.35m below modern ground level, its surviving extent measured 0.86m long, 0.68m wide and 0.3m deep. It contained a single fill (5014) comprised of a brownish black silt with frequent small to large sub-angular and sub-rounded stone inclusions and a high concentration of cremated human remains (SF 215, 223, 224) and at least 25 fragments of prehistoric pottery (SF 221; Plate 38). Fragments of charcoal, cereal, nutshell, bone, pottery, flint, quartz and possible pitchstone were recovered during the processing of the soil samples (S077-079, S089). The fill deposit (5014) was sealed by one large and five medium capstones.



Plate 40: Pre-excavation shot of (5014) from SSE, visible in right of frame

- 7.53 Inhumation cut (5015) was located in the centre of the barrow mound. Present at a depth of 0.35m below modern ground level, this was partially excavated to reveal an extent 1.2m long, 1.1m wide x 0.3m deep. It contained a single fill (5016) comprised of a brownish black silt with frequent small to large sub-angular and sub-rounded stone inclusions and a significant concentration of cremated human remains (SF 216, 218; Plate 41) and several fragments of prehistoric pottery (SF 217, SF 219, SF 220). Fragments of charcoal, bone, pottery, daub and quartz were recovered during the processing of the soil samples (S080-081, S088). Fill (5016) was sealed by one very large and five medium capstones (Plate 41). Approximately 50 percent of the remains were left in-situ and the very large capstone was re-instated prior to backfill of Trench 5.



Plate 41: Mid-excavation shot of cremated human remains (SF 216 & 218) within (5016), from E



Plate 42: Pre-excavation shot of (5016) from SW, visible in right of frame

- 7.54 Burial fill (5016) and the capstones sealing burial fill (5014) were overlain by barrow mound deposit (5020). This deposit (5020) was present at a depth of 0.33m below modern ground level in the north-west of the central barrow location. It was only partially excavated in order to preserve in-situ remains but an extent 0.97m long by 0.9m wide was exposed. It comprised of a light-orange sandy clay with occasional sub-angular and sub-rounded stone inclusions but no artefacts. It was bounded to the north-west by the barrow ditch. The deposit horizon was diffused with the stratigraphically earlier barrow mound deposit (5028) and was truncated by inhumation cut (5003). Probably stratigraphically contemporary with this deposit were secondary ditch fills (5018, 5023).
- 7.55 The final identified inhumation cut (5003) was located in the north of the barrow. Present at a depth of 0.28m below modern ground level, this cut measured 1.98m long, 1.02m wide and 0.38m deep. Inhumation (5003) contained a single fill (5004) that comprised of greyish-brown silty soil with frequent small sub-angular and sub-rounded stone inclusions. Fragments of charcoal, cereal, bone, pottery, daub, slag, flint and modern ceramic and glass were recovered during the processing of the soil samples (S048-S049, S054-S060, S062-S075, S095). This deposit also contained a large urn with a high concentration of cremated human remains within the urn (SF 211; Plate 43) and also beneath it (SF 214). The urn was block-lifted for laboratory excavation, which was undertaken after the completion of the excavation. This work revealed it to be a miniature undecorated urn dating to about 1550-1150 BC, containing cremated human bone.

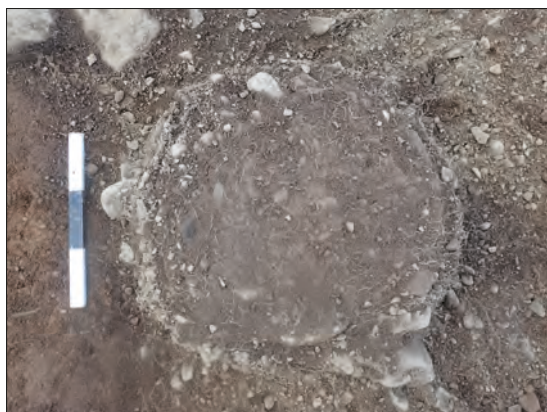


Plate 43: Plan view of Urn SF 211 prior to block-lifting



Plate 44: Urn SF211

- 7.56 That part of the enclosing barrow ditch on the north-west side (5009) contained three fills (5010, 5017, 5018) from which no artefacts were recovered (Figure 29). Primary fill (5018) comprised of a mid-greyish brown sandy silt matrix 0.10 m deep with frequent very small to small sub-angular and sub-rounded stone inclusions, and occasional fine root bioturbation. Charcoal, was recovered during the processing of the soil sample (S087). The secondary fill (5017) comprised of a mid-brownish orange sandy silt 0.26m deep with frequent very small and occasional medium sub-angular and sub-rounded stone inclusions, and occasional fine root bioturbation. Fragments of charcoal and quartz were recovered during the processing of the soil samples (S086). The tertiary and final fill (5010) comprised of a mid-orange brown silty clay matrix 0.35m deep containing frequent inclusions of small to medium sub-rounded and sub-angular stones, a charcoal deposit (SF 213) and frequent fine root bioturbation. Fragments of charcoal, slag and quartz were recovered during the processing of the soil samples (S052 & S061).
- 7.57 That part of the enclosing barrow ditch on the south-eastern side (5011) contained four fills (5012, 5021, 5022/5024, and 5023) from which no artefacts were identified during the excavation (Figure 29). Primary fill (5021) comprised of a mid-brownish orange sandy clay with frequent very small to medium sub-angular and sub-rounded stone inclusions and occasional fine root bioturbation. It sloped from the interior ditch face surface towards the base of the ditch and was only recorded in the SSW facing ditch section E-F (Figure 28). It extended 0.21m in width, with a maximum thickness of 0.17m. The secondary fill (5023) comprised of a 0.39m deep mid-greyish brown silty sand matrix containing abundant very small to medium sub-angular and sub-rounded

stones and occasional fine root bioturbation, filling the base of ditch (5011). Tertiary fill (5022) comprised of a 0.35m deep mid-greyish brown silty sand with abundant small and occasional medium sub-angular and sub-rounded stone inclusions and occasional fine root bioturbation. Fragments of flint and quartz were recovered during the processing of the soil sample (S092). It sloped from the exterior ditch face surface at the limit of excavation. Tertiary fill (5024) comprised of 0.26m deep mid-brownish orange silty clay with sand and occasional small to medium sub-angular and sub-rounded stone inclusions and occasional fine root bioturbation. Fragments of charcoal and nutshell were recovered during the processing of the soil sample (S094). It sloped from the interior ditch face and was only recorded in the NNE facing ditch section G-H (Figure 29). The final fill (5012) comprised of a 0.46m deep mid-orange brown silty clay matrix with occasional sand inclusions, frequent fine root bioturbation and containing frequent medium to large sub-angular and sub-rounded stones and with an abundance of medium to large sub-angular stones on its top surface (Figure 28). Charcoal, nutshell, bone, worked stone, daub and quartz were recovered during the processing of the soil samples (S053, S062, S082).

- 7.58** A small sub-circular feature (5005) was located 0.09m from the north-east edge of the unexcavated barrow ditch (5025), truncating lens deposit (5026). This small pit (5005), measuring 0.74m long, 0.65m wide and 0.18m deep, was sub-circular in plan with a sharp break of slope, steep sides and a flat base (Figure 30/Plate 45). It contained a single fill (5006), comprised of a mid-orange brown silty clay with moderate small to large sub-angular stone inclusions. Two cremain fragments (SF210 and SF212) were recovered from this fill (5006). Charcoal, bone, quartz and flint fragments were also recovered during the processing of the soil sample (S050).

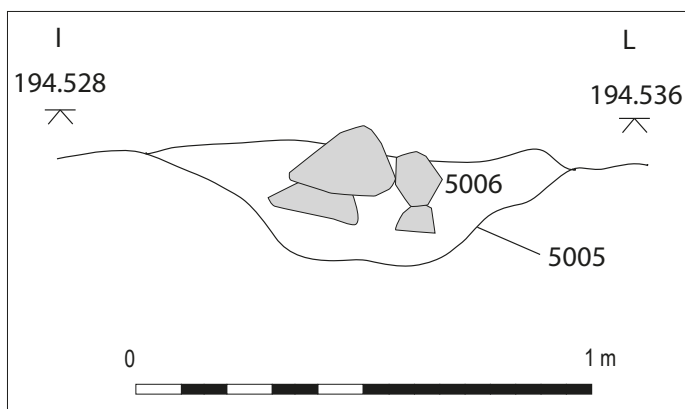


Figure 30: NW facing section of Pit 5005, Trench 5



Plate 45: North-west facing section of small pit 5005

- 7.59** A 2.83m wide and 0.29m deep plough furrow (5007) truncated the barrow mound on a N/S alignment. It was 'W' shaped in section with moderately sloping sides and a concave base (Plate 46). The plough furrow contained a mid-orange brown clay silt loam fill (5008) with frequent inclusions of small to medium stones. Fragments of charcoal, nutshell and modern ceramic were recovered during the processing of the soil sample (S051). Initial hand-cleaning of Trench 5 also recovered a large fragment of pottery (SF195 and 14 cremains SF196-201 and SF 203-205) from that part of the basal mound deposit (5002) disturbed by the plough furrow, comprising mid-brown clayey silt 0.02m deep. While these artefacts (SF 195-209) were recovered from all four quadrants of the trench, the majority of these surface finds were located in the centre and south of Trench 5 (Figure 28). Further fragments of charcoal, bone, pottery and daub, were recovered during the processing of the soil samples (S044, S045, S046 & S047).



Plate 46: South facing section of plough furrow

- 7.60 Trench 5 was covered by a 0.29m deep layer of topsoil (5000) comprised of mid-brown silty loam. Six mixed metal finds (SF 194) of modern date were recovered by metal detecting this topsoil. Metal detecting of all features within Trench 5 identified no further metal finds. Fragments of charcoal, seed, nutshell, bone, wood and glass were recovered during the processing of the soil sample (S084).

Merlin's Grave

Geophysics Survey (Magnitude Surveys)

- 7.61 A fluxgate gradiometer survey was completed and identified anomalies of an archaeological, agricultural, natural and undetermined origin across the 2.13 ha survey area (Figure 31). The full geophysical results are presented in Appendix G.
- 7.62 Archaeological activity was identified in the form of one discrete anomaly identified as the most likely candidate for a possible cist grave (Figure 31). This was located at NT 13480 34516, to the south-east of the putative location previously marked on maps. Rig and furrow were also identified. Some other anomalies were also noted but it was not possible to establish whether these were archaeological, agricultural or natural in origin. Modern interference was limited to field boundaries.

Community Participation and Engagement

Tinnis Castle and Fort

- 7.63 Public participation commenced with the drone survey of Tinnis Castle and Fort on 5 August 2022, which was undertaken by two volunteers assisted by GUARD Archaeologists. A fieldwork workshop held at Drumelzier village hall was attended by 20 volunteers. Over the course of the 12-day excavation, a total of 35 volunteers participated in the excavation of Tinnis Castle and Fort. A further drone survey of the site was undertaken by two volunteers on 25 August 2022, after the completion of the excavation. The surveys and excavation amounted to 180 volunteer days. The participants were drawn from Peeblesshire, South Lanarkshire, Dumfries and Galloway, Glasgow, Inverclyde and Perth. They were all ages from 16+ and included 3 school pupils/leavers, 4 students, 10 members of the Peeblesshire Archaeological Society, 7 members of the Biggar Archaeology Group, and many other individuals. Of the 35 participants, 18 had never previously participated in archaeological fieldwork while the remainder had previous experience to varying degrees. All of those who applied to participate were accepted for the specific days that they had applied and several undertook additional days beyond that which they had originally planned. Twelve participants, drawn mainly from the younger age bracket, requested Archaeological Skills Passports while one further participant was already in possession of an Archaeological Skills Passport. These were provided, reviewed and updated by the GUARD Archaeologists throughout the excavation, recording the range and level of skills the relevant participants were acquiring. Those volunteers now carry Archaeological Skills Passports that can be brought to any future archaeological projects they participate on, for further review and updating, enabling them to demonstrably build their skills.
- 7.64 A further 67 visitors made their way to Tinnis Castle and Fort during the excavation and were all given a guided tour of the excavation.

Thirlestane Barrows

- 7.65 Public participation commenced with the geophysics survey of Thirlestane Barrows on 17 October 2022, which was led by Magnitude Surveys. Over the course of the 10-day excavation led by GUARD Archaeologists, a total of 23 volunteers participated. The surveys and excavation amounted to 107 volunteer days. The participants were drawn from Peeblesshire, South Lanarkshire, Dumfries and Galloway, Glasgow, Inverclyde and Perth. They were all ages from 15+ and included 2 school pupils, 2 students, 6 members of the Peeblesshire Archaeological Society, 5 members of the Biggar Archaeology Group, and many other individuals. Of the 23 participants, 10 had never previously participated in archaeological fieldwork other than Tinnis



Figure 31: Merlin's Grave Geophysics Survey Results

Castle while the remainder had previous experience to varying degrees. All of those who applied to participate were accepted for the specific days that they had applied and several undertook additional days beyond that which they had originally planned. A further two participants, drawn from the younger age bracket, requested Archaeological Skills Passports while a further six participants were already in possession of Archaeological Skills Passports given to them during the Tinnis Castle excavation. These were provided, reviewed and updated by the GUARD Archaeologists throughout the survey and excavation, recording the range and level of skills the relevant participants were acquiring. Those volunteers now carry Archaeological Skills Passports that can be brought to any future archaeological projects they participate on, for further review and updating, enabling them to demonstrably build their skills.

- 7.66 A further 35 visitors made their way to Thirlestane Barrows during the excavation and were all given a guided tour of the site.

Merlin's Grave

- 7.67 Public participation commenced with the geophysics survey of the Merlin's Grave site on 7 November 2022, which was led by Magnitude Surveys. Over the course of the 1-day survey, a total of 11 volunteers participated, amounting to 11 volunteer days. The participants were drawn from Peeblesshire, South Lanarkshire, Dumfries and Galloway and Glasgow. They were all ages from 18+ and included 1 student, 5 members of the Peeblesshire Archaeological Society, 2 members of the Biggar Archaeology Group, and other individuals. Of the 11 participants, 4 had never previously participated in archaeological fieldwork other than Tinnis Castle and Thirlestane Barrows while the remainder had previous experience to varying degrees. All of those who applied to participate were accepted for the specific day. Four participants were already in possession of Archaeological Skills Passports given to them during the Tinnis Castle and Thirlestane Barrows excavation. These were reviewed and updated, recording the range and level of skills the relevant participants were acquiring and ready to be brought to any future archaeological projects they participate on, for further review and updating, enabling them to demonstrably build their skills.

Post-excavation works

- 7.68 Public participation continued with the laboratory excavation of a Bronze Age ceramic urn at GUARD Archaeology Ltd's Finds Lab in Glasgow on 16 November 2022, which was led by GUARD Archaeology. Over the course of the 1-day excavation, a total of 3 volunteers participated, amounting to 3 volunteer days. The participants were drawn from South Lanarkshire, Dumfries and Galloway and Perth. They were all ages from 18+ and included 1 school pupil and other individuals. Of the 3 participants, none had never previously participated in archaeological work other than Tinnis Castle and Thirlestane Barrows. All three participants were already in possession of Archaeological Skills Passports given to them during the Tinnis Castle excavation. These were reviewed and updated, recording the range and level of skills the relevant participants were acquiring and ready to be brought to any future archaeological projects they participate on, for further review and updating, enabling them to demonstrably build their skills.
- 7.69 A lecture presenting the initial fieldwork results was given to 163 people attending the *Edinburgh Lothian & Borders 2022* conference at Musselburgh on 19 November 2022.
- 7.70 Further public participation continued with the post-excavation processing of soil samples and the sorting of finds at GUARD Archaeology Ltd's Finds Lab in Glasgow on 02-16 December 2022, which was led by GUARD Archaeology. Over the course of the 10-day process, a total of 10 volunteers participated, amounting to 14 volunteer days. The participants were drawn from South Lanarkshire, Peeblesshire, Inverclyde, Dumfries and Galloway and Perth. They were all ages from 18+ and included 1 school pupil, 1 member of the Peeblesshire Archaeological Society, 2 members of the Biggar Archaeology Group, and other individuals. Of the 10 participants, 6 had never previously participated in archaeological work other than Tinnis Castle and Thirlestane Barrows. Three participants were already in possession of Archaeological Skills Passports given to them during the Tinnis Castle excavation. These were reviewed and updated, recording the range and level of skills the relevant participants were acquiring and ready to be brought to any

future archaeological projects they participate on, for further review and updating, enabling them to demonstrably build their skills.

- 7.71 A post-excavation workshop held at Drumelzier village hall on 28 January 2023 was attended by 20 volunteers. The participants were drawn from Peeblesshire, South Lanarkshire, Dumfries and Galloway, and Perth. They were all ages from 16+ and included 1 school pupil, 5 members of the Peeblesshire Archaeological Society, 6 members of the Biggar Archaeology Group, and other individuals. Of the 20 participants, 10 had never previously participated in archaeological work other than Tinnis Castle and Thirlestane Barrows while the remainder had previous experience to varying degrees. All of those who applied to participate were accepted for this event.

General publicity

- 7.72 The project website - <https://dark-age-digs.com/> - hosted a daily blog and a Facebook Group was also set up, which engaged more people. Links to these were distributed from GUARD Archaeology's website and social media platforms (Twitter, Facebook, LinkedIn). The excavations were also reported in the *Peeblesshire News*, *Dig It! Scotland's Top Ten Discoveries 2022*, *Scotsman*, *National*, *Herald*, *The i*, *Scottish Daily Mail*, *Stirling Observer*, *History Scotland* and Historic Environment Scotland's *Celebrating Archaeology in Scotland 2022*. The project was also reported in local newsletters *Peebles Life*, *Upper Tweeddale Community News* and the *Peeblesshire Archaeological Society Newsletter*.

Discussion

Tinnis Castle and Fort

Topographic survey (Eduardo Perez-Fernandez)

- 8.1 The morphology of Tinnis Castle is defined by two markedly different spaces at the top of the hill, a central oval fort occupying the entirety of the summit and the remains in the central sector of a medieval castle with a square plan reinforced by two circular towers at the corners of its north-western wall (Figures 12-14). The stonework of each phase is markedly different too, the medieval fortification comprises mortared masonry while the rampart along the edge of the summit comprises drystone rubble. The ramparts defining the outer, lower-lying and non-concentric enclosures on the north-east and south-west flanks of the summit also comprise drystone rubble with no apparent evidence for mortared masonry. This may indicate that these originally relate to the summit rampart rather than the medieval fortification but the configuration of the north-east entranceway suggests that the lower-lying enclosures on this side of the hill may have been heavily altered during the occupation of the site by the medieval castle. The possible continuation of the middle stone rampart along the north-western flank of the hill to join the ramparts defining the northern and southern middle terraces (Figure 13) may suggest a more concentric layout than is apparent in the previous RCAHMS survey plan (Figure 2). Though the break of slope apparent here is not quite on a continuous course from the southern rampart, this may be due to the depth of rubble that has fallen from the summit down this flank of the hill.

Trench 1 (Thomas Muir)

- 8.2 The location of Trench 1 was chosen to expose a small part of the summit rampart and adjacent interior on the south-east side of the hill, that could offer corroborative evidence for the remains and stratigraphic sequence exposed in Trench 2 (Figure 32). The excavation of Trench 1 was successful in exposing the full width of the drystone rampart base (1003/1004), including its inner and outer wall faces, on the south-east side of the summit. The outer south-east face comprised large, roughly square stones, whereas the inner north-west face to the north-west was lined with smaller, flattish faced stones. The core of the rampart comprised noticeably smaller stones than either face. The slot excavated through the rampart base revealed an underlying levelling layer (1010) with the rampart base then built immediately on top of this. No remains of an earlier rampart could be identified nor was there any direct evidence of timber-lacing

though a small void was observed (Figure 17), possibly the remnant of where timber-lacing had once been. The presence of loose fragments of vitrified stone (SF 144 & 148) and mortar (SF 147) may indicate that the rampart base represents a rebuilt drystone rampart re-using the materials from an earlier dismantled rampart and following the same footprint around the edge of the summit of the hill. Given the presence of mortared stone within the rubble spread (1001) stretching southwest across the interior of the summit, it may be that the rampart wall was rebuilt and consolidated at some point prior to its collapse, perhaps most likely when Tinnis Castle was constructed. On the other hand, the inclusions of vitrified stone and mortar within the rampart base may represent later intrusions that had fallen between the cracks during this later consolidation. The recovery of charcoal (SF 149 & 192) from the top, middle and base of the rampart (1004) as well as from the underlying levelling layer (1010) offers the opportunity to test these options using radiocarbon dating. This may then reveal if the drystone rampart base was constructed prior to the castle, during either an early medieval or Iron Age phase of occupation, or whether it solely formed part of the bailey of Tinnis Castle, thought to be constructed during the fifteenth or early sixteen century (RCAHMS 1967, 272).

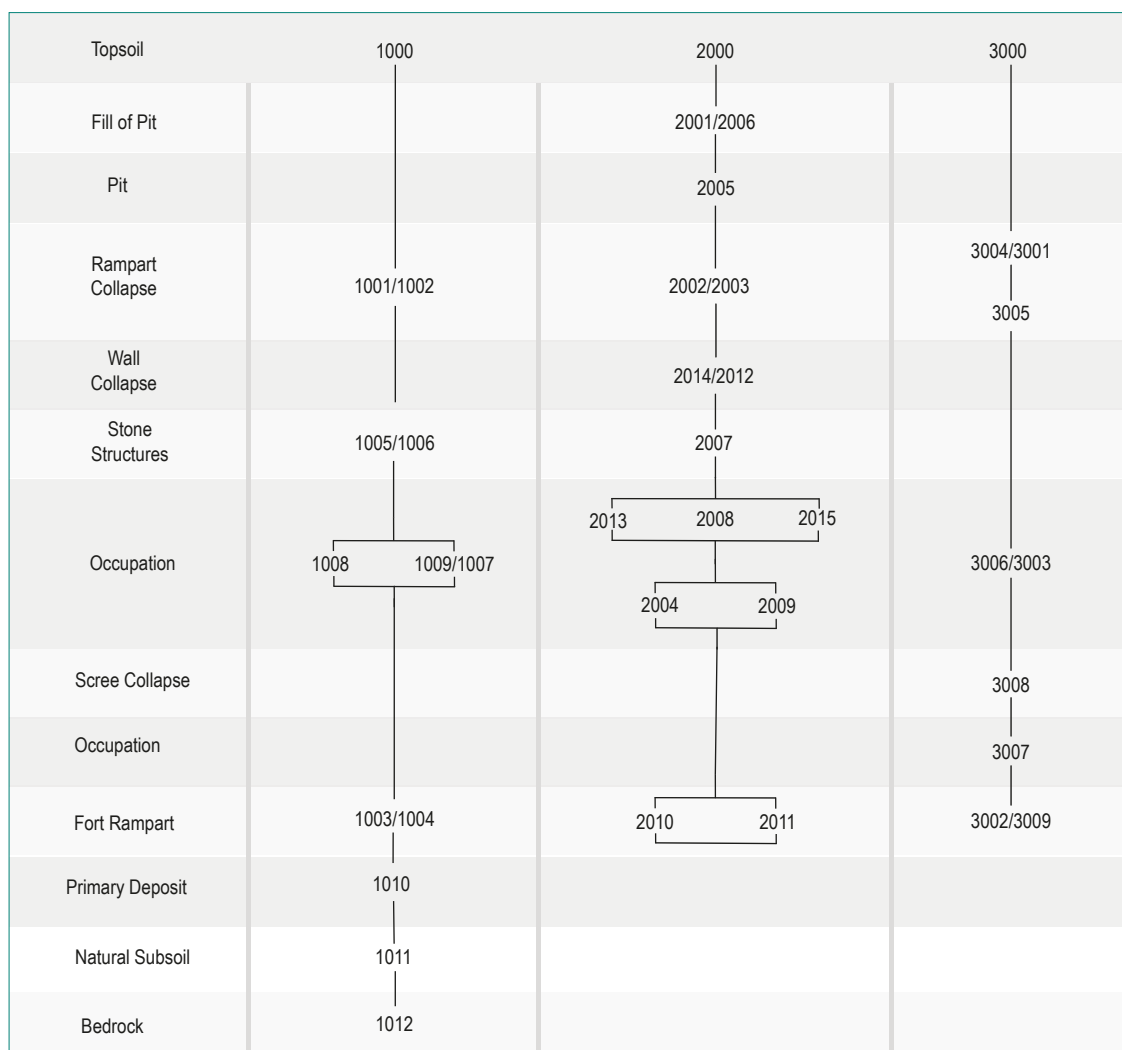


Figure 32: Harris Matrices for Trenches 1-3, Tinnis Castle and Fort

- 8.3 Within that part of the summit interior exposed by Trench 1, there was no evidence of any occupation prior to the medieval period. The mortar and slab surfaces (1008 & 1009) lay directly upon natural subsoil (1011) and bedrock (1012), suggesting that the summit here was levelled and scoured clean of any previous occupation deposits prior to these surfaces being laid. Animal bones (SF 121, 122 & 127) embedded in the soil matrix (1007) of the stone slabs (1009) may enable radiocarbon dating to determine when this later phase of occupation occurred. South of this, mortar 1008 has been laid seemingly directly onto the subsoil (1011). Unless these patches of level surface (Figure 16) are remnants of a more extensive surface structure, this

surface comprised subsoil (1011) and bedrock (1012) together with patches of levelling (1008 & 1009) which had perhaps been covered with a range of organic material long since deteriorated. This level was sampled (Sample 030) across 11 points (including a control sample of topsoil) to enable multi-element analyses to be undertaken to determine the nature of occupation. This may be useful in determining whether this surface lay within or outwith a building defined by the wall (1005) that had been built up against the interior face of the rampart (1003).

- 8.4 The fragmentary remnants of occupation (1005-1009) were sealed beneath a substantial spread of stone rubble (1001). This may have derived from the collapse of the rampart along the south-east edge of the summit appears to have collapsed across the interior of the site, sealing, though it is possible that this rubble derived from a structure within the interior of the summit. The soil matrix (1002) of this rubble spread contained numerous occupation debris including notably a horseshoe (SF 124), oyster shells (SF 63 & 91), an iron nail (SF 90) and a small piece of lead (SF 56), analyses of which may offer a glimpse of life within Tinnis Castle itself. Bone, slag, snail shell and daub were also recovered during the processing of the soil sample (S005).

Trench 2 (Laura Muser)

- 8.5 The location of Trench 2 was chosen to expose a large area of the summit rampart and adjacent interior on the south-west edge of the hill, furthest from the upstanding ruins of Tinnis Castle. In contrast to Trench 1, no clear inner or outer face of the summit rampart survived at this location. However, the slot excavated through the rampart core (2010) revealed heat discoloured, fire-cracked and in situ vitrified stone and associated burnt animal bone (SF 167), suggesting a phase of destruction at some point between 800 BC to AD 900, given the dating evidence for vitrified forts in Scotland (Mercer 2018, 223). The rampart cores (2010 & 2011) were the earliest stratigraphic features exposed in Trench 2 (Figure 32). The wall (2009) forming two sides of an interior building appears to have incorporated the rampart core (2011). However, it displayed a very different build to the rampart cores, being built from dressed stones and mortar bonded in places, suggesting that it was of a much later date. The soil deposit (2015) abutting the northern and western faces of this wall (2009) may represent an abandonment layer within the building. This was overlain by rubble (2014/2012), which was not present anywhere else in the trench, suggesting it may have derived from the collapsed remains of the wall (2009) falling inwards across the interior of the building. This rubble (2014) possessed significantly more mortar still bonded to stone than the overlying rubble spread (2002).
- 8.6 On its southern exterior faces, the wall (2009) was abutted by soil deposit (2008), which also abutted the rampart core (2010). This deposit was likely purposefully laid as it also acted as a levelling layer for stone platform (2007), which filled the gap between the rampart segments (2010) and (2011). This gap in the rampart may have been a deliberate feature such as a postern entranceway or observation post related to Tinnis Castle itself. Fragments of charcoal, bone and mortar were recovered during the processing of the soil sample (S015). Further eastwards the soil layer (2008) edged with soil layer (2013) and overlay another soil layer (2004). This latter layer (2004) was of particular interest due to the inclusion of green glazed Redware pottery sherds (SF 106, 109, 145, 151; Plate 19), which indicate a medieval date consistent with the apparent occupation of Tinnis Castle over the fifteenth and early sixteenth centuries. Since the deposit was especially rich in organic material including animal bone fragments (SF 096, 108, 110, 172) and charcoal (SF 095, 107, 152, 173) in comparison with the other soil deposits, a spatial spread of samples was taken (sample 019) for multi-element analysis, which may be useful in determining the nature of occupation of this part of the interior of the Tinnis Castle Bailey.
- 8.7 The soil layers and structural features exposed in Trench 2 were all sealed by a rubble spread (2002/2003), which shared significant similarities with the rubble spread (1001/1002) apparent across Trench 1 and were likely also the result of the destruction of either the reconsolidated rampart wall or interior buildings within Tinnis Castle Bailey. This rubble spread (2002/2003) was at some point in time truncated by a pit (2005) containing mortar rich fill (2001) and redeposited rubble (2006). As the feature was only partially exposed during the excavation, it is unclear what function it served, but its rubble fill may have formed a raised platform close to the south-west corner of the summit.

Trench 3 (Lauren Reid)

- 8.8 The location of Trench 3 was chosen to examine one of the outer enclosures on the lower-lying slopes of the hill. In contrast to Trench 2, nine courses of the inner face of the drystone rampart (3002) were exposed. This rampart (3002) was the earliest stratigraphic feature exposed in Trench 3 (Figure 32). The drystone construction of this rampart is also consistent with a phase of occupation pre-dating the fifteenth century castle. When considering the height of the interior face of this rampart, measuring over 1.63m, it is likely that it had other uses than a primary defensive function. Its principal function may have been to hold livestock and a spatial distribution of soil samples was therefore taken from the lowermost soil deposit (3007) abutting the wall face, to enable multi-element analysis to determine the nature of occupation of this outer enclosure. Little artefactual evidence was recovered from this lowermost deposit other than a single lead object (SF 117), analyses of which may proffer a date for this layer, as charcoal was not readily apparent.
- 8.9 Overlying the lowermost encountered soil (3007) within this enclosure was a thin layer of scree (3008), likely a deposit of naturally eroded rock from the slope above. This was in turn sealed by another possible occupation layer (3003) which contained a lens of charcoal (3006) as well as animal bones (SF 142), slate (SF 094), a water-worn rounded pebble (SF 069) and an oyster shell (SF 088). It is possible that these deposits relate to either secondary occupation of this enclosure space or derive from the occupation of the summit above.
- 8.10 The vast amount of rubble (3005 & 3004/3001) apparent in Trench 3 represents collapsed masonry from the rampart encircling the summit above. It is possible that due to the smaller size and weight of rubble (3005), these stones followed the trajectory of the hill slope and came to rest towards the eastern side of the trench whereas the larger, heavier greywacke stones of rubble (3004) carried a greater velocity and fell as far as the rampart wall face (3002) defining this lower enclosure, suggesting that it was displaced from the summit with force. This is supported by some of the greywacke stones (3004) which were partially faced suggesting they were originally part of the wall face on the western edge of the summit. Additionally, the matrix deposit (3001) of this rubble (3004) was comparatively rich in finds, which included oyster shells (SF 050, 140) which were also encountered on the castle summit in Trenches 1 and 2. The overlying topsoil (3000) included mortar (SF 008, 017) and vitrified stone (SF 006, 040, 114) almost certainly derived from the summit above. The presence of vitrified stone and mortar within only the topsoil in Trench 3 suggests that the lowermost deposits (3003/3006) and (3007) in Trench 3 may pre-date the destruction of the castle. These inclusions in the topsoil in Trench 3 also indicate that only the summit rampart was vitrified and therefore originally a timber-laced drystone rampart. The interior wall face of rampart (3002) survived to a height of 1.63m and showed no sign of vitrification or other destruction.

Thirlestane Barrows

Geophysics survey

- 8.11 Whilst the results of the geophysical survey confirmed the aerial survey location of two round barrows plus a number of other cropmarks in the western survey area, the results were unable to accurately locate the square and round barrows in the eastern survey area previously identified in an aerial survey. It was therefore necessary to apply the results of the aerial survey alone in order to accurately set out Trench 4 in the eastern area.

Trench 4 (Lauren Reid & Tamsin Scott)

- 8.12 Trench 4 was positioned in accordance solely with aerial images of crop marks (Figure 4) and was successful in locating the square barrow (Figure 33).
- 8.13 The consistency of the sections through the square barrow ditch (4004/4007) indicate that the feature was excavated in a single event. Infilling of the ditch (4005/4008) was also consistent. It is therefore likely that the ditch and graves were excavated during a single barrow construction event, for the purpose of erecting a funerary monument and subsequently infilled naturally, as the barrow eroded. The square barrow ditch yielded no stones, masonry or artefacts.

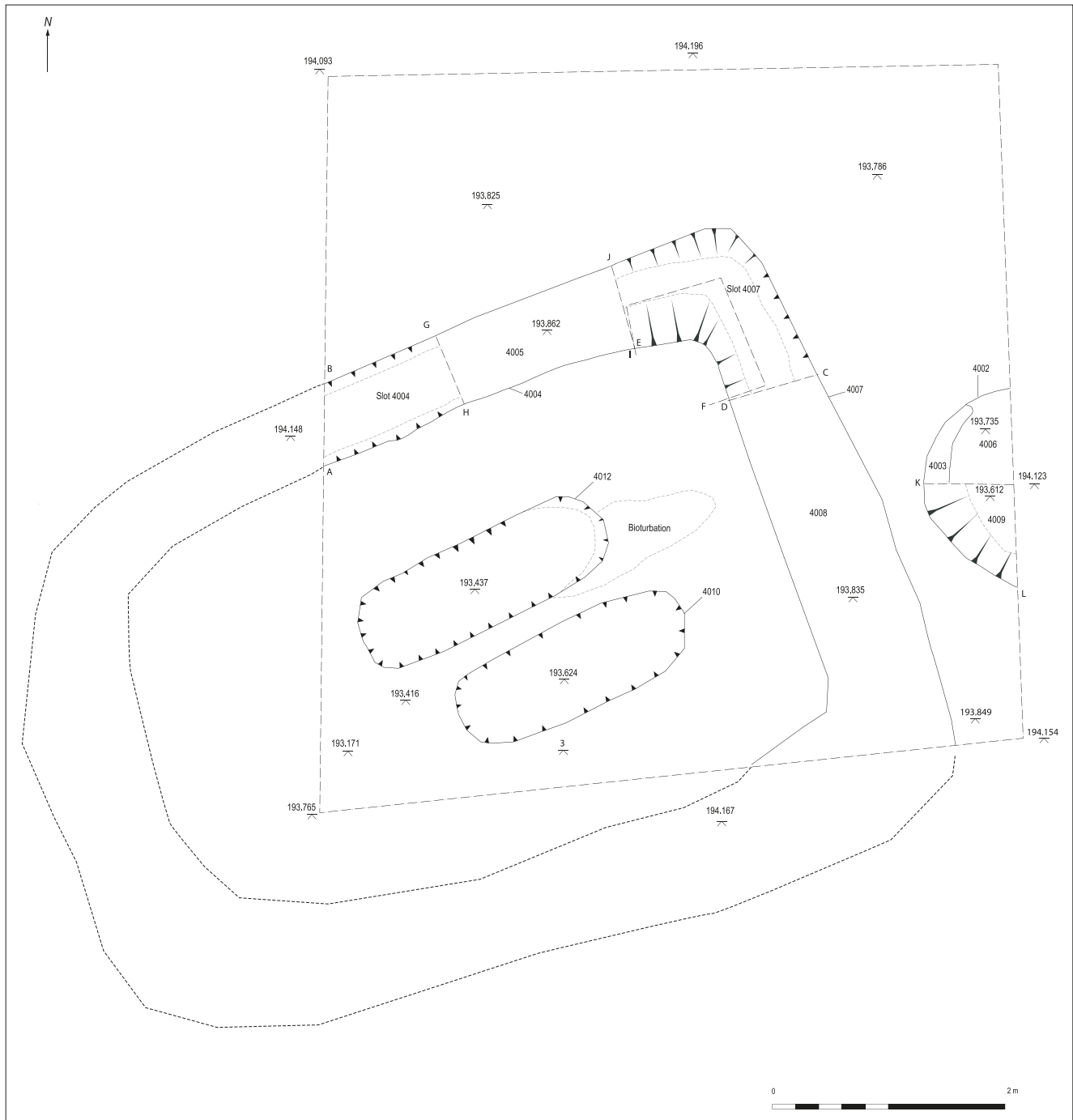


Figure 33: Thirlestane Square Barrow

- 8.14 The location of two graves within the parameters of the ditch supports the theory that the ditch was part of a larger funerary, square barrow monument. The graves (4010 & 4012) were both of similar construction although the northernmost grave (4012) was slightly longer than the southernmost grave (4010). Both graves were oriented in an ENE/WSW alignment and located parallel to one another. Both graves consisted of a sub-rectangular cut with no signs or obvious evidence of coffins.
- 8.15 The square shape of the barrow contrasts with all of the other known barrows at Thirlestane which are round. Square barrows have been identified in Scotland, for example at Red Castle in Angus (Alexander and Rees 1997). Furthermore, Iron Age barrows tend to be square in shape and have an associated shallow ditch of a construction form similar to the square barrow at Thirlestane (Historic England 2018). The graves interred within this structure are however,

oriented roughly East/West, indicate Christian burial and therefore an early medieval date (Cowley 2009). It is feasible that when constructing this monument, local people chose this location because of its proximity to the earlier round barrows and constructed a similar, yet culturally appropriate square barrow to inter their dead according to contemporary Christian ritual practices.

- 8.16 No corner markers, post-holes, stones, timbers, entranceways or other indicators of structural form were identified during excavation of the square barrow. The lack of evidence may be explained by plough disturbance or damage when levelling that may have destroyed associated surface features. Some mottling and bioturbation were identified on the surface of the natural subsoil (4001) which supports this theory. Additionally, only little more than 50 percent of this barrow was revealed in Trench 4 (Figure 33).
- 8.17 The relationship of the adjacent tree bole hole (4002) to the square barrow cannot be confirmed located to the immediate east of the barrow ditch, due to the absence of datable or stratigraphic evidence. While modern plastic was found within this, there is no cartographic evidence for a tree in this location over the last 275 years (Figures 4-8).

Trench 5 (Amanda Gilmore & Tamsin Scott)

- 8.18 The location of Trench 5 was chosen to maximise use of the 6 m x 6 m excavation area over the round barrow. It was positioned in accordance with geophysical magnetometry survey data and aerial images of crop marks in the area and was successful in locating the round barrow.
- 8.19 A stratigraphic sequence of at least four sub-circular inhumations (5003, 5013, 5015 & 5027) were identified within the round barrow within Trench 5 (Figure 34). Three of the inhumations (5013, 5015 & 5027) were sealed by capstones while the fourth (5003) may also have been sealed by a capstone that was later removed by subsequent ploughing activity.
- 8.20 Excavation of the round barrow ditch (5009/5011/5025) indicate that the ditch was dug in a single event with spoil cast to the outer and inner sides of the ditch, forming an inner mound (5028) and probable outer bank (5026).
- 8.21 An unexcavated capstone (5027) was itself sealed by this inner mound material (5028) suggesting that this primary burial may have been interred prior to excavation of the ring ditch. Neither was this primary grave centrally located within the barrow (Figure 35). Instead, the central burial (5015) was one of two secondary burials, both cut into the inner mound deposit (5028) and sealed by redeposited barrow mound deposit (5020). The final burial (5003) was cut into the secondary mound deposit (5020), truncating the other of the secondary burials (5013), which itself overlay the location of the primary burial. The final cremation was contained within an undecorated miniature urn dated to 1550-1150 BC. Pottery recovered from the secondary burials also appears to be Bronze Age.
- 8.22 Due to the loose nature of the subsoil, slumping of the inner mound (5021) was evident in a segment of the barrow ditch (5011) after which partial infilling of natural subsoil (5018, 5023) gravels occurred. Further slumping into the barrow ditch from the burial mound (5024, 5017) and bank (5022) indicate that the ditches were open for a sufficient period of time to allow natural erosion to occur. This slumping may have occurred from only the primary barrow mound (5028), secondary redeposited barrow mound deposit (5020) or, likely both. The final barrow ditch fill (5010, 5012, 5019) contained an abundance of large stones on its surface in the south-west, south-east and frequent large stones in the north-east. This suggests that after placement of the final burial, the mound was 'capped' with stone. No angle of spill was detected in the ditch fills.
- 8.23 The barrow had evidently been heavily truncated, not least by the N/S aligned plough furrow (5007). This is supported by the truncation of the urn (SF 211) in the final burial (5003) and the southward spread of pottery and cremains in barrow mound deposit (5002). Both the outer bank deposit (5026) and small pit (5005) cut into it had also been heavily truncated by ploughing

activity. It is reasonable to infer that the bank was much higher and that the pit may be the basal remains of a post-hole; the large stones within perhaps packing for a post.

- 8.24 The burial vessel fragments recovered from each of the three excavated inhumations suggests that this round barrow dates to the Bronze Age and is broadly consistent with the construction of round ditched barrows concentrated between 2,000 to 1,500 BC (Historic England 2018). The burials were concentrated within the north-western quadrant of the round barrow with no burials evident in the southern or eastern quadrants (Figure 35). The sequence of burials evident within the round barrow perhaps suggest use over multiple generations.

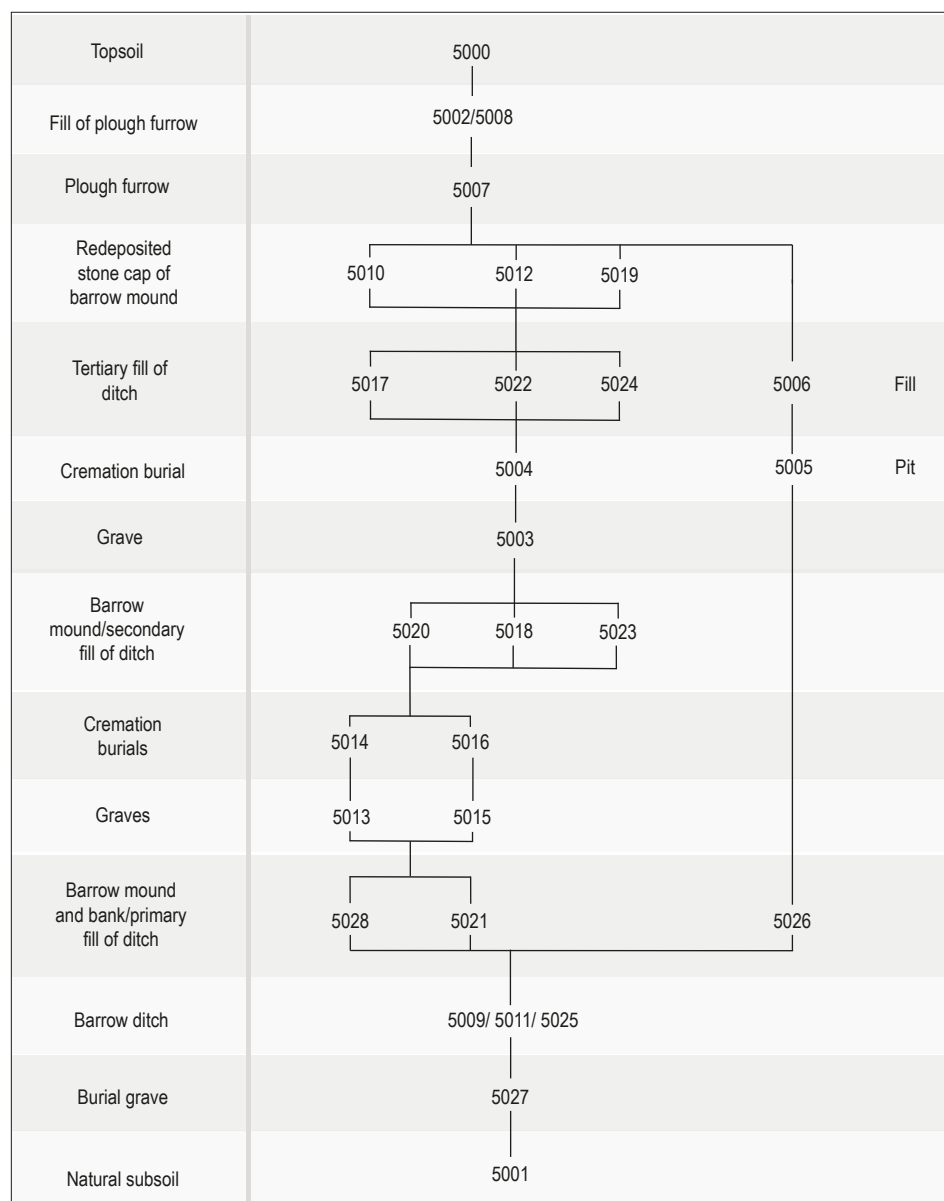


Figure 34: Harris Matrix for Thirlestane Round Barrow

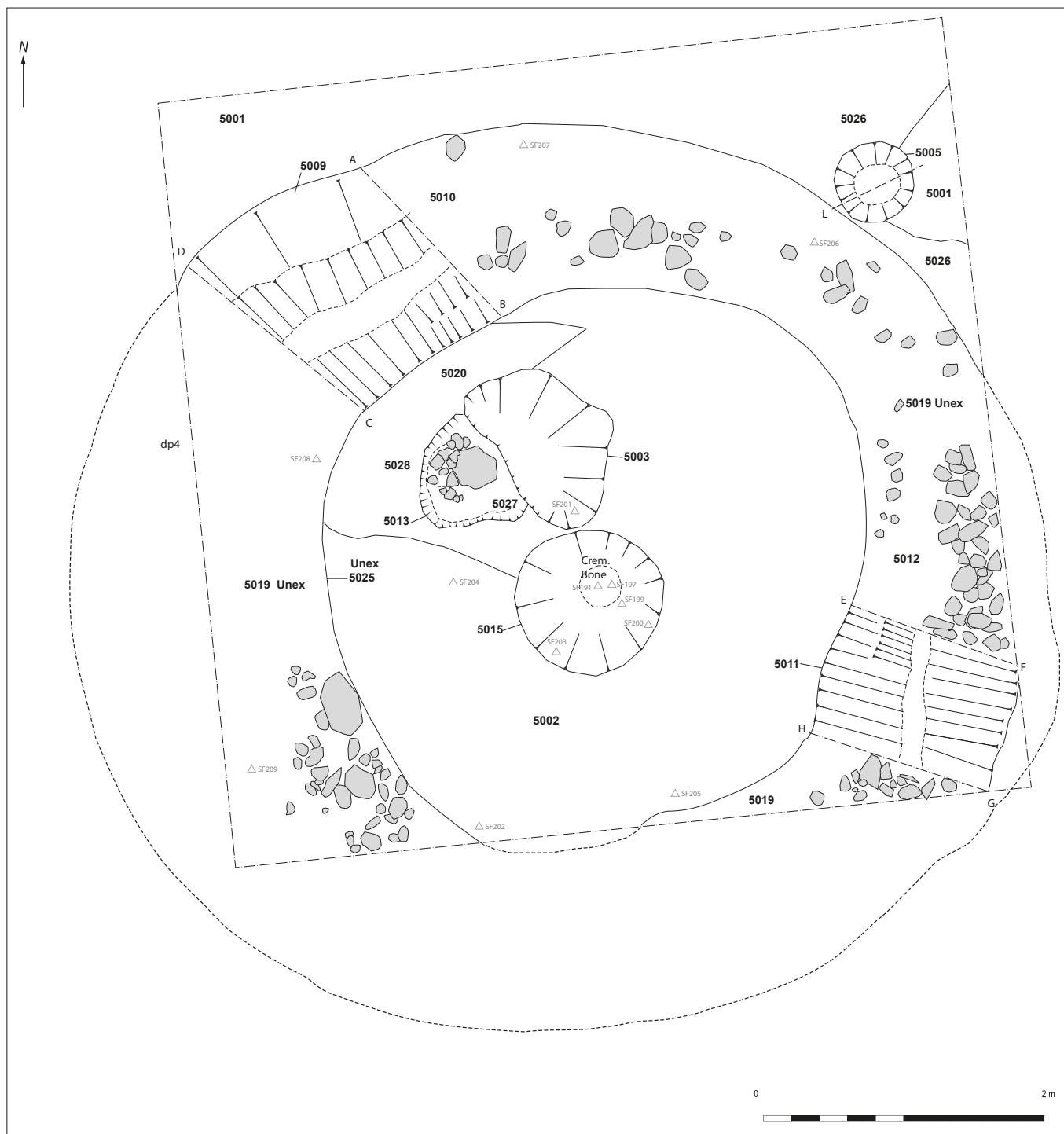


Figure 35: Thirlestane Round Barrow

Merlin's Grave

Geophysics survey

- 8.25 While the geophysical survey indicates that there are no archaeological remains at the spot marked on maps as the site of Merlin's Grave, a distinct anomaly to the south-east represents the most likely candidate for a possible cist grave near this location. While only excavation may determine if this is indeed a cist grave, the geophysics evidence suggests that some form of archaeological remains may have given rise to the association of this location with the local legend.

Conclusions

- 9.1 The excavation work undertaken at Tinnis Castle and Fort, Thirlestane Barrows and Merlin's Grave together with the subsequent post-excavation work provided the opportunity for numerous volunteers and visitors to develop new skills and experience in archaeological fieldwork and participate in the investigation of the site. The project successfully engaged over 300 people drawn from amongst the local community and further afield, recovering a significant range of archaeological evidence that will enhance knowledge and understanding of the sites. Sufficient environmental and artefactual evidence was recovered for post-excavation analyses to examine the chronology of Tinnis Fort and Thirlestane Barrows; and the nature and chronology of the re-occupation of the summit of Tinnis alongside the medieval castle.
- 9.2 The recovery of organic material from secure contexts from beneath, within and abutting the rampart core around the summit of Tinnis will enable the chronology of the fort and castle to be determined. This will enhance the understanding of the morphology of the fort and its re-use during the subsequent phase of occupation, which has already been enhanced by the drone surveys undertaken during this project.
- 9.3 The recovery of a range of material culture, particularly from the interior area of the summit, will further enhance knowledge of the nature of occupation of Tinnis Castle and its Bailey during the medieval period. Multi-element analyses of soil samples taken from occupation layers in all three trenches may further enhance our knowledge of occupation across Tinnis Castle and Fort.
- 9.4 No material culture readily datable to the early medieval or Iron Age periods was identified, though the lead object (SF 117) recovered from the lowermost deposit abutting the interior wall face of the lower enclosure may derive from occupation prior to the construction of the castle. Across the summit, it appears that the construction of Tinnis Castle led to the severe landscaping of the summit, removing all traces of previous occupation other than the rampart base itself. The survival of in situ vitrified and burnt rubble demonstrates that at least part of the rampart base encircling the summit pre-dates the castle.
- 9.5 The tentative dating of an early medieval square barrow at Thirlestane suggests that fragments of the early medieval landscape survive within this area of Tweeddale. More precise chronology will determine if there is a potential link between Tinnis Fort and the square barrow.
- 9.6 The evidence from the excavated round barrow at Thirlestane demonstrates that it, and likely the other two round barrows too, were used and modified over a period of time before being finally sealed during the Bronze Age. The round barrows at Thirlestane therefore significantly predate the square barrow. The attachment of the square barrow to a much earlier barrow cemetery suggests that this location retained some significance in the landscape over the intervening period.
- 9.7 A Post-Excavation Research Design (PERD) will be prepared, specifying the range of appropriate high-quality techniques and array of specialists from different sectors that will be employed to analyse the archaeological evidence recovered during the excavations. The cumulation of analyses will enable comparisons to be made with other archaeological assemblages and sites, and therefore allow the sites' relationships to nearby sites and to other similar sites in Scotland to be examined. This will enable the significance of the sites within a local, regional, national and supranational context to be better understood. The PERD will also outline how the results of this work will be disseminated.
- 9.8 Summaries of the project results for each of the three sites were submitted to Discovery and Excavation in Scotland. Copies of these are included in Appendices H, I and J. The archive for the project, including a copy of the report, will be submitted to the National Historic Records for Scotland (NHRE) within six months of the completion of all post-excavation work.
- 9.9 The online OASIS form at <http://ads.ahds.ac.uk/project/oasis/> for this project (OASIS Reference: guardarc1-512927) will be completed within 3 months. Once the Data Structure Report has

become a public document by submission to or incorporation into the SMR, Historic Environment Scotland will validate the OASIS form thus placing the information into the public domain on the OASIS website.

Acknowledgements

- 10.1 GUARD Archaeology would like to thank Robin Crichton of the Arthur Trail Association for his support. The excavation of Tinnis Castle and Fort was led by Ronan Toolis, with supervisory assistance from Thomas Muir, Laura Muser and Lauren Reid. The excavation of Thirlestane Barrows was directed by Tamsin Scott, with supervisory assistance from Lauren Reid and Amanda Gilmore and further assistance from Katharine Warden and Alun Woodward. The surveys and excavations were undertaken by Anna Bailie, Anne Seawright, Mel Thomas, Brenda Dreghorn, Charlie Doogan, Joe Doogan, Cherry Spencer, Chris Graham, David Paterson, Diane Donnelly, Euan Stark, Louis Muller Stuart, Iain Macleod, Enid Macleod, Jim Ness, David Drury, Bill Glass, Lex Yuill, Neil Crawford, Stephen Scott, Paris Sara, Robert Ferro, Ross Wood, Wessley Edmonds, William Maxwell, Maggie Maxwell, Julian Birchall, Andrew Jepson, Trevor Cowie, Marton Dee, Michele Aitken, Aidan Duckworth, Alan Thomson, Jane Baxter, Malcolm Laurie, Sam Scott-Moncrieff, David Bartholomew, Cameron Rose, Joyce Durham, Eliot Veitch and Lucie Edwards. Technical support was provided by Aileen Maule, Bob Will and Clark Innes. A survey of trench locations at Tinnis and Thirlestane was conducted by Eduardo Perez-Fernandez. The illustrations were produced by Eduardo Perez-Fernandez. The report was desk top published by Eduardo Perez-Fernandez. The project was managed for GUARD Archaeology by Maureen Kilpatrick and Ronan Toolis.

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**Tinnis Castle and Fort, Thirlestane Barrows and
Merlin's Grave Surveys and Excavation
Data Structure Report**

Section 2: Appendices



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Appendices

Appendix A: Contexts

Context No	Trench	Description	Interpretation
1000	Tr1	Friable, mid grey brown silty sand with frequent small to medium sub-angular stone inclusions and a layer of grass, 0.16 m in depth present across whole trench.	Topsoil
1001	Tr1	Layer of small to large sub-angular light brown grey greywacke stones, 0.5 m thick by 5.4 m long and 2.0 m wide, with deposit 1002 between the stones.	Stone rubble layer
1002	Tr1	Friable, mid grey brown silty sand with occasional small roots throughout, 0.5 m thick by 5.4 m long and 2.0 m wide	Deposit between rubble 1001
1003	Tr1	Rampart wall oriented NEE-SWW in the south side of trench 1. 2 m+ long by 1.7 m wide and 0.83 m in height. Constructed of medium to large sub-angular greywacke stone with inner and outer stone facing, and matrix 1004.	Rampart wall
1004	Tr1	Firm, mid grey brown sandy silt with frequent small, medium and large stones throughout as well as a small amount of charcoal and vitrified stone. 0.83 m thick by 1.7 m wide and 2 m + long.	Matrix of rampart wall 1003
1005	Tr1	Small E-W oriented wall abutting wall 1003 on its north side. Constructed of medium to large greywacke stones with loose silty sand between 1006, measuring 1.25 m+ long by 0.37 m wide and 0.32 m in height.	Small wall
1006	Tr1	Friable, mid grey brown silty sand with occasional small stones, mortar, and roots throughout, 0.15 m thick by 1.25 m + long and 0.37 m wide	Matrix of wall 1005
1007	Tr1	Friable, dark brown grey sandy silt with occasional small stones throughout, 0.35 m deep, 0.08 m thick, and 0.88 m long by 0.8 m+ wide.	Deposit below surface 1009
1008	Tr1	Compact, light yellow grey sandy mortar with frequent small to medium sub-angular stones, 0.35 m deep, 0.07 m thick, and 0.90 m long by 0.23 m wide.	Mortar surface
1009	Tr1	Area of broken stone slabs measuring 0.38 m long by 0.30 m wide and 0.08 m thick.	Stone slab surface
1010	Tr1	Compact, dark grey brown silty sand with frequent small sub-angular and rounded stones throughout and occasional charcoal flecks, 0.90 m deep, 0.18 m thick, and 2.06 m+ long by 2 m+ wide.	Levelling layer
1011	Tr1	Friable, dark brown grey silty sand with frequent small subangular stones throughout, 0.54 m deep, 7 m long by 2 m wide.	Subsoil above bedrock 1012
1012	Tr1	Greywacke bedrock 0.45 m below ground level	Bedrock
2000	Tr2	Friable, mid grey brown silty sand with very frequent small to medium angular and sub-angular stone inclusions under a layer of mossy grass, 0.11 m thick, present across whole trench.	Topsoil
2001	Tr2	Friable, dark blackish brown sandy silt with very frequent inclusions of small rounded stones and mortar fragments, roots throughout, depth 0.00 m - 0.11 m, thickness 0.48 m, extends 2.19 m by 1.86 m in the NE corner of the trench	Mortar rich deposit matrix amongst rubble 2006 in possible pit 2005
2002	Tr2	Layer of small to large sub-angular and angular light brown grey greywacke stones, with deposit matrix 2003 between the stones, truncated by pit 2005 in the NE corner, depth 0.11 m, thickness 0.21 m - 0.49 m, extends across majority of the trench, apart from 4.72 m2 in the NE corner	Rubble below topsoil

Context No	Trench	Description	Interpretation
2003	Tr2	Friable mid grey brown silty sand with occasional roots throughout, truncated by pit 2005 in the NE corner, depth 0.11 m, thickness 0.21 m - 0.49 m, extends across majority of the trench, apart from 4.72 m ² in the NE corner	Deposit matrix amongst rubble 2002
2004	Tr2	Friable, dark black brown sandy silt with frequent inclusions of medium angular stones and very frequent inclusions of charcoal, occasional roots and worm burrowing throughout, base not reached, depth 0.21 m - 0.45 m, thickness 0.04 m+, extends 3.60 m+ x 2.00 m+ along the NW side of the trench	Charcoal rich deposit
2005	Tr2	Cut of likely sub-circular pit located in NE corner of trench 2, depth 0.48 m, extends 2.19 m in NE-SW in SE facing section and 1.86 m in SW facing section, truncates deposits 2002 and 2003	Cut of possible pit in NE corner
2006	Tr2	Rubble fill made up of small to large sub-angular and angular light brown grey greywacke stones, with deposit matrix 2001 between the stones, depth 0.00 m - 0.11 m, thickness 0.46 m, extends 2.19 m by 1.86 m in the NE corner of the trench covering	Rubble fill in possible pit 2005
2007	Tr2	Compact, dark grey brown sandy silt with frequent medium to large sub-angular and angular stones throughout and occasional charcoal flecks, 3.53 m long by 1.02 - 1.20 m m wide and 0.46 m thick	Rampart wall infill/repair
2008	Tr2	Friable, mid black brown sandy silt with frequent small to medium angular and subv-angular stones and infrequent inclusions of charcoal, average depth 0.34 m, 0.37 m thick, 2.91 m width visible below 2007 (full extent not determined)	Deposit layer below 2007
2009	Tr2	Wall structure made up of a mix of angular and cuboid dressed stones, partially drystone and partially mortar bonded, with an almost 90 degree angle, running 3.56 m E-W and 3.48 m N-S, width 0.70 m, height S-facing 0.25 m+, N-facing 0.81 m+, E-facing 0.33 m+, W-facing 0.31m+, a maximum of four courses exposed, base not reached	Wall running N-S and E-W
2010	Tr2	Firm, mid grey brown silty sand with medium to large sub-angular and angular stones, occasional inclusions of charcoal, rootgrowth near the top, depth 0.08 m, thickness 0.48 m+, 1.09 m long by 1.00 m wide	Possible rampart - Stone rich deposit S of 2007
2011	Tr2	Friable to firm, mid grey brown silty sand with medium to large sub-angular and angular stones and occasional inclusions of charcoal and light root growth throughout, depth 0.05 m, thickness 0.32 m+, 1.51m long by 1.20 m wide	Possible rampart - Stone rich deposit N of 2007
2012	Tr2	Friable, mid grey brown silty sand and small to medium sub-angular stones with occasional inclusions of charcoal and roots throughout, depth 0.12 m, thickness 0.31 m+ - 0.64 m, 3.01 m long by 2.24 m+, covering the area within wall 2009	Deposit matrix amongst rubble 2014
2013	Tr2	Friable, mid grey brown silty sand with frequent inclusions angular stones and occasional charcoal, depth 0.05 m, thickness 0.26 m+, 2 m+ along the E-facing part of wall 2009 by 2 m+ along the L.O.E.	Stone rich deposit between wall 2009 and deposit 2004
2014	Tr2	Hard, light brownish grey greywake stones with mortar still attached in some cases and light root growth throughout, depth 0.12 m, thickness 0.31 m+ - 0.64 m, 3.01 m long by 2.24 m+, covering the area within wall 2009	Rubble within wall 2009

Context No	Trench	Description	Interpretation
2015	Tr2	Friable, light greyish brown sandy silt with very frequent inclusions of mortar and occasional charcoal, depth 0.64 m +, thickness 0.17 m+, 2m + along N-facing part of wall 2009 by 0.5 m wide (exploratory slot, full extent unknown)	Possible occupational layer below rubble 2012 and deposit matrix 2014
3000	Tr3	Compact, mid brown-red silty sand with frequent inclusions of small-large sub-angular stones, grass and moss. Roughly 0.20 m thick, present throughout whole trench.	Topsoil
3001	Tr3	Friable mid-dark brown silty sand with frequent inclusions of small sub-angular stones. Present at depth of -0.10- 0.20 m, extent of 2 m width x 5 m length and roughly 1.40 m thick	Deposit matrix of rubble layers 3004 and 3005
3002	Tr3	Stone rubble rampart wall oriented N-S in West of Tr3. Made up of 9 courses of sub-angular and cuboid dressed stones. Stones faced on East side. Overall shape is linear/ rectangular in plan. Measuring 2 m length, 0.70 m width and 1.63 m height. Base not found	Rampart wall in W side of Tr3
3003	Tr3	Firm dark brown silty clay with frequent inclusions of small sub-angular stones and charcoal. Present at depth of -0.58 m, extends 1.40 m width and 1.45 m length in East of Tr3, thickness 0.25 m	Possible later occupational layer below rubble 3004/3005 and deposit matrix 3001
3004	Tr3	Greywacke rubble comprising of medium-large sub-angular stones and boulders. Present at depth of -0.25 m. Extends 4.40 m length, 2 m width, concentrated in West of Tr3, thickness 1.0 m.	Tumble rubble layer deposited partially over original occupation layer 3007 and other rubble layer 3005, filled by deposit matrix 3001
3005	Tr3	Rubble comprising of red small-medium sub-angular stones concentrated in East of Tr3. Present at depth of -0.10- 0.20 m, extent 1m x 2 m, thickness 0.40 m	Tumble rubble layer deposited over occupation layer 3003/3006, filled by deposit matrix 3001
3006	Tr3	Firm black silty clay with frequent inclusions of charcoal, located at depth of -0.70 m, extent 0.20 m x 0.15 m, thickness 0.10 m	Small, charcoal rich deposit within fill 3003 located in SE of Tr3
3007	Tr3	Friable mid brown-yellow silty sand with frequent inclusions of small sub-angular stones, present at depth of -1.20 m, extent 2 x 5 m, thickness unknown, roughly 0.43 m excavated	Possible original occupation deposit in Tr3, base not reached due to extent of excavation
3008	Tr3	Loose mixed yellow gritty sand/scree, frequent inclusions of small sub-angular and flat stones, present at depth of -0.70 m, extent 0.20 m x 0.30 m, thickness 0.05 m	Layer of scree under 3003 and 3006, likely natural rock erosion layer over original occupation deposit 3007
3009	Tr3	Friable mid brown silty sand/clay with no visible inclusions. Present at a depth of 0m, extends 2 m length x 0.70 m width and 1.63 m thick, acts as matrix fill of stones	Matrix fill of stones in rampart wall 3002
4000	Tr4	Friable mid-brown silty loam with frequent inclusions of small sub-angular stones (<30%), layer of turf at surface and frequent fine roots. Present at a depth of 0m, thickness 0.29 m, extends width and length of trench (6 x 6 m)	Topsoil. Same as Topsoil 5000 in Tr 5
4001	Tr4	Loose dark-grey small to medium sub-rounded and sub-angular stones with occasional brownish yellow clayey silt lenses and mottling. Frequent fine roots. Present at a depth of 0.29 + m, extends width and length of trench (6 x 6 m)	Natural gravel subsoil. Same as Subsoil 5000 in Tr5
4002	Tr4	Cut of sub-circular tree bowl located in East of trench 4. Present at a depth of 0.21 m, 0.28m depth, visible extent 1.84 m x 0.85 m at L.O.E. Contains fills 4003 and 4006	Cut of tree bowl
4003	Tr4	Loose, light-brownish orange sandy silt with frequent inclusions of small to medium sub-rounded and sub-angular stones. Present at a depth of 0.30 m, thickness 0.11 m, visible extent 0.75 m x 0.32 m	Primary fill of tree bowl 4002

Context No	Trench	Description	Interpretation
4004	Tr4	Cut of rectilinear barrow ditch slot. Present at a depth of 0.28 m, thickness 0.36 m, extends 1.0-1.34 m x 0.73- 0.90 m. Oriented WNE-WSW with steep sides and a flat base. Contains fill 4005	Cut of square barrow slot on Western edge of trench 4, same as 4007
4005	Tr4	Mid compaction, mid-orange brown clayey silt with moderate inclusions of small to medium sub-rounded and sub-angular stones. Present at a depth of 0.21 m, 0.28 m, thickness 0.36 m, extends 1.34 m x 0.90 m in slot	Fill of square barrow slot 4004. Same as 4007
4006	Tr4	Loose dark-brownish grey silt with abundant small to medium sub-rounded and sub-angular stones. Present at a depth of 0.21 m, thickness 0.27 m, extent 1.2 m x 0.56 m	Secondary fill of tree bowl 4002, centre of bowl
4007	Tr4	Cut of rectilinear barrow ditch slot. Present at a depth of 0.30 m, thickness 0.37 m, extends 1.24-1.40 m x 0.75- 0.91 m. Oriented N-S and E-W as the slot encompasses the corner of the ditch with steep sides and flat base. Contains fill 4008	Cut of square barrow slot in NE of trench 4, same as barrow cut 4004
4008	Tr4	Mid compaction, mid-orange brown clayey silt with moderate inclusions of small to medium sub-rounded and sub-angular gravels. Present at a depth of 0.28 m, thickness 0.37-0.39 m, extends 1.24-1.40 m x 0.75- 0.91 m,	Fill of square barrow slot 4007. Same as 4005
4009	Tr4	Loose light-brownish yellow silty sand with frequent small sub-rounded and sub-angular gravels. Present at a depth of 0.44 m, thickness 0.11+ m, visible extent 0.32 m x 0.27 m	Silty sand lens in subsoil beneath tree bowl, same as 4001
4010	Tr4	Cut of sub-rectangular feature, located in South of trench 4. Present at a depth of 0.29 m, thickness 0.27 m, extends 2.10 m x 0.80 m. Oriented E-W, sharp break of slope with steep sides and flatish base. Contains fill 4011	Cut of grave feature
4011	Tr4	Friable mid brown silty sand with frequent inclusions of small-medium sub-rounded and sub-angular stones. Present at a depth of 0.29 m, thickness 0.27 m, extent 2.10 m x 0.80 m	Fill of grave feature 4010
4012	Tr4	Cut of sub-rectangular feature, located in North of trench 4. Present at a depth of 0.29 m, thickness 0.30 m, extends 2.30 m x 0.65 m. Oriented E-W, sharp break of slope with steep sides and flatish base. Contains fill 4012	Cut of grave feature
4013	Tr4	Friable mid-brown-yellow silty sand with frequent inclusions of small-medium sub-rounded and sub-angular stones. Present at a depth of 0.29 m, thickness 0.30 m, extends 2.30 m x 0.65 m	Fill of grave feature 4012
5000	Tr5	Friable mid-brown silty loam with frequent inclusions of small sub-angular stones (<30%), layer of turf at surface and frequent fine roots. Present at a depth of 0 m, thickness 0.29 m, extends width and length of trench (6 x 6 m)	Topsoil. Same as Topsoil 5000 in Tr 5. During initial cleaning of TR5 the trench was separated into 4 quadrants: SE (quad 1), SW (quad 2), NE (quad 3) and NW (quoad 4) in order to aid sampling and mapping of finds within the barrow mound
5001	Tr5	Loose dark-grey small to medium sub-rounded and sub-angular stones with occasional brownish yellow clayey silt lenses and mottling. Frequent fine roots. Present at a depth of 0.29 + m, extends width and length of trench (6 x 6 m)	Natural gravel subsoil. Same as Subsoil 4000 in Tr4
5002	Tr5	Medium compaction, mid-brown silty clay loam with frequent small to medium sub angular and sub rounded gravels. Present at a depth of 0.26 m, thickness 0.02 m, extends approx 4 m within the barrow. Truncated by plough furrow 5007	Basal remains of the secondary barrow mound deposit. Heavily truncated by ploughing - most notably by plough furrow 5007 that traversed N-S directly over the centre of the barrow. Dispersal/ spread of charcoal, bone fragments, and pot fragment Δ195 southwards from the centre where truncated urn Δ211 is located evidences truncation by the furrow and dragging of fragments of the urn and its contents southward. Deposit indistinguishable from plough furrow deposit (5008) due to it covering the centre of the barrow

Context No	Trench	Description	Interpretation
5003	Tr5	Cut of burial. Present at a depth of 0.28 m, thickness 0.38 m, extends 1.98 m x 1.02 m. Sub-circular with gradually sloping sides and concave bowl-shaped base. Contains fill 5004, truncates 5014, truncated by plough furrow 5007	Cut of burial containing fill 5004 with urn Δ211 and cremated human remains. Likely bronze age in date. Truncates burial fill 5014, indicating 5003 was interred at a later period and suggesting the possibility of several inhumations of individuals across over a period of time. Truncated by medieval plowing 5007
5004	Tr5	Loose greyish-brown silty soil with frequent small sub-angular and sub-rounded stone inclusions. Present at a depth of 0.28 m, thickness 0.38 m, extends 1.98 m x 1.02 m. Contains SFΔ211 urn with cremated human remains	Fill within burial cut 5003. Interpreted as redeposited soil 5020. Contains urn Δ211, with cremated human remains; retrieved via block lift
5005	Tr5	Cut of circular feature. Present at a depth of 0.33 m, thickness 0.18 m, extends 0.74 m x 0.65 m. Circular in plan with a sharp break of slope, steep sides and flat base. Contains fill 5006, truncates deposit 5026	Small circular feature. Cut truncates deposit 5026, an orange silty sand which may have formed an outer bank around the barrow ditch during its first phase of use. The pit may therefore have been much deeper, suggesting it was a possible post hole and the stones may have been a packing deposit
5006	Tr5	Medium compacted, mid-orange brown silty clay with moderate small to large sub-angular stone inclusions and frequent fine roots. Present at a depth of 0.33 m, thickness 0.18m, extends 0.74 m x 0.65 m. Contains SFΔ210, 212	Fill of small circular feature located to the immediate NE of the barrow ditch, two small fragments of bone found within fill - fill contains large stones alike barrow ditch fill, may be contemporary with 5010 and 5011 barrow ditch fills or possible stone packing
5007	Tr5	Cut of plough furrow. Present at a depth of 0.16m, thickness 0.29 m, extends 6m x 2.83 m. Orientated N-S, linear in plan and 'W' shaped in section with moderately sloping sides and a concave base. Contains fill 5008, truncates 5019, 5002	Plough furrow aligned N-S truncating barrow fills 5019, 5002. Full extent of cut unclear in plan. Furrow cut disappears at the north barrow ditch edge - suggesting that impact on stones within barrow fill 5019 and/or a higher ground level caused the farmer to raise the plough blade and avoid damage. Subsequent modern farming activity then obscured the furrow cut and fill. It is clear however, that the furrow runs across the centre of the barrow and caused breakage to urn Δ211 in the central inhumation, dragging a pottery fragment, cremated human remains and charcoal southwards. Extent of furrow estimated in plan according to absence of stone in barrow surface at north and south of un-excavated barrow ditch fill 5019 and scatter of urn contents across the central barrow fill 5002
5008	Tr5	Medium compacted, mid-orange brown mixed deposit of clay, silt and loam with frequent small to medium sub-angular and sub-rounded stone inclusions and frequent fine roots. Present at a depth of 0.16m, thickness 0.26m, extends 2.83 m x 0.60m in slot 5007	Fill of plough furrow, a mix of clay silt and loam with frequent stones. Modern ploughing has made the full extent of the furrow cut and fill unclear in plan
5009	Tr5	Cut of curvilinear barrow ditch Present at a depth of 0.34 m, thickness 0.51 m, extends 1.55 m x 1 m in slot. Orientated NE-SW with a gentle break of slope and moderately sloping sides on the external face, and a u-shaped base. Contains fills 5010, 5017 and 5018	Barrow ring ditch cut excavated in NW of Tr5. Depth of ditch in NW is shallower than SE at 5011 suggesting greater truncation in this location. Slump fill 5017, derived from a no longer visible outer bank and redeposited inner mound deposit 5020 was not fully excavated on the inner face due to the close proximity of burial cuts/deposits and capstone Δ222 which remain in-situ. Preservation could have been adversely affected by further excavation of 5017
5010	Tr5	Lightly compacted mid-orange brown silty clay with rare charcoal, frequent small to medium sub-rounded and sub-angular stone inclusions and frequent fine roots. Present at a depth of 0.34 m, thickness 0.35 m, extends 1 m x 1.55 m in slot	Top/final fill of barrow ring ditch, very few stones evident on surface in this location, unlike eing ditch deposits 5012 and 5019. This suggests that either the stones only slumped to the south or that, more likely, modern ploughing action E-W across the field has caused greater truncation in the NW of the feature than in the SE

Context No	Trench	Description	Interpretation
5011	Tr5	Cut of curvilinear barrow ditch Present at a depth of 0.26 m, thickness 0.81 m, extending 1.55 m x 1 m. orientated NNE-SSW with a moderate break of slope and moderately steep sides on the internal ditch face, a gentle break of slope and moderately sloping sides on the external face, and a u-shaped base. Contains fills 5012, 5021, 5022, 5023 and 5024	Barrow ring ditch cut excavated in SE corner of TR5 in most stony deposit 5012 to ascertain any spill direction of the stones. Initial barrow mound and bank slump fills evident followed by later silt fill and final stone slump/collapse. Full width of ditch not visible in this location at the L.O.E. Approx 0.10 m more of ditch outer edge is located beyond the L.O.E. Ditch is deeper in this SE slot than in the NW slot 5009.
5012	Tr5	Lightly compacted mid-orange brown silty clay with occasional sand and frequent medium to large sub-angular and sub-rounded stone inclusions, plus occasional fine roots. Present at 0.27m depth, maximum thickness 0.46 m, extends 1.55 m x 1 m in slot. Visible 2.5m in plan from south L.O.E.	Top/final fill of barrow ring ditch. Abundant medium to large stones on fill surface indicative of a barrow stone cap that eroded or was deliberately filled into the ditch. No clear stone slump evident nor tool marks evident on the stone. Stone not derived from subsoil but from probable nearby location
5013	Tr5	Cut of burial pit located in NW Tr 5 (quad 4). Present at a depth of 0.28 m, thickness 0.30 m, extends 0.86 m x 0.68 m. Truncated sub-circular shape in plan with sharp break of slope, steep sides, base unknown as burial partly left in-situ. Contains fill 5014, truncates 5027	Earlier inhumation containing fragmented pottery and human cremation deposits. Fill (5014) was sealed by one large and five medium capstones. Large capstone on top likely caused fragmentation of the interred pot. A third possible inhumation beneath a large capstone Δ222 at the base was left in-situ and recorded in deposit (5027). Dimensions truncated by 5003.
5014	Tr5	Loose brownish black silt with frequent small to large sub-angular and sub-rounded stone inclusions. Present at a depth of 0.28 m, thickness 0.30 m, extends 0.86 m x 0.68 m. Truncated by 5003 to east. Contains Δ215, 221	Fill of burial pit 5013. Burial was sealed by mound deposit 5020 which slumped into the adjacent ditch slot 5009 as fill 5017. Urn inhumation Δ221 was excavated along with a percentage of the possible secondary inhumation cremains Δ215
5015	Tr5	Cut of burial pit located in SE/SW Tr5 (quad 1 and 2). Present at a depth of 0.35 m, thickness 0.30 + m, extends 1.2 m x 1.1 m. Not fully excavated. Sub circular in plan with gradual sides and slope, base not fully excavated. Contains fills 5016 left in-situ. Not visibly truncated	Cut of cremation burial. Large capstone over fill 5016 replaced in original position over inhumation and left in-situ
5016	Tr5	Loose brownish black silt with frequent small to large sub-angular and sub-rounded stone inclusions. Present at a depth of 0.35 m, thickness 0.30 m, extent 1.2 m x 1.1 m. No contamination or truncation visible. Contains SF Δ216, 217	Fill of internment pit 5015. (5016) was sealed by one very large and five medium capstones.
5017	Tr5	Medium compacted mid-brownish orange sandy silt with frequent very small and occasional medium sub-angular and sub-rounded stone inclusions, plus fine roots. Present at a depth of 0.36 + m, thickness 0.26 m, extends 1 m x 1.22 m in slot	Secondary fill of barrow ring ditch 5009 located in the NW of Tr5. Greater slumping evident on the outer ditch face than the inner face indicative of a bank deposit on the outside of the ring ditch. Not fully excavated on inner bank to preserve deposit 5020 and in-situ burial beneath Δ222
5018	Tr5	Loose mid-greyish brown sandy silt with frequent small to very small sub-angular and sub-rounded stone inclusions and occasional fine roots. Present at a depth of 0.56 m, thickness 0.10 m, extends 1 m x 0.29 m in slot	Redeposited subsoil slump/primary fill of 5009, likely infilled very soon/almost immediately after ditch dig due to very loose gravel natural subsoil at base. Same formation process as primary slump fill 5023 in ditch slot 5011
5019	Tr5	Lightly compacted mid-orange brown silty clay with occasional sand and frequent medium to large sub-angular stone in SE of barrow. Unexcavated. Frequent fine roots evident on surface and truncated by medieval plough furrow 5007 orientated N-S, and modern ploughing orientated E-W. Truncation appears deeper in the north of Tr5. Contains SFA202, 206-209	Unexcavated barrow ditch fill. Stones frequent in SE and SW and less in NE and NW probably due to farming/plough truncation since the Medieval period. Stones within this fill are too large to have originated from the local subsoil

Context No	Trench	Description	Interpretation
5020	Tr5	Lightly compacted light-orange sandy clay with occasional sub-angular and sub-rounded stone inclusions and fine roots. Present at a depth of 0.33 m, thickness not fully excavated, extends 0.97 m x 0.9 m. Located in quad 4 within NW of barrow ring ditch. Truncated by 5003 and 5007	Remains of re-deposited burial mound covering burial pit 5013. Similar to barrow ring ditch slump fill 5017 recorded on the internal ditch face of 5009 and ring ditch slump fills 5021 and 5024 recorded in barrow ring ditch 5011. No evidence of 5020 remains within the SE of the barrow centre, likely due to truncation from Medieval furrow 5007 and modern farming activity. Deposit is very similar to 5026, interpreted as an outer bank deposit located in NEof TR5 (quad 3) and derives from original barrow mound deposit 5028
5021	Tr5	Lightly compacted mid-brownish orange sandy clay with frequent very small to medium sub-angular and sub-rounded stone inclusions, plus occasional fine roots. Present at a depth of 0.27 m, thickness 0.17 m, extends 0.21 m width, length unclear - only visible in SSW facing section.	Slump fill of barrow ditch 5011 inner face. Very similar to slump fill 5024 but stratigraphically earlier
5022	Tr5	Loose mid-greyish brown silty sand with abundant small and occasional medium sub-angular and sub-rounded stone inclusions, plus occasional fine roots. Present at a depth of 0.32 m, thickness 0.35 m, 1 m x 0.64+ m, extent unclear - not fully excavated at L.O.E.	Redeposited subsoil slump on outer ring ditch slope edge
5023	Tr5	Loose mid-greyish brown silty sand with abundant very small to medium sub-angular and sub-rounded stone inclusions, plus occasional fine roots. Present at a depth of 0.57 m, thickness 0.39 m, extends 1.55 m x 1 m	Redeposited subsoil slump/primary fill of 5011, likely infilled very soon/almost immediately after ditch dig due to very loose gravel natural subsoil at base. Same formation process as primary slump fill 5018 in ditch slot 5009
5024	Tr5	Medium compaction, mid-brownish orange silty clay with sand and occasional small to medium sub-angular and sub-rounded stone inclusions, plus occasional fine roots. Present at a depth of 0.39 m, thickness 0.26 m, Extent within slot unclear, only visible in NNE face section. Width 0.52 m	Secondary slump fill of barrow ring ditch 5011 inner face - similar slump fill to 5021 but occurred later stratigraphically
5025	Tr5	Unexcavated barrow ditch cut, extends approximately 7 m diameter. Sub circular in plan. Truncated by plough furrow 5007	Unexcavated barrow ring ditch. Measures approximately 7 m diameter across the NW-SE diagonal hypotenuse of Tr5 between ditch slots 5009 and 5011
5026	Tr5	Lightly compacted light-orange sandy clay with occasional sub-angular and sub-rounded stone inclusions, plus fine roots. Present at a depth of 0.33 m, thickness not fully excavated, visible as patch in NE of TR5, outside of barrow ditch. extends 2.46 m x 1.18 m. Located in quad 3, NE Tr5 outside of the barrow ring ditch. Truncated by 5005 and 5007	Light orange intermediate soil deposit. Same as 5028, suggestive of outer bank deposit as indicated by outer ditch face slump fills 5017 and 5022 in ditch slots 5009 and 5011 respectively, plus redeposited mound deposit 5020. Deposit 5026 is truncated by probable post hole 5005 which was cut into this bank deposit during a later phase of use of the barrow and by Medieval plough furrow 5007
5027	Tr5	Medium compaction, mid-orange brown silty clay with occasional small and medium sub-angular and sub-rounded stone inclusions. Unexcavated. Contains capstone Δ222	Unexcavated deposit identified at base of burial cut 5013. Capstone Δ222 recorded on its surface and likely contains an inhumation beneath. Unexcavated and left in-situ. Cut undefined
5028	Tr5	Lightly compacted light-orange sandy clay with occasional sub-angular and sub-rounded stone inclusions and fine roots. Unexcavated. Located in quad 4 within NW of barrow ring ditch. Truncated by 5013 and 5015	Remains of burial mound truncated by 5013 and 5015. Deposit horizon diffused with 5020 redeposited mound deposit that derived from 5028. Similar to barrow ring ditch slump fill 5017 recorded on the internal ditch face of 5009 and ring ditch slump fills 5021 and 5024 recorded in barrow ring ditch 5011. No evidence of 5028 remains within the SE of the barrow centre, likely due to truncation from Medieval furrow 5007 and modern farming activity. Deposit also is very similar to 5026, interpreted as an outer bank deposit located in NEof TR5 (quad 3)

Appendix B: Finds

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
001		T2	2000	1	Bone	Animal	Possible rodent pelvis
002		T2	2000	1	Bone	Animal	Possible rodent pelvis
003		T2	2000	1	Stone	Vitrified	Vitrified Stone
004		T2	2000	1	Stone	Rounded	Pebble/Rounded stone
005		T2	2000	1	Stone	Vitrified	Vitrified Stone
006		T3	3000	1	Stone	Vitrified	Vitrified Stone
007		T3	3000	1	Ceramic	Pottery	White with blue glaze
008		T3	3000	3	CBM	Mortar	Lime mortar fragments
009		T3	3000	1	Bone	Animal	Animal bone
010		T2	2000	1	Tooth	Animal	Sheep/Goat
011		T1	1000	1	Bone	Animal	Bone - animal
012		T1	1000	1	Bone	Animal	Burnt bone
013		T2	2000	2	Bone	Animal	Bone and one possible tooth
014		T2	2000	1	Stone	Slate	Fragment of slate
015		T2	2000	1	Glass	Clear	Small fragement
016		T2	2000	1	CBM	Mortar	Piece of mortar
017		T3	3000	2	CBM	Mortar	Pieces of mortar
018		VOID	VOID	VOID	VOID	VOID	VOID
019		T3	3000	1	Bone	Animal	Animal vertebrae
020		T2	2000	1	Bone	Animal	Fragment
021		T2	2001	11	Bone	Animal	Jaw and fragments
022		T2	2000	1	Stone	Small pebble	Pebble with mortar
023		T2	2000	1	Glass	Modern	Clear glass shard
024		T2	2000	1	CBM	Mortar	Small lump
025		T2	2000	4	CBM	Mortar	Small lump
026		T2	2000	2	Stone	Pebble	Pebble with mortar
027		T2	2000	3	Stone	Pebble	Pebble with mortar
028		T2	2000	2	Stone	Medium sized	Stones with mortar
029		T2	2000	1	CBM	Medium sized	Small lump
030		T1	1000	1	Charcoal	Charcoal	1 small piece of charcoal
031		T1	1000	1	Bone	Animal	Animal bone
032		T1	1000	1	Mortar	Mortar	1 small mortar piece
033		T1	1000	4	Bone	Animal	small pieces of rodent (?)
034		T1	1000	1	Stone/ Mortar	Mortar	Stone with Mortar
035		T1	1000	15	Mortar	Mortar	Mortar frags
036		T3	3000	1	Shell	Oyster	Oyster shell fragment
037		T3	3000	1	Bone	Animal	Sheep jaw
038		T3	3000	4	Shell	Oyster	Oyster shell fragment
039		T3	3000	1	Bone	Animal	Animal bone
040		T3	3000	1	Stone	Vitrified	Vitrified Stone
041		T3	3000	1	Stone	Rounded	Rounded water-worn pebble
042		T2	2000	1	CBM	Mortar	Small lump
043		T2	2000	1	Metal	Iron	Nail
044		T1	1000	2	Bone	Animal	2 pieces of animal bone
045		T2	2001	1	Metal	Iron	Nail
046		T2	2000	1	Bone	Animal	Fragment of bone
047		T2	2000	1	Ceramic	Pottery	Green glazed
048		T2	2000	1	Metal	Unknown	Ring element/link
049		T2	2000	1	Bone	Animal	Tooth

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
050		T3	3001	2	Shell	Oyster	Oyster shell fragment
051		T1	1002	1	Stone	Vitrified	Vitrified Stone
052		T1	1002	3	Bone	Animal	2 Animal bones
053		T3	3001	2	Charcoal	Charcoal	2 Small pieces
054		T2	2001	2	Bone	Animal	Long bone and skull fragment
055		T3	3001	1	Bone	Animal	Long bone fragment
056		T1	1002	1	Metal	Lead	Lead fragment
057		T1	1002	2	Bone	Animal	Animal bone - burnt?
058		T1	1002	12	Bone	Animal	Animal bone
059		T1	1002	3	Metal	Iron?	3 pieces of metal
060		T1	1002	1	Daub?	Daub?	Pieces of possible Daub
061		T1	1002	5	Mortar	Mortar	5 pieces of mortar - sample find
062		T2	2003	1	Bone	Tooth	Animal cow/horse?
063		T1	1002	1	Shell	Oyster	Partial oyster
064		T3	3003	1	Charcoal	Charcoal	Charcoal fragments
065		T3	3003	4	Charcoal	Charcoal	Charcoal fragments
066		T2	2003	1	Bone	Animal	Tooth: sheep or goat
067		T2	2003	1	Daub	Daub	Piece of Daub
068		T2	2001	1	Bone	Animal	Rodent?
069		T3	3003	1	Stone	Rounded	Water-worn pebble
070		T3	3001	1	Bone	Animal	Animal bone
071		T1	1002	1	Stone	Slate	Piece of slate
072		T2	2002	1	Stone	Sandstone	Red sandstone
073		T2	2003	3	Stone	Slate	Sample find
074		T2	2003	6	Bone	Animal	Teeth and bone
075		T2	2003	1	Metal	Iron	Flat strip
076		T2	2001	1	Bone	Animal	Mandible, rodent
077		T2	2003	1	Charcoal	Charcoal	Charcoal from mortar
078		T2	2003	1	Ceramic	Pottery	Green glazed
079		T2	2003	5+	Bone	Animal	Fragments
080		T2	2003	5+	Bone	Animal	Fragment
081		T2	2003	1	Bone	Animal	Cooked/boiled
082		T2	2003	2	Charcoal	Charcoal	Charcoal
083		T1	1002	5	Charcoal	Charcoal	Charcoal fragments
084		T1	1002	1	Bone	Animal	Animal bone fragment
085		VOID	VOID	VOID	VOID	VOID	VOID
086		T1	1002	1	Iron	Nail	Iron nail (?)
087		T1	1002	1	Bone	Animal	Animal bone
088		T3	3003	1	Shell	Oyster	Oyster shell fragment
089		T2	2002	2	Stone	Rubble	Stones with mortar
090		T1	1002	1	Iron	Nail	Iron nail (?)
091		T1	1002	1	Shell	Oyster	Oyster shell fragment
092		T3	3003	5+	Charcoal	Charcoal	Bulk sample find
093		T3	3001	1	Stone	Slate	Slate piece
094		T3	3003	3	Stone	Slate	Bulk sample find
095		T2	2004	1	Charcoal	Charcoal	c. 1 cm ³
096		T2	2004	1	Bone	Animal	Burnt?
097		T1	1002	1	Bone	Animal	Animal bone
098		T1	1002	1	Charcoal	Charcoal	Charcoal
099		T1	1002	1	Charcoal	Charcoal	Charcoal
100		T1	1002	1	Bone	Animal	Animal rib (?)
101		T1	1002	1	Charcoal	Charcoal	Charcoal
102		T2	2001	5	Bone	Animal	Fragments
103		T2	2003	1	Shell	Oyster	Oyster shell

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
104		T2	2003	1	Bone	Animal	Fragment
105		T2	2003	1	Metal	Iron	Strip
106		T2	2004	2	Ceramic	Pottery	Redware, green glazed
107		T2	2004	50+	Charcoal	Charcoal	Charcoal
108		T2	2004	10	Bone	Animal	Fragments
109		T2	2004	1	Ceramic	Pottery	Redware, green glazed
110		T2	2004	10+	Bone	Animal	Fragments
111		T2	2003	1	Bone	Animal	Tooth
112		T2	2003	1	Bone	Animal	Horse tooth
113		T3	3001	1	Stone	Slate	Slate tile
114		T3	3000	1	Stone	Vitrified	Vitrified stone
115		T3	3006	5+	Charcoal	Charcoal	Charcoal fragments
116		T3	3001	1	Charcoal	Charcoal	Charcoal fragment
117		T3	3007	1	Metal	Lead	Misc.
118		T3	3001	1	Bone	Animal	Animal bone
119		T3	3001	2	Stone	Slate	Sample find
120		T2	2003	20+	Bone	Animal	Fragments
121		T1	1007	1	Bone	Animal	Animal bone
122		T1	1007	2	Bone	Animal	Animal bone
123		T1	1002	15+	Bone	Animal	Animal bones from sieve
124		T1	1002	1	Iron	Horseshoe	Iron horseshoe
125		T1	1002	1	Bone	Animal	Animal bone
126		T1	1006	5	Mortar	Mortar	Mortar
127		T1	1007	1	Bone	Animal	Rib bone
128		T1	1007	4	Charcoal	Charcoal	Charcoal
129		T2	2003	15+	Bone	Animal	Various fragments
130		CASTLE	0001	3+	Mortar	Mortar	Mortar
131		T2	2010 L	8+	Stone	Vitrified	Vitrified stone
132		T2	2012	1	Mortar	Mortar	Mortar
133		T2	2003	3	Bone	Animal	Mandible, sheep
134		T2	2003	10+	Bone	Animal	Fragments
135		T2	2003	1	Ceramic	Claypipe	Bowl fragment
136		T2	2003	2	Glass	Various	Glass
137		T2	2003	3	Charcoal	Charcoal	Charcoal
138		T2	2010	15+	Charcoal	Charcoal	Charcoal
139		T2	2010	20+	Bone	Animal	Bone fragments
140		T3	3001	1	Shell	Oyster	Oyster shell fragment
141		T3	3003	10+	Charcoal	Charcoal	Bulk sample find
142		T3	3003	2	Bone	Animal	Animal bone fragment
143		T1	1004 L	1	Bone	Animal	Animal tooth
144		T1	1004 L	3	Stone	Vitrified	Vitrified stone
145		T2	2004	1	Ceramic	Pottery	Redware, green glazed
146		T1	1004 B	6	Bone	Animal	Animal bones mix
147		T1	1004 B	2	Mortar	Mortar	Mortar fragments
148		T1	1004 B	2	Stone	Vitrified	Vitrified stone
149		T1	1004 B	2	Charcoal	Charcoal	Charcoal
150		T2	2003	1	Metal	Iron	Nail
151		T2	2004	1	Ceramic	Pottery	Redware, green glazed
152		T2	2004	1	Charcoal	Charcoal	Charcoal
153		T2	2008	2	Bone	Animal	Fragments
154		T2	2008	20+	Charcoal	Charcoal	Charcoal
155		T2	2008	1	Stone	Vitrified	Vitrified stone
156		T2	2010	4	Bone	Animal	Fragments
157		T2	2010	10+	Charcoal	Charcoal	Charcoal

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
158		T2	2010 L	2	Stone	Vitrified	Vitrified stone
159		T2	2010 L	15+	Bone	Animal	Fragments
160		T2	2010 L	20+	Charcoal	Charcoal	Charcoal
161		T2	2011	3	Bone	Animal	Fragments
162		T2	2011	1	Stone	Vitrified	Vitrified stone
163		T2	2011	20+	Charcoal	Charcoal	Charcoal
164		T2	2012	1	CV	CV	Burnt bark?
165		T2	2012	2	Charcoal	Charcoal	Charcoal
166		T2	2012	4	Bone	Animal	Animal bone
167		T2	2010 B	5+	Bone	Animal	Burnt
168		T2	2010 B	1	Stone	Burnt	Burnt stone
169		T2	2015	1	Mortar	Mortar	Mortar
170		T1	1010	1	Stone	Vitrified	Vitrified stone
171		T2	2004	1	Metal	Iron	Nail?
172		T2	2004	10+	Bone	Animal	Fragments
173		T2	2004	30+	Charcoal	Charcoal	Charcoal
174		T2	2008	1	Bone	Animal	Partial long bone
175		T2	2010	3	Charcoal	Charcoal	Charcoal
176		T2	2010	15+	Bone	Animal?	Fragments
177		T2	2010 L	6+	Charcoal	Charcoal	Tiny fragments
178		T2	2010 L	10+	Bone	Animal	Fragments
179		T2	2010 L	2	Stone	Vitrified?	Vitrified stone/slag?
180		T2	2010 B	9	Bone	Animal	Fragments
181		T2	2010 B	40+	Charcoal	Charcoal	Charcoal
182		T2	2012	1	Glass	Green	Bottle neck fragment
183		T2	2012	6	Mortar	Mortar	Mortar
184		T2	2012	9	Charcoal	Charcoal	Charcoal
185		T2	2012	1	Slag?	Slag?	Slag?
186		T2	2012	7	Bone	Animal	Fragments
187		T2	2015	5+	Charcoal	Charcoal	Charcoal
188		T2	2015	4	Mortar	Mortar	Mortar
189		T2	2015	10+	Daub?	Burnt?	Burnt daub?
190		T2	2015	10+	Charcoal	Charcoal	Charcoal
191		T1	1004 B	2	Bone	Animal	Fragments
192		T1	1004 B	15+	Charcoal	Charcoal	Charcoal
193		Tr4	4000	12	Metal	Mixed	Misc topsoil finds
194		Tr5	5000	6	Metal	Fe	Misc. topsoil finds
195		Tr5	5002 Q2	1	Ceramic	Pottery	Prehistoric large pot frag
196		Tr5	5002 Q1	5+	Bone	Human	Cremated remains
197		Tr5	5002 Q1	5+	Bone	Human	Cremated remains
198		Tr5	5002 Q1	1	Bone	Human	Cremated remains
199		Tr5	5002 Q1	3	Bone	Human	Cremated remains
200		Tr5	5002 Q1	3	Bone	Human	Cremated remains
201		Tr5	5002 Q1	1	Bone	Human	Cremated remains
202		Tr5	5019 Q2	1	Bone	Human	Remains beneath pot frag SF195
203		Tr5	5002 Q2	1	Charcoal	Charcoal	Small deposit in inner ring
204		Tr5	5002 Q2	1	Charcoal	Charcoal	Small deposit in inner ring
205		Tr5	5002 Q1	1	Charcoal	Charcoal	Small deposit in inner ring
206		Tr5	5019 Q3	1	Charcoal	Charcoal	Small deposit in inner ring
207		Tr5	5019 Q4	1	Charcoal	Charcoal	Small deposit in outer ring
208		Tr5	5019 Q2/4	1	Charcoal	Charcoal	Unexcavated surface of barrow ditch
209		Tr5	5019 Q2	1	Charcoal	Charcoal	Unexcavated surface of barrow ditch

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
210		Tr5	5006	1	Bone	Human	Cremated remains from small pit
211		Tr5	5004	50+	Ceramic	Pottery	Bronze Age urn, block lifted with surrounding soil
212		Tr5	5006	1	Bone	Human	Remains from small pit
213		Tr5	5010	1	Charcoal	Charcoal	NW barrow ditch slot (5009)
214		Tr5	5004	10+	Bone	Human	Cremated remains from beneath SF211
215		Tr5	5014	10+	Bone	Human	Cremated remains from internment pit (5013)
216		Tr5	5016	10+	Bone	Human	Cremated remains from internment pit (5015)
217		Tr5	5016	1	Ceramic	Pottery	Bronze Age pot frag
218		Tr5	5016	50+	Bone	Human	Cremated remains, taken as loose bone sample from burial (5015)
219		Tr5	5016	2	Ceramic	Pottery	Prehistoric pot frag from outer edge of (5015)
220		Tr5	5016	1	Ceramic	Pottery	Bronze Age pot frag from inside (5015) mixed with cremated remains
221		Tr5	5014	25	Ceramic	Pottery	Bronze Age urn frags from cremation burial (5013)
222		Tr5	5027	1	Stone	Cap stone	Beneath burial in (5013), left in situ
223		Tr5	5014	50+	Bone	Human	Samples of cremated remains taken from (5013) beneath SF221
224		Tr5	5014	50+	Bone	Human	Samples of cremated remains taken from (5013) beneath SF221
	1	Tr3	3000	1	Ind. Waste	Slag	
	2	Tr1	1000	10	Bone	Unid.	
	2	Tr1	1000	9	Ind. Waste	Slag	
	2	Tr1	1000	>100	CBM	Mortar	
	2	Tr1	1000	37	CBM	Daub	
	2	Tr1	1000	6	Organic	Wood	
	3	Tr2	2000	2	Bone	Unid.	
	3	Tr2	2000	3	Ind. Waste	Slag	
	3	Tr2	2000	2	CBM	?Daub	
	3	Tr2	2000	14	CBM	Mortar	
	5	Tr1	1002	11	Bone	Unid.	
	5	Tr1	1002	10	Ind. Waste	Slag	
	5	Tr1	1002	1	Organic	Egg Shell	Possible Snail Egg
	5	Tr1	1002	1	CBM	Daub	
	6	Tr3	3001		Botanics	Carb. Veg.	
	6	Tr3	3001	3	Bone	Unid.	
	6	Tr3	3001	1	Glass	Glass	
	6	Tr3	3001	29	Ind. Waste	Slag	
	6	Tr3	3001	1	Marine	Shell	
	7	Tr3	3003		Botanics	Carb. Veg.	
	7	Tr3	3003	14	Ind. Waste	Slag	
	7	Tr3	3003	1	Lithic	Quartz	
	7	Tr3	3003	1	Marine	Shell	
	8	Tr3	3003		Botanics	Carb. Veg.	
	8	Tr3	3003	1	Lithic	Quartz	
	9	Tr2	2003		Botanics	Carb. Veg.	
	9	Tr2	2003		Botanics	Nutshell	

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
	9	Tr2	2003	29	Bone	Unid.	
	9	Tr2	2003	4	Metal	Metal	
	9	Tr2	2003	1	Lithic	Quartz	
	9	Tr2	2003	1	Paint	Modern	Paint fleck
	9	Tr2	2003	9	Organic	Egg Case	
	10	Tr2	2004		Botanics	Carb. Veg.	
	10	Tr2	2004		Botanics	Nutshell	
	10	Tr2	2004	>50	Bone	Unid.	
	10	Tr2	2004	2	Ind. Waste	Slag	
	10	Tr2	2004	3	Lithic	Quartz	
	10	Tr2	2004	1	CBM	Daub	
	11	Tr1	1006	5	Bone	Unid.	
	11	Tr1	1006	1	CBM	Daub	
	11	Tr1	1006	9	Ind. Waste	Slag	
	11	Tr1	1006	>100	CBM	Mortar	
	11	Tr1	1006	4	Marine	Shell	
	13	Tr1	1007		Botanics	Carb. Veg.	
	13	Tr1	1007		Botanics	Nutshell	
	13	Tr1	1007	40	Bone	Unid.	
	13	Tr1	1007	4	Ceramic	Medieval	
	13	Tr1	1007	2	Metal	Metal	
	13	Tr1	1007	3	Lithic	Quartz	
	13	Tr1	1007	10	CBM	Mortar	
	13	Tr1	1007	3	Marine	Shell	
	13	Tr1	1007	2	CBM	Daub	?
	14	Tr2	2014		Botanics	Carb. Veg.	
	14	Tr2	2014	9	Bone	Unid.	
	14	Tr2	2014		Stone	Chalk	
	14	Tr2	2014	7	CBM	Daub	?
	14	Tr2	2014	100+	CBM	Mortar	white gritty material, stuck to some stones & pebbles
	14	Tr2	2014	1	Organic	Wood	Tree bark ?
	14	Tr2	2014	7	Marine	Shell	
	15	Tr2	2008		Botanics	Carb. Veg.	
	15	Tr2	2008		Botanics	Nutshell	
	15	Tr2	2008	31	Bone	Unid.	
	15	Tr2	2008	1	CBM	Mortar	
	16	Tr3	3008		Botanics	Carb. Veg.	
	16	Tr3	3008	9	Bone	Unid.	
	16	Tr3	3008	9	Ind. Waste	Slag	
	16	Tr3	3008	5	Lithic	Quartz	
	16	Tr3	3008	3	Organic	Egg Case	
	17	Tr3	3006		Botanics	Carb. Veg.	
	17	Tr3	3006		Botanics	Cereal	
	17	Tr3	3006	5	Bone	Unid.	
	17	Tr3	3006	2	Ind. Waste	Slag	
	18	Tr2	2012		Botanics	Carb. Veg.	
	18	Tr2	2012	27	Bone	Unid.	
	18	Tr2	2012	7	Lithic	Quartz	
	20	Tr3	3007		Botanics	Carb. Veg.	
	20	Tr3	3007		Botanics	Cereal	
	20	Tr3	3007		Botanics	Nutshell	
	20	Tr3	3007	16	Bone	Unid.	
	20	Tr3	3007	2	Ind. Waste	Slag	

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
	20	Tr3	3007	8	Lithic	Quartz	
	20	Tr3	3007	10	Stone	Stone	
	20	Tr3	3007	1	Organic	Egg case	
	22	Tr2	2004		Botanics	Carb. Veg.	
	22	Tr2	2004		Botanics	Nutshell	
	22	Tr2	2004	~50	Bone	Unid.	10 larger fragments, some but not all burnt
	22	Tr2	2004	8	CBM	Daub	
	22	Tr2	2004	9	Ind. Waste	Slag	
	22	Tr2	2004	9	Metal	Various	2 copper pieces and other non copper metal objects, incl. a possible small chain segment and round clasp
	22	Tr2	2004	3	Organic	Egg case	
	23	Tr1	1011		Botanics	Carb. Veg.	
	23	Tr1	1011	~30	Bone	Unid.	
	23	Tr1	1011	5	Ind. Waste	Slag	
	23	Tr1	1011	1	Lithic	Flint	
	23	Tr1	1011	~40	CBM	Mortar	
	24	Tr1	1004 T		Botanics	Carb. Veg.	
	24	Tr1	1004 T	16	Bone	Unid.	
	24	Tr1	1004 T	4	Lithic	Quartz	
	24	Tr1	1004 T	5	CBM	?Daub	
	25	Tr1	1004 L		Botanics	Carb. Veg.	
	25	Tr1	1004 L	>50	Bone	Unid.	
	25	Tr1	1004 L	5	Ind. Waste	Slag	
	25	Tr1	1004 L	1	Lithic	Quartz	
	25	Tr1	1004 L	2	Organic	Egg Case	
	26	Tr1	1004 B		Botanics	Carb. Veg.	
	26	Tr1	1004 B	40	Bone	Unid.	
	26	Tr1	1004 B	6	Ind. Waste	Slag	
	26	Tr1	1004 B	1	CBM	Daub	
	26	Tr1	1004 B	1	Organic	Egg case	
	27	Tr1	1010		Botanics	Carb. Veg.	
	27	Tr1	1010	>70	Bone	Unid.	
	27	Tr1	1010	5	Ind. Waste	Slag	
	27	Tr1	1010	1	Lithic	Flint	
	27	Tr1	1010	2	Lithic	Quartz	
	27	Tr1	1010	4	CBM	Daub	
	27	Tr1	1010	1	Organic	Egg case	
	28	Tr2	2010 B		Botanics	Carb. Veg.	
	28	Tr2	2010 B	23	Bone	Unid.	
	28	Tr2	2010 B	1	Lithic	Quartz	
	28	Tr2	2010 B	5	Lithic	Flint	?
	29	Tr2	2015		Botanics	Carb. Veg.	
	29	Tr2	2015	12	Bone	Unid.	
	29	Tr2	2015	12	Ind. Waste	Slag	
	29	Tr2	2015	4	Lithic	Quartz	
	29	Tr2	2015	34	CBM	?Mortar	
	31	Tr2	2010		Botanics	Carb. Veg.	
	31	Tr2	2010		Botanics	Nutshell	
	31	Tr2	2010	>50	Bone	Unid.	
	31	Tr2	2010	>30	Ind. Waste	Slag	
	31	Tr2	2010	1	Metal	Metal	
	31	Tr2	2010	3	Lithic	Quartz	

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
	31	Tr2	2010	1	CBM	Mortar	
	32	Tr4	4000		Botanics	Carb. Veg.	
	32	Tr4	4000	2	Botanics	Cereal/Seed	
	32	Tr4	4000	3	Marine	Shell	
	32	Tr4	4000	3	Lithic	Quartz	
	33	Tr4	4005		Botanics	Carb. Veg.	
	33	Tr4	4005		Botanics	Nutshell	
	33	Tr4	4005	2	Lithic	Quartz	
	34	Tr4	4003		Botanics	Carb. Veg.	
	34	Tr4	4003	2	CBM	Daub	
	34	Tr4	4003	4	Lithic	Quartz	
	34	Tr4	4003	1	Plastic	Modern	
	35	Tr4	4006	1	Lithic	Quartz	
	36	Tr4	4009		Botanics	Carb. Veg.	
	36	Tr4	4009	2	Lithic	Quartz	
	37	Tr4	4008		Botanics	Carb. Veg.	
	37	Tr4	4008		Botanics	Cereal	
	38	Tr4	4011		Botanics	Carb. Veg.	
	38	Tr4	4011	1	Bone	Unid.	
	38	Tr4	4011	3	Lithic	Quartz	
	38	Tr4	4011	1	Marine	Shell	
	39	Tr4	4013	4	Lithic	Quartz	
	39	Tr4	4013	1	Organic	Egg case	
	44	Tr5	5002		Botanics	Carb. Veg.	
	44	Tr5	5002	25	Bone	Unid.	
	44	Tr5	5002	2	Ceramic	Prehistoric	
	44	Tr5	5002	2	Lithic	Quartz	
	44	Tr5	5002	1	Organic	Insect	
	45	Tr5	5002		Botanics	Carb. Veg.	
	45	Tr5	5002	1	Bone	Unid.	
	45	Tr5	5002	1	Lithic	Quartz	
	46	Tr5	5002		Botanics	Carb. Veg.	
	46	Tr5	5002	2	Bone	Unid.	
	46	Tr5	5002	1	Lithic	Quartz	
	47	Tr5	5002		Botanics	Carb. Veg.	
	47	Tr5	5002	3	Bone	Unid.	
	47	Tr5	5002	10	Lithic	Quartz	
	47	Tr5	5002	1	Organic	Egg case	
	47	Tr5	5002	2	CBM	Daub	
	48	Tr5	5004		Botanics	Carb. Veg.	
	48	Tr5	5004	5	Bone	Unid.	
	48	Tr5	5004	1	Ceramic	Prehistoric	
	48	Tr5	5004	1	Ceramic	Modern	
	48	Tr5	5004	1	Lithic	Flint	flake
	48	Tr5	5004	4	Lithic	Quartz	
	48	Tr5	5004		Botanics	Carb. Veg.	
	48	Tr5	5004		Botanics	Cereal	
	48	Tr5	5004	2	Bone	Unid.	
	48	Tr5	5004	1	Glass	Clear	
	48	Tr5	5004		Botanics	Carb. Veg.	
	48	Tr5	5004	21	Bone	Unid.	small frags
	48	Tr5	5004	11	Ceramic	Prehistoric	
	48	Tr5	5004	2	Marine	Shell	

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
	49	Tr5	5004		Botanics	Carb. Veg.	
	49	Tr5	5004	18	Bone	Unid.	
	49	Tr5	5004	1	Lithic	Quartz	
	50	Tr5	5006		Botanics	Carb. Veg.	
	50	Tr5	5006	5	Bone	Unid.	
	50	Tr5	5006	5	Lithic	Quartz	
	50	Tr5	5006	1	Lithic	Flint	
	51	Tr5	5008		Botanics	Carb. Veg.	
	51	Tr5	5008		Botanics	Nutshell	
	51	Tr5	5008	6	Lithic	Quartz	
	51	Tr5	5008	1	Ceramic	Modern	tiny frag.
	52	Tr5	5010		Botanics	Carb. Veg.	
	52	Tr5	5010	1	Lithic	Quartz	
	53	Tr5	5012		Botanics	Carb. Veg.	
	53	Tr5	5012	4	Lithic	Quartz	
	53	Tr5	5012	11	Stone	Black Stone	Angular black
	54	Tr5	5004		Botanics	Carb. Veg.	
	54	Tr5	5004	27	Bone	Unid.	burnt
	54	Tr5	5004	3	Lithic	Quartz	
	55	Tr5	5004		Botanics	Carb. Veg.	
	55	Tr5	5004	36	Bone	Unid.	
	55	Tr5	5004	1	Lithic	Jasper	?
	55	Tr5	5004	3	Lithic	Quartz	
	56	Tr5	5004		Botanics	Carb. Veg.	
	56	Tr5	5004	12	Bone	Unid.	
	56	Tr5	5004	8	Lithic	Quartz	
	56	Tr5	5004	1	Marine	Shell	
	57	Tr5	5004		Botanics	Carb. Veg.	
	57	Tr5	5004	~80	Bone	Unid.	Very small burnt frags
	57	Tr5	5004	23	Ceramic	Prehistoric	Or daub?; small frags, mostly orange, some grey
	57	Tr5	5004	2	Lithic	Quartz	
	58	Tr5	5004		Botanics	Carb. Veg.	
	58	Tr5	5004	9	Bone	Unid.	
	58	Tr5	5004	5	Lithic	Quartz	
	59	Tr5	5004		Botanics	Carb. Veg.	
	59	Tr5	5004	4	Lithic	Quartz	
	59	Tr5	5004	1	Organic	Egg case	
	60	Tr5	5004		Botanics	Carb. Veg.	
	60	Tr5	5004	9	Bone	Unid.	
	60	Tr5	5004	4	Lithic	Quartz	
	61	Tr5	5010		Botanics	Carb. Veg.	
	61	Tr5	5010	1	Ind. Waste	Slag	
	61	Tr5	5010	3	Lithic	Quartz	
	62	Tr5	5012		Botanics	Carb. Veg.	
	62	Tr5	5012	3	Bone	Unid.	
	62	Tr5	5012	4	Lithic	Quartz	
	63	Tr5	5004		Botanics	Carb. Veg.	
	63	Tr5	5004	~100	Bone	Unid.	
	63	Tr5	5004	22	Ceramic	Prehistoric	
	63	Tr5	5004	2	Lithic	Quartz	
	64	Tr5	5004		Botanics	Carb. Veg.	
	64	Tr5	5004	>50	Bone	Unid.	fragments
	64	Tr5	5004	5	Ceramic	Prehistoric	

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
	64	Tr5	5004	4	Lithic	Quartz	
	65	Tr5	5004	16	Bone	Unid.	
	65	Tr5	5004	1	Ceramic	Prehistoric	
	65	Tr5	5004	2	Lithic	Flint	
	65	Tr5	5004	2	Lithic	Quartz	
	66	Tr5	5004	10	Bone	Unid.	
	66	Tr5	5004	2	CBM	Daub	
	66	Tr5	5004	2	Lithic	Quartz	
	66	Tr5	5004	1	Organic	Vegetation	Leaf ?
	67	Tr5	5004	4	Bone	Unid.	
	67	Tr5	5004	4	Lithic	Quartz	
	68	Tr5	5004		Botanics	Carb. Veg.	
	68	Tr5	5004	6	Bone	Unid.	
	68	Tr5	5004	4	Lithic	Quartz	
	69	Tr5	5004	2	Bone	Unid.	flecks
	70	Tr5	5004	3	Lithic	Quartz	
	71	Tr5	5004		Botanics	Carb. Veg.	
	71	Tr5	5004	10	Bone	Unid.	
	71	Tr5	5004	3	Lithic	Quartz	
	72	Tr5	5004	6	Bone	Unid.	
	72	Tr5	5004	3	Lithic	Quartz	
	73	Tr5	5004	1	CBM	Daub	Or pottery ?
	73	Tr5	5004	1	Lithic	Quartz	
	74	Tr5	5004	18	Bone	Unid.	
	74	Tr5	5004	2	Lithic	Quartz	
	75	Tr5	5004	1	Bone	Unid.	
	75	Tr5	5004	3	Lithic	Quartz	
	77	Tr5	5014		Botanics	Carb. Veg.	
	77	Tr5	5014	3	Lithic	Flint	Flakes ?
	78	Tr5	5014		Botanics	Carb. Veg.	
	78	Tr5	5014	2	Lithic	Quartz	
	79	Tr5	5014		Botanics	Carb. Veg.	
	79	Tr5	5014	1	Lithic	Pitchstone?	
	79	Tr5	5014	1	Lithic	Quartz	
	80	Tr5	5016		Botanics	Carb. Veg.	
	80	Tr5	5016	>100	Bone	Unid.	
	80	Tr5	5016	1	Ceramic	Prehistoric	
	80	Tr5	5016	2	CBM	Daub	possible daub
	81	Tr5	5016		Botanics	Carb. Veg.	
	81	Tr5	5016	>60	Bone	Unid.	frags
	81	Tr5	5016	1	Lithic	Quartz	
	82	Tr5	5012		Botanics	Carb. Veg.	
	82	Tr5	5012		Botanics	Nutshell	
	82	Tr5	5012	8	CBM	Daub	possible daub
	83	Tr4	4001	3	Lithic	Flint	
	83	Tr4	4001	8	Lithic	Quartz	
	84	Tr5	5000		Botanics	Carb. Veg.	
	84	Tr5	5000		Organic	Seed	Modern
	84	Tr5	5000	1	Bone	Unid.	
	84	Tr5	5000	1	Glass	Glass	
	84	Tr5	5000	2	Lithic	Quartz	
	84	Tr5	5000	15	Organic	Wood	
	84	Tr5	5000	1	Organic	Egg case	
	84	Tr5	5000	1	Stone	Chalk	

Find No	Bulk Sample No.	Area	Context No	No of Pieces	Material	Type	Description
	85	Tr5	5001		Botanics	Carb. Veg.	
	86	Tr5	5017		Botanics	Carb. Veg.	
	86	Tr5	5017	1	Lithic	Quartz	
	86	Tr5	5017	1	Organic	Insect	
	87	Tr5	5018		Botanics	Carb. Veg.	
	88	Tr5	5016		Botanics	Carb. Veg.	
	88	Tr5	5016	100<	Bone	Unid.	
	88	Tr5	5016	4	Ceramic	Prehistoric	abraded pot
	88	Tr5	5016	2	Lithic	Quartz	
	89	Tr5	5014		Botanics	Carb. Veg.	
	89	Tr5	5014		Botanics	Cereal/Seed	
	89	Tr5	5014		Botanics	Nutshell	
	89	Tr5	5014	~500	Bone	Unid.	Small, fragmented, burnt
	89	Tr5	5014	100<	Ceramic	Prehistoric	Prehistoric, 1 decent frag, rest abraded
	89	Tr5	5014	3	Lithic	Flint	
	89	Tr5	5014	7	Lithic	Quartz	Many with straight edges
	89	Tr5	5014	3	Ceramic	Prehistoric	Possible ceramic - could be friable stone
	89	Tr5	5014	2	Marine	Shell	Oyster?
	89	Tr5	5014	21	Stone	Black Stone	Angular black, some look shaped
	89	Tr5	5014	1	Organic	Egg case	
	92	Tr5	5022	2	Lithic	Flint	
	92	Tr5	5022	3	Lithic	Quartz	
	94	Tr5	5024		Botanics	Carb. Veg.	
	94	Tr5	5024		Botanics	Nutshell	
	94	Tr5	5024	3	Lithic	Quartz	
	94	Tr5	5024	3	Marine	Shell	
	95	Tr5	5004		Botanics	Carb. Veg.	
	95	Tr5	5004	>200	Bone	Unid.	
	95	Tr5	5004	>50	Ceramic	Prehistoric	
	95	Tr5	5004	5	Lithic	Quartz	
	95	Tr5	5004	17	Paint	Paint	red material
	95	Tr5	5004	10	Ind. Waste	Slag	
	95	Tr5	5004	1	Organic	Insect	

Appendix C: Drawings

Drawing No	Area	Sheet No	Subject	Scale
1	Tr1	1	Mid-ex plan of Trench 1	1:20
2	Tr1	1	NW-facing elevation of wall [1003]	1:10
3	Tr1	1	NE-facing section behind wall [1005]	1:20
4	Tr1	1	SW-facing section of Trench 1	1:20
5	Tr1	2	Post-ex plan showing slot in wall [1003]	1:20
6	Tr3	4	Elevation of wall 3002	1:10
7	Tr3	3	S-facing section of Trench 3	1:20
8	Tr3	3	S-facing stepped section of Trench 3	1:20
9	Tr3	3	Plan of Trench 3	1:20
10	Tr2	6	Post-ex plan of Trench 2	1:50
11	Tr2	6	NW-facing section of Trench 2	1:20
12	Tr2	5	Wrap around section of NE- corner of Trench 2	1:20
13	Tr4	8	E-facing section of ditch [4004] and LOE in Trench 4	1:10
14	Tr4	8	S and W facing sections of tree bowl [4002]	1:10
15	Tr4	8	Wrap-around section of square barrow corner slot [4007]	1:10

Drawing No	Area	Sheet No	Subject	Scale
16	Tr4	8	N-facing section of square barrow ditch 4007	1:10
17	Tr4	8	E-facing section of square barrow ditch 4007	1:10
18	Tr4	7	Plan of Trench 4	1:20
19	Tr5	10	NW facing section of small pit 5005	1:10
20	Tr5	10	S facing section of plough furrow 5007	1:10
21	Tr4	8	W-facing section of square barrow ditch 4004	1:10
22	Tr5	10	WSW facing section of barrow ditch 5009	1:10
23	Tr5	10	E/NE facing section of round barrow ditch 5009	1:10
24	Tr5	10	S/SW facing section of round barrow ditch 5011	1:10
25	Tr5	10	N/NE facing section of round barrow ditch 5011	1:10
26	Tr5	9	Plan of Trench 5	1:20

Appendix D: Samples

Sample No	Area	Context No	Size	Reason for Sampling								Application/Comments
				Pot	Bone	Lithics	Stone	CBM	Multi Element	Dating	Botanics	
1	Tr3	3000	1 x L								X	Topsoil of Trench 3 - Take sub-sample for multi-element analysis
2	Tr1	1000	1 x L								X	Topsoil of Trench 1 Take sub-sample for multi-element analysis
3	Tr2	2000	1 x L								X	Topsoil of Trench 2 Take sub-sample for multi-element analysis
4	Tr2	2001	1 x L					X				Mortar rich deposit in NE corner of Trench 2
5	Tr1	1002	1 x L								X	Fill amongst stone rubble 1001
6	Tr3	3001	1 x L								X	Fill of Trench 3 matrix among 3004/3005
7	Tr3	3003	1 x L								X	Clay fill of Trench 3
8	Tr3	3003	1 x L								X	Clay fill of Trench 3
9	Tr2	2003	1 x L								X	Deposit matrix amongst rubble 2002
10	Tr2	2004	1 x L								X	Deposit below rubble 2002 and deposit matrix 2003
11	Tr1	1006	1 x L								X	Matrix of wall 1005
12	Tr1	1008	1 x L					X				Mortar surface
13	Tr1	1007	1 x L								X	Matrix of surface 1009
14	Tr2	2014	1 x L								X	Deposit matrix amongst rubble 2012
15	Tr2	2008	1 x L								X	Deposit below wall repair 2007 and W of wall 2009
16	Tr3	3008	1 x L								X	Scree fill of Trench 3
17	Tr3	3006	1 x L								X	Charcoal deposit in 3003
18	Tr2	2012	1 x L								X	Deposit matrix amongst rubble 2014

Sample No	Area	Context No	Size	Reason for Sampling								Application/ Comments
				Pot	Bone	Lithics	Stone	CBM	Multi Element	Dating	Botanics	
19	Tr2	2004	4 x S						X			Chemical soil sample of charcoal rich deposit in NE of Trench 2
20	Tr3	3007	5 x L								X	Occupational deposit of Trench 3
21	Tr3	3007	5 x S						X			Chemical samples across trench 3 of occupational deposit
22	Tr2	2004									X	Finds and charcoal rich deposit in NE of Trench 2
23	Tr1	1011	1 x L						X		X	Subsoil Take sub-sample for multi-element analysis
24	Tr1	1004 T	1 x L								X	Top rampart 1003 matrix
25	Tr1	1004 L	2 x L								X	Lower rampart 1003 matrix
26	Tr1	1004 B	2 x L								X	Bottom rampart 1003 matrix
27	Tr1	1010	4 x L								X	Fill below wall 1003
28	Tr2	2010 B	1 x L								X	Base of possible early medieval rampart
29	Tr2	2015	2 x L								X	Possible occupational layer N of wall 2009
30	Tr1	Mix	11 x S						X			Chemical samples across trench 1 of medieval surface level
31	Tr2	2010	1 x L								X	Upper layer of possible rampart
32	Tr4	4000	2 X L								X	Bulk topsoil from Tr4 Take sub-sample for multi-element analysis
33	Tr4	4005	3 X L								X	Botanics in base of fill (4005), barrow ditch [4004]
34	Tr4	4003	2 X L			X					X	Fill of tree bowl [4002]
35	Tr4	4006	1 X L			X					X	Redeposited natural in tree bowl [4002] Take sub-sample for multi-element analysis
36	Tr4	4009	1 X L			X					X	Basal fill of tree bowl [4002]
37	Tr4	4008	2 X L								X	Fill of barrow ditch [4007]
38	Tr4	4011	2 x L		X						X	Fill of burial [4010]
39	Tr4	4013	2 x L		X						X	Fill of burial [4012]
40	Tr4	4011	8 x S						X			Multi element samples (A-H) for chemical analysis of burial 1, 4010
41	Tr4	4013	8 x S						X			Multi element samples (A-H) for chemical analysis of burial 2, 4012

Sample No	Area	Context No	Size	Reason for Sampling								Application/ Comments
				Pot	Bone	Lithics	Stone	CBM	Multi Element	Dating	Botanics	
42	Tr4	4001	8 x S						X			Multi element samples (A-H) for chemical analysis of burial 2, 4012, natural base of grave
43	Tr4	4001	8 x S						X			Multi element samples (A-H) for chemical analysis of burial 1, 4010, natural base of grave
44	Tr5	5002	2 x L			X					X	Some charcoal; from SE base of mound, spit 1, quad 1
45	Tr5	5002	2 x L	X		X					X	Some charcoal, SW base of mound spit 1, quad 2
46	Tr5	5002	2 x L			X					X	Some charcoal, NE base of mound spit 1, quad 3
47	Tr5	5002	3 x L			X					X	Some charcoal, NW base of mound spit 1, quad 4
48	Tr5	5004	3 x L	X	X	X					X	Fill of burial cut, top 5cm. Cremation burial spit 1, 2cm spits
49	Tr5	5004	2 x L	X	X	X					X	Spit 2 burial fill
50	Tr5	5006	2 x L			X					X	Fill of circular feature [5005]
51	Tr5	5008	2 x L			X					X	Fill of plough furrow [5007]
52	Tr5	5010	2 x L								X	Last/top fill of barrow ditch [5009] - surface of fill
53	Tr5	5012	2 x L	X							X	Last/top fill of barrow ditch [5011] - surface of fill
54	Tr5	5004	2 x L	X	X	X					X	Spit 3 burial fill
55	Tr5	5004	2 x L	X	X	X					X	Spit 4 burial fill
56	Tr5	5004	2 x L	X	X	X					X	Spit 5 burial fill
57	Tr5	5004	2 x L	X	X	X					X	Spit 6 burial fill
58	Tr5	5004	2 x L	X	X	X					X	Spit 7 burial fill
59	Tr5	5004	2 x L	X	X	X					X	Spit 8 burial fill
60	Tr5	5004	2 x L	X	X	X					X	Spit 9 burial fill
61	Tr5	5010	2 x L	X		X					X	Last/top fill of barrow ditch [5009] - base of fill
62	Tr5	5012	2 x L	X		X					X	Last/top fill of barrow ditch [5011] - base of fill
63	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 10
64	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 11
65	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 12
66	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 13
67	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 14

Sample No	Area	Context No	Size	Reason for Sampling								Application/ Comments
				Pot	Bone	Lithics	Stone	CBM	Multi Element	Dating	Botanics	
68	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 15
69	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 16
70	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 17
71	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 18
72	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 19
73	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 20
74	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 21
75	Tr5	5004	1 x L	X		X					X	Burial fill under Δ211, spit 22
76	Tr4	4005	1 x KT							X		Kubiena tin sample from square barrow for OSL Dating
77	Tr5	5014	1 x L	X		X					X	Fill of burial pit [5013], spit 1
78	Tr5	5014	1 x L	X		X					X	Fill of burial pit [5013], spit 2
79	Tr5	5014	1 x L	X		X					X	Fill of burial pit [5013], spit 3
80	Tr5	5016	1 x L	X		X					X	Fill of burial pit [5015], spit 1
81	Tr5	5016	1 x L	X		X					X	Fill of burial pit [5015], spit 2
82	Tr5	5012	1 x L	X		X					X	Fill of barrow ditch [5011]
83	Tr4	4001	2 x L						X		X	Bulk subsoil from Tr4 Take sub-sample for multi-element analysis
84	Tr5	5000	2 x L						X		X	Bulk topsoil from Tr5 Take sub-sample for multi-element analysis
85	Tr5	5001	2 x L						X		X	Bulk subsoil from Tr5 Take sub-sample for multi-element analysis
86	Tr5	5017	1 x L								X	Secondary fill of barrow ditch [5009]
87	Tr5	5018	1 x L								X	Primary fill of barrow ditch [5009]
88	Tr5	5016	1 x L	X	X	X					X	Sample with bone frags in burial cut [5015]
89	Tr5	5014	7 x L	X	X	X					X	Samples from burial urn(s) and surrounding fill with bone and pot
90	Tr5	5012	1 x L					X				Bulk sample stones
91	Tr5	5021	1 x L								X	Secondary fill of barrow ditch [5011]
92	Tr5	5022	1 x L								X	Third fill of barrow ditch [5011]

Sample No	Area	Context No	Size	Reason for Sampling								Application/ Comments
				Pot	Bone	Lithics	Stone	CBM	Multi Element	Dating	Botanics	
93	Tr5	5023	1 x L								X	Primary fill of barrow ditch [5011]
94	Tr5	5024	1 x L								X	Fourth fill of barrow ditch [5011]
95	Tr5	5004	3 x L								X	Lab excavated fill of Bronze Age urn

Appendix E: Photographs

Film No. 1				GA14
Frame	Area	Context	Subject	Taken from
1			ID Shot	
2	Tr1		Pre-ex plan of trech 1	NW
3	Tr1		Pre-ex plan of trech 1 oblique view	W
4	Tr1		Pre-ex plan of trech 1 oblique view	NW
5	Tr1		Pre-ex plan of trech 1 oblique view	S
6	Tr1		Pre-ex plan of trech 1 oblique view	E
7	Tr1		Pre-ex plan of trech 1 oblique view	E
8	Tr2		Pre-ex plan of trench 2	NE
9	Tr2		Pre-ex plan of trench 2 oblique view	S
10	Tr2		Pre-ex plan of trench 2 oblique view	NW
11	Tr2		Pre-ex plan of trench 2 oblique view	N
12	Tr3		Pre-ex plan of trench 3	E
13	Tr3		Pre-ex plan of trench 3 oblique view	SE
14	Tr3		Pre-ex plan of trench 3 oblique view	NE
15	Tr3		Pre-ex plan of trench 3 oblique view	N
16	Tr3		Pre-ex plan of trench 3 oblique view	W
17	Tr3		Pre-ex plan of trench 3 oblique view	N
18	Tr2	2000	In-situ picture of SF043, iron nail	NNW
19	Tr2	2001	In-situ picture of SF045, iron nail	NNW
20	Tr1	1002	Mid-ex trench 1 before 1002 removal	NW
21	Tr1	1002	Mid-ex trench 1 before 1002 removal	N
22	Tr2	2002, 2003	Mid ex trench 1 showing rubble 2002 and soil 2003	NE
23	Tr2	2002	Rubble with mortar, board	NE
24	Tr2	2002	Rubble with mortar, no board	NE
25	Tr2	2002	Dressed rubble stone in situ, in section	SSE
26	Tr2	2002	Dressed rubble stone in situ, in plan	SSE
27	Tr2	2002	Finds close up, stone with mortar	E
28	Tr2	2002	Close-up stone with chisel marks	E
29	Tr2	2002	Close-up stone with marks	E
Film No. 2				GA56
1			ID Shot	
2	Tr3		Mid-ex plan overview	SE
3	Tr3		Mid-ex plan overview, oblique	SE
4	Tr3		Mid-ex plan overview, oblique	NE
5	Tr3		Mid-ex plan of Tr3 3000 removed	E
6	Tr3		Mid-ex plan of Tr3 3000 removed	E
7	Tr3		Mid-ex plan of Tr3 3000 removed	E
8	Tr3		Mid-ex plan of Tr3 3000 removed	E
9	Tr3		Mid-ex plan of Tr3 3000 removed	W
10	Tr3		Mid-ex plan of Tr3	E
11	Tr3		Mid-ex plan of Tr3	E
12	Tr3		Mid-ex plan of Tr3	E
13	Tr3		Mid-ex plan of Tr3	E

Frame	Area	Context	Subject	Taken from
14	Tr3		Mid-ex plan of Tr3	NE
15	Tr3		Mid-ex plan of Tr3	NE
16	Tr3	3003	Close-up of layer 3003	NE
17	Tr3	3004	Close-up of layer 3004	NE
18	Tr3	3002	Close-up of rampart 2002	E
19	Tr3	3002	Close-up of rampart 2002	E
20	Tr3	3002, 3004	Close up of 3002 and 3004	N
21	Tr3	3003	Close-up of layer 3003	W
22	Tr3	3000, 3005	S-facing section showing 3000 and 3005	S
23	Tr3		Working shots of Tr3	W
24	Tr3		Working shots of Tr3	W
25	Tr3		Working shots of Tr3	N
26	Tr3	3002	Close-up of wall	E
27	Tr3	3002	Close-up of wall	E
28	Tr3	3002	Close-up of wall	E
29	Tr3		Mid-ex of trench	E
30	Tr3	3004	Working shot, removal of boulders	E
31	Tr3	3004	Working shot, removal of boulders	E
32	Tr3	3006	Small charcoal deposit in layer 3003	S
33	Tr3	3006	Small charcoal deposit in layer 3003	S
Film No. 3				GA23
1			ID Shot	
2	Tr3		Mid-ex aerial shots, 3000 removed	S
3	Tr3		Mid-ex aerial shots, 3000 removed	N
4	Tr3		Mid-ex aerial shots, 3000 removed	W
5	Tr3		Mid-ex aerial shots, 3000 removed	S
6	Tr3		Mid-ex aerial shots, 3000 removed	N
7	Tr1	1001	Mid-ex shot of rubble 1001 in trench 1	NW
8	Tr1	1001	Mid-ex shot of rubble 1001 in trench 1	NW
9	Tr1	1001	Mid-ex shot of rubble 1001 in trench 1	NW
10	Tr1	1001	Mid-ex shot of rubble 1001 in trench 1	NW
11	Tr1	1001	Mid-ex shot of rubble 1001 in trench 1	W
12	Tr1	1001	Mid-ex shot of rubble 1001 in trench 1	W
13	Tr1	1001	Mid-ex shot of rubble 1001 in trench 1	W
14	Tr1	1001	Mid-ex shot of rubble 1001 in trench 1	W
15	Tr1	1001	Plan shot of trench 1	NE
16	Tr1	1001	Plan shot of trench 1	NE
17	Tr2	2001, 2002	Shot of trench 2	ENE
18	Tr2	2001, 2002	Plan shot of trench 2	ENE
19	Tr2	2001, 2002	Plan shot of trench 2	ENE
20	Tr2	2001, 2002	Plan shot of trench 2	ENE
21	Tr2	2001, 2002	Plan shot of trench 2	NNE
22	Tr2	2001, 2002	Plan shot of trench 2	NNE
23	Tr2	2001, 2002	Plan shot of trench 2	SSE
Film No. 4				GA14
1			ID Shot	
2	Tr1		Mid-ex of trench 1	NW
3	Tr1		Mid-ex of trench 1	NW
4	Tr1		Mid-ex of trench 1	N
5	Tr1		NW end of trench	NE
6	Tr1		Centre of trench	NE
7	Tr1		SE end of trench	NE
8	Tr1	1007, 1009	Paving slabs and bone	SW
9	Tr1	1007, 1009	Paving slabs and bone	SW
10	Tr1	1007, 1009	Paving slabs and bone	NW

Frame	Area	Context	Subject	Taken from
11	Tr1	1008	Mortar surface	SW
12	Tr1	1008	Mortar surface	NW
13	Tr1	1008	Mortar surface	NE
14	Tr1	1005	Possible wall	NE
15	Tr1	1005	Possible wall	NE
16	Tr1	1003	Wall	NW
17	Tr1	1003	Wall	NW
18	Tr1	1003	Wall	NW
19	Tr1	1003	Wall	NE
20	Tr1	1003	Wall	NE
21	Tr1	1003	Wall	SW
22	Tr1	1003, 1005	Wall and possible wall?	W
23	Tr1		Possible bedrock	NW
24	Tr2	2002, 2003	Mid-ex of S portion of possible rampart	NE
25	Tr2	2002, 2003	Mid-ex of S portion of possible rampart	NE
26	Tr2	2002, 2003	Mid-ex of S portion of possible rampart	NE
Film No. 5				GA14
1			ID Shot	
2	Tr2	2010 L	2nd mid-ex of S portion of possible rampart	NE
3	Tr2	2010	2nd mid-ex of S portion of possible rampart	NE
4	Tr2	2010	2nd mid-ex of S portion of possible rampart	NE
5	Tr2	2002	Stone with marks in situ	NE
6	Tr1	2002	Stone with marks close-up	NE
7	Tr1	1002	Horseshoe SF124 in situ	NE
8	Tr1	1002	Horseshoe SF124 in situ	NE
9	Tr1	1002	Horseshoe SF124 in situ	NE
10	Tr1	1003	Wall	NW
11	Tr1	1003	Wall	NE
12	Tr1	1003	Wall	NW
13	Tr1	1003	Wall	NW
14	Tr1	1003	Wall	SW
15	Tr1	1009	More stone slab surface	SE
16	Tr1	1009	More stone slab surface	NE
17	Tr1	1009	More stone slab surface	NE
18	Tr2	2012, 2014	Mid-ex of rubble 2014 and soil matrix 2012	NE
19	Tr2	2012, 2014	Mid-ex of rubble 2014 and soil matrix 2012	NNE
20	Tr2	2012, 2014	Mid-ex of rubble 2014 and soil matrix 2012	NE
21	Tr2	2012, 2014	Mid-ex of rubble 2014 and soil matrix 2012	NE
22	Tr2	2004	In situ photo of pottery SF145	NE
23	Tr2	2004	In situ photo of pottery SF151	NE
24	Tr2	2004	In situ photo of find	NNW
25	Tr2	2010 B	Vitrified rampart B mid-ex	NE
26	Tr2	2011 B	Vitrified rampart B mid-ex	NE
27	Tr2	2010 B	Vitrified stone of 2010 B	NE
28	Tr2	2010 B	Vitrified stone of 2010 B close-up	NE
29	Tr2	2010 B	Vitrified stone of 2010 B close-up	NE
30	Tr2	2010 B	Burnt bone in situ SF167	NE
31	Tr2	2010 B	Burnt bone in situ SF167	NE
32	Tr2	2010 B	NNW facing section of Tr2	N
33	Tr2	2011 B	NNW facing section of Tr2, NE-SW	NW
34	Tr2	2012 B	NNW facing section of Tr2, NE-SW	NW
35	Tr2	2013 B	NNW facing section of Tr2, NE-SW	NW
36	Tr2	2014 B	Section of corner	NW
37	Tr2	2015 B	ENE facing section of 2010 rampart	NW
38	Tr2	2011	NW corner section	NW

Frame	Area	Context	Subject	Taken from
39	Tr2	2009	Overview of wall 2009	N
40	Tr2	2009	N-facing inner face of wall	N
41	Tr2	2009	E-facing inner face of wall	E
42	Tr2	2009	Overview of SW corner of wall	NE
43	Tr2	2009	N-facing inner face of wall	N
44	Tr2	2009	N-facing inner face of wall, W-E	N
45	Tr2	2009	NW facing corner of wall	NW
46	Tr2	2009	S-facing outer face of wall	S
47	Tr2	2009	Overview shot of SE corner	SE
48	Tr2	2009	S-facing outer face of wall	S
49	Tr2	2007	S-facing outer face of wall	S
50	Tr2	2007	NE facing section of 2007 and 2008	SW
51	Tr2	2007	SE facing section, SW-NE	SE
52	Tr2	2007	SE facing section, SW-NE	SE
53	Tr2	?	SE facing section, SW-NE	SE
54	Tr2	?	SW facing section NW-SE	SW
55	Tr2	?	SW facing section NW-SE	SW
56	Tr2	?	SW facing section NW-SE	SW
57	Tr2	?	SW facing section NW-SE	SW
58	Tr1		Post ex of Tr1	NW
59	Tr1		Post ex of Tr1	NW
60	Tr1		Post ex of Tr1	N
61	Tr1		Post ex of Tr1	SE
62	Tr1	1005	NE section	NE
63	Tr1	1005	NE section	N
64	Tr1	1003	Slot through wall	NW
65	Tr1	1003	Slot through wall	NW
66	Tr1	1003	Slot through wall	NW
67	Tr1	1003	SW facing section through wall	SW
68	Tr1	1003	SW facing section through wall	SW
69	Tr1	1003	Plan shot of wall	SE
70	Tr1	1003	Plan shot of wall	NE
71	Tr1	1003	NE facing section of wall	NE
72	Tr1	1003	NE facing section of wall	NE
73	Tr1	1003	Wall	N
74	Tr1	1003	Wall	NW
75	Tr1		SW facing section	SW
76	Tr1		SW facing section	SW
77	Tr1		SW facing section	SW
78	Tr1		SE facing section	SE
79	Tr1		Removed stones of surface 1008	S
Film No. 6				GA56
1			ID Shot	
2	Tr3		Post-ex overview plan of Tr3	E
3	Tr3		Post-ex overview plan of Tr3	E
4	Tr3		Post-ex overview plan of Tr3	E
5	Tr3		Post-ex overview plan of Tr3	E
6	Tr3		Post-ex overview plan of Tr3	E
7	Tr3		Post-ex overview plan of Tr3 oblique	SW
8	Tr3	3002	Close-up of wall	E
9	Tr3	3002	Close-up of wall	E
10	Tr3	3002	Close-up of wall	E
11	Tr3	3002	Close-up of wall	E
12	Tr3		Plan overview of Tr3 post-ex	W
13	Tr3	3002	Close-up top of wall	N

Frame	Area	Context	Subject	Taken from
14	Tr3	3002	Close-up top of wall	N
15	Tr3		Series x3 of S-facing section	S
16	Tr3		Series x3 of S-facing section	S
17	Tr3		Series x3 of S-facing section	S
18	Tr3		S-facing section	S
19	Tr3		S-facing section	S
20	Tr3		Oblique shot of S-facing section	SW
21	Tr3		Oblique shot of N-facing section	NE
22	Tr3		Plan overview of Tr3 post-ex	E
23	Tr3		Plan overview of Tr3 post-ex	E
24	Tr3		Plan overview of Tr3 post-ex oblique	NE
25	Tr3		Plan overview of Tr3 post-ex oblique	NE
26	Tr3	3002	Close-up of wall	E
27	Tr3	3002	Close-up of wall	E
28	Tr3	3002	Close-up of wall	E
29	Tr3	3002	Close-up of wall	E
30	Tr3	3002	Close-up of wall	E
31	Tr3	3002	Close-up of wall from above	S
32	Tr3	3002	Close-up of wall from above	S
33	Tr3		Post-ex with turf	E
34	Tr3		Post-ex with turf	SW
35	Tr1		Post-ex with turf	W
36	Tr1		Post-ex with turf	SE
37	Tr2		Post-ex with turf	NE
38	Tr2		Post-ex with turf	N
Film No. 7				iphone
1			ID Shot	
2	Tr1		Post-ex, 1 month later	W
3	Tr1		Post-ex, 1 month later	SW
4	Tr2		Post-ex, 1 month later	NE
5	Tr2		Post-ex, 1 month later	N
6	Tr3		Post-ex, 1 month later	E
7	Tr3		Post-ex, 1 month later	N
Film No. 8				GA23
1			I.D. Shot	
2	Tr4		Working shot overview of topsoil strip	W
3	Tr4		Working shot	W
4	Tr4		Working shot under topsoil showing start of square barrow	SE
5	Tr4		Working shot under topsoil showing start of square barrow	SE
6	Tr4	4004	Pre-ex showing square barrow	N
7	Tr4	4004	Pre-ex showing square barrow	N
8	Tr4	4004	Pre-ex showing square barrow	N
9	Tr4	4004	Pre-ex showing square barrow	NE
10	Tr4	4004	Pre-ex showing square barrow	N
11	Tr4	4004	Close-up pre ex of square barrow	N
12	Tr4	4004	Close-up pre ex of square barrow	N
13	Tr4	4004	Close-up section showing topsoil and square barrow ditch edge	E
14	Tr4	4004	Close-up section showing topsoil and square barrow ditch edge	E
15	Tr4		Close up of possible feature, silty pit	S
16	Tr4	4010, 4012	Close up of possible oblong shaped features	S
17	Tr4		Working shot	SE
18	Tr4		Working shot	SW
19	Tr4	4004	East-facing section of ditch and L.O.E	E

Frame	Area	Context	Subject	Taken from
20	Tr4	4004	Plan view of ditch	W
21	Tr4	4004	West-facing section of ditch	W
22	Tr4	4002	Plan view of tree bowl with barrow ditch to West	E
23	Tr4	4002	Working shot	E
24	Tr4	4002	Plan view of tree bowl with barrow ditch to West	S
25	Tr4	4002	Plan view of tree bowl with barrow ditch to West	S
26	Tr4	4002	Plan view of tree bowl with barrow ditch to West	W
27	Tr4	4002	Plan view of tree bowl with barrow ditch to West	W
28	Tr4	4002	West facing section of tree bowl and LOE	E
29	Tr4	4002	West facing section of tree bowl and LOE	E
30	Tr4		Video/ working shot	
31	Tr4	4010	Working shot of possible burial	E
32	Tr4	4007	NE facing view of ditch slot 4007- corner slot	SE
33	Tr4	4007	NE facing view of ditch slot 4007- corner slot	SW
34	Tr4	4007	NW facing view of ditch slot 4007- corner slot	SE
35	Tr4	4007	NE facing view of ditch slot 4007- corner slot	SW
36	Tr4	4007	NW facing view of ditch slot 4007- corner slot	SE
37	Tr4	4007	SW facing section of ditch slot 4007-corner slot	SW
38	Tr4	4007	SE facing section of ditch slot 4007-corner slot	SE
39	Tr4	4007	NW facing section of ditch slot 4007-corner slot	NW
40	Tr4	4007	NE facing section of ditch slot 4007-corner slot	NE
41	Tr4	4007	NE facing section of ditch slot 4007-corner slot	NE
42	Tr4	4007	Wide angle of ditch	NE
43	Tr4	4010, 4012	Working shot of graves	SW
44	Tr4	4010, 4012	Working shot of graves	SE
45	Tr4	4002	Working shot of drawing	N
46	Tr4	4002	Working shot of drawing	SE
47	Tr4	4012	Mid-ex of graves	W
48	Tr4	4010, 4012	Post-ex of graves	W
49	Tr4	4010, 4012	Post-ex of graves	N
50	Tr4	4010, 4012	Post-ex of graves	S
51	Tr4	4010, 4012	Post-ex of graves	E
52	Tr4	4010	Post-ex of graves	S
53	Tr4	4012	Post-ex of graves	N
54	Tr4		Post-ex overview of Tr4	N
55	Tr4		Post-ex overview of Tr4	N
56	Tr4		Working shot of excavation and planning	NW
57	Tr4		Working shot of excavation and planning	NW
58	Tr4		Working shot of excavation and planning	N
59	Tr4		Working shot of sieving	NW
60	Tr4		Working shot of sieving video	NW
61	Tr4		Working shot of sieving video	NW
62	Tr4	4007	View of barrow corner slot	N
63	Tr4	4007	View of barrow corner slot	N
64	Tr4	4007	East-facing section of barrow corner slot	E
65	Tr4	4007	North-facing section of barrow corner slot	N
66	Tr5		Working shot of hoeing	S
67	Tr5		Working shot of hoeing	SW
68	Tr5		Working shot of troweling	SW
69	Tr5		Working shot of troweling	SW
70	Tr5	5005	NW facing section of small pit (sml scale)	NW
71	Tr5	5005	NW facing section of small pit (large scale)	NW
72	Tr5	5005	Plan view of small pit [5005]	NE
73	Tr5	5005	Plan view of small pit [5005]	NE
74	Tr5		SW facing view of Tr5 working shot	NE

Frame	Area	Context	Subject	Taken from
75	Tr5	5011	Working shot [5011] excavation	SE
76	Tr5	5011	Working shot [5011] excavation	SSW
77	Tr5	5003, 5004	Mid-excavation burial 'cut' with pot Δ211	SW
78	Tr5	5003, 5004	Mid-excavation burial 'cut' with pot Δ211	S
79	Tr5	5004	Pot Δ211 in situ	SW
80	Tr5	5004	Pot Δ211 in situ	S
81	Tr5	5004	Pot Δ211 in situ with board	S
82	Tr5	5007	South facing section of Plough Furrow	S
83	Tr5	5007	South facing section of Plough Furrow	S
84	Tr4	4007	Working shot of column sample extraction	SW
85	Tr5		North facing mid-excavation view of Tr5	S
86	Tr5		South facing mid-excavation view of Tr5 N facing	N
87	Tr5		South facing mid-excavation view of Tr5 and team, working shot	N
88	Tr5		South facing mid-excavation view of Tr5	N
89	Tr5		South facing mid-excavation view of Tr5	N
90	Tr5	5003, 5013, 5015	West facing view of 100% exc [5003] and pre ex [5013, 5015]	E
91	Tr5	5003, 5013, 5015	NNW facing view post ex [5003] and pre ex [5013, 5015]	SSE
92	Tr5	5015	Plan view of [5015] pre ex photo of capstone	NE
93	Tr5	5009, 5013, 5025	NNW facing view of unexcavated barrow [5025] post ex [5009] and pre ex [5013]	SSE
94	Tr5	5009, 5013, 5025	NNW facing view of unexcavated barrow [5025] post ex [5009] and pre ex [5013]	SSE
95	Tr5	5013	East facing view of [5013] partially excavated - part capstone lift	W
96	Tr5	5009	NNE facing section of [5009]	NNE
97	Tr5	5009	NNE facing section of [5009], view of slot	NNE
98	Tr5	5009	NNE facing section of [5009], view of slot	NNE
99	Tr5	5009	SSW facing section of [5009]	NNE
100	Tr5	5011	Mid-excavation view of [5011], NNE facing section and stone (5012)	NNE
101	Tr5	5011	SSW facing section of [5011]	SSW
102	Tr5	5005	Plan view of 100% excavated pit	N
103	Tr5	5005	SW facing view of 100% excavated pit	NE
104	Tr5	5016	Detail shot of cremain deposit beneath capstone	S
105	Tr5	5016	Detail shot of cremain deposit beneath capstone	W
106	Tr5	5016	Working shot with [5003] visible to the North	S
107	Tr5	5016	Oblique working shot	SW
108	Tr5	5016	Detail shot of cremains	W
109	Tr5	5013, 5014	Working shot excavating around burial and Δ221	SE
110	Tr5	5013, 5014	Working shot excavating around burial and Δ221	SW
111	Tr5	5016	Detail shot of cremain deposit	E
112	Tr5	5016	Working shot with [5013] (5014) to NW	E
113	Tr5	5016	Detail shot cremains	E
114	Tr5	5016	Detail shot cremains, close up	E
115	Tr5	5013, 5014	Detail shot of inhumation with capstone Δ222 and pot frags Δ221 frags 1-25 in situ	E
116	Tr5	5013, 5014	Detail shot of inhumation with capstone Δ222 and pot frags Δ221 frags 1-25 in situ	E
117	Tr5	5013, 5014	Detail shot of inhumation with capstone Δ222 and pot frags Δ221 frags 1-25 in situ	E
118	Tr5	5013, 5014	Detail shot of inhumation with capstone Δ222 and pot frags Δ221 frags 1-25 in situ, from section	E
119	Tr5	5013, 5014	Detail shot of inhumation with capstone Δ222 and pot frags Δ221 frags 1-25 in situ, from section	E

Frame	Area	Context	Subject	Taken from
120	Tr5	5013, 5014	Detail shot of inhumation with capstone Δ222 and pot frags Δ221 frags 1-25 in situ, from section	E
121	Tr4		Trench 4 Re-turfed	NW
122	Tr4		Trench 4 Re-turfed	SW
123	Tr5		Trench 5 backfill working shot	SSW
124	Tr5		Trench 5 backfill working shot	SSW
125	Tr5		Trench 5 backfill working shot	SSW
126	Tr5		Trench 5 Re-turfed	S
Film No. 9				GA23
1	Tr5	5004	Urn SF 211 as retrieved from the excavation	DSC_0027
2	Tr5	5004	Urn SF 211 as retrieved from the excavation	DSC_0028
3	Tr5	5004	Urn SF 211 as retrieved from the excavation	DSC_0029
4	Tr5	5004	Condition of urn and contents after partial unwrapping and removal of 15 mm of layer 1	DSC_0030
5	Tr5	5004	Condition of urn and contents after partial unwrapping and removal of 15 mm of layer 1	DSC_0031
6	Tr5	5004	Condition of urn and contents after partial unwrapping and removal of 15 mm of layer 1 showing damaged rim	DSC_0032
7	Tr5	5004	The whole top of the urn revealed as it survived	DSC_0033
8	Tr5	5004	After removal of the rest of layer 1 and the removal of layer 2 from across the urn. Rim and wall fragments revealed	DSC_0034
9	Tr5	5004	After removal of the rest of layer 1 and the removal of layer 2 from across the urn. Rim and wall fragments revealed	DSC_0035
10	Tr5	5004	After removal of the rest of layer 1 and the removal of layer 2 from across the urn. Rim and wall fragments revealed	DSC_0036
11	Tr5	5004	Establishment of quadrants for further excavation once human remains were revealed, layer 3	DSC_0037
12	Tr5	5004	Establishment of quadrants for further excavation once human remains were revealed, layer 3	DSC_0038
13	Tr5	5004	Excavation of layer 4 with human remains visible	DSC_0039
14	Tr5	5004	Excavation of layer 4 with human remains visible and fracturing of the pottery	DSC_0040
15	Tr5	5004	Excavation of layer 4 with human remains visible and fracturing of the pottery	DSC_0041
16	Tr5	5004	Excavation of layer 4 with human remains visible and fracturing of the pottery	DSC_0042
17	Tr5	5004	Exposure of the remaining walls of the urn after removal of supporting bandages and soil	DSC_0043
18	Tr5	5004	Exposure of the remaining walls of the urn after removal of supporting bandages and soil	DSC_0044
19	Tr5	5004	Exposure of the remaining walls of the urn after removal of supporting bandages and soil	DSC_0045
20	Tr5	5004	Exposure of the human remains	DSC_0046
21	Tr5	5004	Exposure of the human remains	DSC_0047
22	Tr5	5004	Removed rim and walls of the pottery for drying	DSC_0048
23	Tr5	5004	Removed sherds for drying	DSC_0049

Appendix F: Thirlestane Barrows Geophysics Report



Geophysical Survey Report Thirlestane Barrows, Scottish Borders

For
Guard Archaeology

Magnitude Surveys Ref: MSNT1290A

OASIS Number: magnitud1-512878

February 2023

Thirlestane Barrows, Scottish Borders
MSNT1290A - Geophysical Survey Report



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03 February 2023

Abstract

Magnitude Surveys was commissioned to access the subsurface potential of a c. 1.1ha area of land at Thirlestane Barrows, Scottish Borders. A fluxgate gradiometer survey was successfully completed across the survey area and detected anomalies of archaeological, agricultural, and natural origin. Archaeological activity has been identified in the form of probable barrows and associated internal and external features, and additional linear cut features that correspond to cropmarks in satellite images. These linear features may represent periglacial activity in the area, however, have been classified as possible archaeology due to rich archaeological surroundings. Natural variation because of geological and superficial deposit changes has also been identified, and linear trends representing modern ploughing regimes have been detected and digitised. An anomaly of undetermined origin has been identified, and whilst this is likely of agricultural or natural origin, an archaeological origin cannot be ruled out on the basis of the geophysical data alone.

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1. Introduction

- 1.1. Magnitude Surveys Ltd (MS) was commissioned by Guard Archaeology to undertake a geophysical survey over a c. 1.1ha area of land near the village of Broughton, Tweeddale, Scottish Borders (NT 11656 35258).
- 1.2. The geophysical survey comprised cart-mounted GNSS-positioned fluxgate gradiometer survey. Magnetic survey is the standard primary geophysical method for archaeological applications in the UK due to its ability to detect a range of different features. The technique is particularly suited for detecting fired or magnetically enhanced features, such as ditches, pits, kilns, sunken featured buildings (SFBs) and industrial activity (David *et al.*, 2008).
- 1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David *et al.*, 2008), the Chartered Institute for Archaeologists (CIfA, 2020) and the European Archaeological Council (Schmidt *et al.*, 2015).
- 1.4. It was conducted in line with a WSI produced by MS (Dolan, 2022)
- 1.5. The survey commenced on 17/10/2022 and took 1 day to complete.

2. Quality Assurance

- 2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society for Archaeological Prospection).
- 2.2. The directors of MS are involved in cutting edge research and the development of guidance/policy. Specifically, Dr Chrys Harris has a PhD in archaeological geophysics from the University of Bradford, is a Member of CIfA and has served as the Vice-Chair of the International Society for Archaeological Prospection (ISAP); Finnegan Pope-Carter has an MSc in archaeological geophysics and is a Fellow of the London Geological Society, as well as a member of GeoSIG (CIfA Geophysics Special Interest Group); Dr Paul Johnson has a PhD in archaeology from the University of Southampton, is a Fellow of the Society of Antiquaries of London and a Member of CIfA, has been a member of the ISAP Management Committee since 2015, and is currently the Chair of the Archaeological Prospection Community of the European Archaeological Association.
- 2.3. All MS managers, field and office staff have degree qualifications relevant to archaeology or geophysics and/or field experience.

3. Objectives

- 3.1. The objective of this geophysical survey was to assess the subsurface archaeological potential of the survey area.
- 3.2. A further objective was to identify the precise location of any archaeological features using geophysical magnetometer survey.

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4. Geographic Background

4.1. The survey area was located c. 945m south-south-east of Broughton, Scottish Borders (Figure 1). Gradiometer survey was undertaken across two fields under pasture. The survey area has open boundaries and was located east of the A107 (Figure 2).

4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	The area consisted of a flat pasture field.	The survey area was located within a larger pasture field. The larger field was bordered by metal fencing with wooden posts.
2	The area consisted of a flat pasture field.	The survey area was located within a larger pasture field. The larger field was bordered by metal fencing with wooden posts. Metal sheep-pens were located just southwest of the southern border of the survey area.

4.3. The underlying geology comprises of Ordovician wackestone of the Kirkcolm Formation. Superficial deposits consist of alluvium – silt, sand, and gravel (British Geological Survey, 2023).

4.4. The soils consist of slightly acid loamy and clayey soils with impeded drainage (Soilscapes, 2023).

5. Archaeological Background

5.1. The following is a summary of the archaeological background within the method statement produced and provided by Guard Archaeology (Kilpatrick, 2022).

5.2. During the dry ground conditions of summer 2018, cropmarks were spotted from a nearby hillside by a local resident. These cropmarks were apparent across two fields south of Broughton. An aerial photographic survey in July 2018 further revealed that these cropmarks included at least four potential barrow graves (Canmore ID 361432). Three of these barrow cropmarks comprise circular ditches enclosing a small area with a central feature. The fourth barrow cropmark comprises a square shaped ditch enclosing a small area containing a central feature. Where sites such as this have been excavated, the central feature is a grave, which was originally buried beneath a small mound of earth cast from the enclosing ditch. However, ploughing over the subsequent centuries has usually removed the mound, leaving only the buried archaeological remains, which are often only visible from the air. Such barrow graves can be Iron Age or early-medieval in date. It is possible that these barrows represent the graves of some of the inhabitants of the numerous hillforts that are distributed around this location.

5.3. Within the wider landscape surrounding the Barrow Cemetery is an area rich in archaeological sites including the scheduled monuments of Holm End Fort and Settlement (SM 2945) located to the west, while to the east is Dreva Craig Fort and field systems (SM 28950). Further to the east are the scheduled monuments of Henry's Brae Fort (SM 2985) and Tinnis Castle and Fort (SM 2984), the latter also investigated as part of the Drumelzier's Hidden Heritage / Hidden History of Dark Age Tweeddale project. Approximately 500m to the north is the Bronze Age Ratchill Platform Settlement and Ring Enclosure (SM 2828). Other sites within the locale include Gallow Knowe (Canmore ID 49859) where in the nineteenth century a stone cist grave with a skeleton is

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recorded to have been found, while at Broughton a late Bronze Age socketed spearhead was discovered (Canmore ID 49862). Approximately 500m to the south is Whitslade Thirlestane Barrows, Scottish Borders roundhouse and souterrain (Canmore ID 288113), while further to the south is Rachan Mill (Canmore ID 361300) prehistoric barrow, possible souterrain and medieval rig and furrow cultivation. To the immediate west of the present site is Rachanside comprising a plantation bank, medieval rig and furrow cultivation and an undated settlement (Canmore ID 271871).

6. Methodology

6.1. Data Collection

6.1.1. Magnetometer surveys are generally the most cost effective and suitable geophysical technique for the detection of archaeology in England. Therefore, a magnetometer survey should be the preferred geophysical technique unless its use is precluded by any specific survey objectives or the site environment. For this site, no factors precluded the recommendation of a standard magnetometer survey. Geophysical survey therefore comprised the magnetic method as described in the following section.

6.1.2. Geophysical prospection comprised the magnetic method as described in the following table.

6.1.3. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval
Magnetic	Bartington Instruments Grad-13 Digital Three-Axis Gradiometer	0.5m	200Hz reprojected to 0.125m

6.1.4. The magnetic data were collected using MS' bespoke hand-pulled cart GNSS-positioned system.

6.1.4.1. MS' cart system was comprised of Bartington Instruments Grad 13 Digital Three-Axis Gradiometers. Positional referencing was through a multi-channel, multi-constellation GNSS Smart Antenna RTK GPS outputting in NMEA mode to ensure high positional accuracy of collected measurements. The RTK GPS is accurate to 0.008m + 1ppm in the horizontal and 0.015m + 1ppm in the vertical.

6.1.4.2. Magnetic and GPS data were stored on an SD card within MS' bespoke datalogger. The datalogger was continuously synced, via an in-field Wi-Fi unit, to servers within MS' offices. This allowed for data collection, processing and visualisation to be monitored in real-time as fieldwork was ongoing.

6.1.4.3. A navigation system was integrated with the RTK GPS, which was used to guide the surveyor. Data were collected by traversing the survey area along the longest possible lines, ensuring efficient collection and processing.

6.2. Data Processing

6.2.1. Magnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to the EAC and Historic England guidelines for 'minimally

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enhanced data' (see Section 3.8 in Schmidt *et al.*, 2015: 33 and Section IV.2 in David *et al.*, 2008: 11).

Sensor Calibration – The sensors were calibrated using a bespoke in-house algorithm, which conforms to Olsen *et al.* (2003).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

6.3.Data Visualisation and Interpretation

- 6.3.1. This report presents the gradient of the sensors' total field data as greyscale images, as well as the total field data from the lower sensors. The gradient of the sensors minimises external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images of the gradient and total field at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plot (Figure 6). XY trace plots visualise the magnitude and form of the geophysical response, aiding anomaly interpretation.
- 6.3.2. Geophysical results have been interpreted using greyscale images and XY traces in a layered environment, overlaid against open street maps, satellite imagery, historical maps, LiDAR data, and soil and geology maps. Google Earth (2023) was also consulted, to compare the results with recent land use.
- 6.3.3. Geodetic position of results – All vector and raster data have been projected into OSGB36 (ESPG27700) and can be provided upon request in ESRI Shapefile (.SHP) and Geotiff (.TIF) respectively. Figures are provided with raster and vector data projected against OS Open Data.

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7. Results

7.1. Qualification

7.1.1. Geophysical results are not a map of the ground and are instead a direct measurement of subsurface properties. Detecting and mapping features requires that said features have properties that can be measured by the chosen technique(s) and that these properties have sufficient contrast with the background to be identifiable. The interpretation of any identified anomalies is inherently subjective. While the scrutiny of the results is undertaken by qualified, experienced individuals and rigorously checked for quality and consistency, it is often not possible to classify all anomaly sources. Where possible, an anomaly source will be identified along with the certainty of the interpretation. The only way to improve the interpretation of results is through a process of comparing excavated results with the geophysical reports. MS actively seek feedback on their reports, as well as reports from further work, in order to constantly improve our knowledge and service.

7.2. Discussion

- 7.2.1. A fluxgate gradiometer survey was successfully completed across all the survey areas. The geophysical results are presented in combination with historical maps (Figure 7).
- 7.2.2. The fluxgate gradiometer survey has responded well to the environment of the survey area and identified anomalies of an archaeological, agricultural, natural and undetermined origin.
- 7.2.3. Archaeological activity has been identified in the form of probable barrows and their associated pit like features. These correspond to cropmarks visible in the survey area and fit within a rich archaeological surrounding (see Section 5). Further rectilinear anomalies have been identified and classified as possible archaeology. These anomalies have a morphology indicative of periglacial formations, however due to the detection of probable archaeology in the survey area, these have been classified as possible archaeology and may represent ditch like features.
- 7.2.4. Broad sinuous, linear anomalies across survey areas, predominantly the west, have been interpreted as natural variations (Figure 5 & 7), which are most visible in the Total Field data (Figure 3).
- 7.2.5. One anomaly that has been classified as 'undetermined' was detected (Figure 5 & 7). This anomaly has limited context and lacks any clear pattern or morphology to enable a confident interpretation. Nevertheless, an archaeological origin cannot be excluded.

7.3. Interpretation

7.3.1. General Statements

- 7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

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- 7.3.1.2. **Ferrous (Spike)** – Discrete dipolar anomalies are likely to be the result of isolated pieces of modern ferrous debris on or near the ground surface.
- 7.3.1.3. **Magnetic Disturbance** – The strong anomalies produced by extant metallic structures, typically including fencing, pylons, vehicles and service pipes, have been classified as 'Magnetic Disturbance'. These magnetic 'haloes' will obscure weaker anomalies relating to nearby features, should they be present, often over a greater footprint than the structure causing them.
- 7.3.1.4. **Undetermined** – Anomalies are classified as Undetermined when the origin of the geophysical anomaly is ambiguous and there is no supporting contextual evidence to justify a more certain classification. These anomalies are likely to be the result of geological, pedological or agricultural processes, although an archaeological origin cannot be entirely ruled out. Undetermined anomalies are generally distinct from those caused by ferrous sources.

7.3.2. Magnetic Results - Specific Anomalies

- 7.3.2.1. **Probably Archaeology (Strong)** – Within Area 1, two strong, annular anomalies have been identified (Figure 5). These measure c. 5m in diameter and exhibit internal positive features. These correspond to cropmarks visible in satellite images of the survey area and represent ring ditches. Due to the presence of four potential barrows and a settlement in close proximity to the site (see section 5), it is likely that these are barrows, possibly displaying evidence of burial within.
- 7.3.2.2. **Possible Archaeology (Strong/Weak)** – Across the survey area, multiple linear anomalies have been identified (Figure 5). These exhibit regular morphology, in a rectilinear shape and positive signal. The morphology of the features within Area 2 and typically indicative of periglacial formations within the landscape, and so these linear anomalies may represent remnants of geological processes in the environment. However, areas of archaeological interest have been recorded within the wider landscape, and so these have been classified as possible archaeology, as their morphology is also suggestive of a system of enclosures.
- 7.3.2.3. **Agricultural (Trend)** - Weak linear anomalies have been identified across the survey area (Figures 4, 5 & 7). These anomalies are in the same orientation as modern ploughing visible on satellite imagery.
- 7.3.2.4. **Natural (Weak)** – Within Area 1 and 2, bands of natural variation have been identified (Figure 5). These are most prominent in the Total Field data and are weak positive amorphous anomalies (Figure 3). The anomalies represent variations in geological processes such as deposition.
- 7.3.2.5. **Undetermined (Weak)** – In the south of Area 2, a small rectilinear anomaly has been identified (Figure 5). This measures c. 10m wide and may extend out of the survey area due to its presence on the southern border. It exhibits a weaker

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signal than that of identified probable and possible archaeology, and does not correspond any features visible in historical maps or cropmarks.

8. Conclusions

- 8.1. A fluxgate gradiometer survey was successfully completed across the c. 1.1ha survey area and identified anomalies of an archaeological, agricultural, natural and undetermined origin.
- 8.2. Evidence of archaeological activity has been identified in the form of probable barrows with associated internal and external features, and rectilinear ditch like anomalies. These latter anomalies may represent periglacial formations; however, they have been classified as possible archaeology.
- 8.3. Agricultural anomalies have been identified in the form of linear trends representing the orientation of modern ploughing regimes. Natural variation as a result of bedrock geological processes or superficial deposit deviation has been identified also.
- 8.4. An anomaly of undetermined origin has been identified and does not correspond to any features visible on historical maps or satellite images. Whilst this most likely has natural or agricultural origins, due to the presence of archaeological within and surrounding the survey area, an archaeological origin cannot be excluded for this anomaly.

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9. Archiving

- 9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.
- 9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to any dictated time embargoes.

10. Copyright

- 10.1. Copyright and intellectual property pertaining to all reports, figures and datasets produced by Magnitude Services Ltd is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

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12. Project Metadata

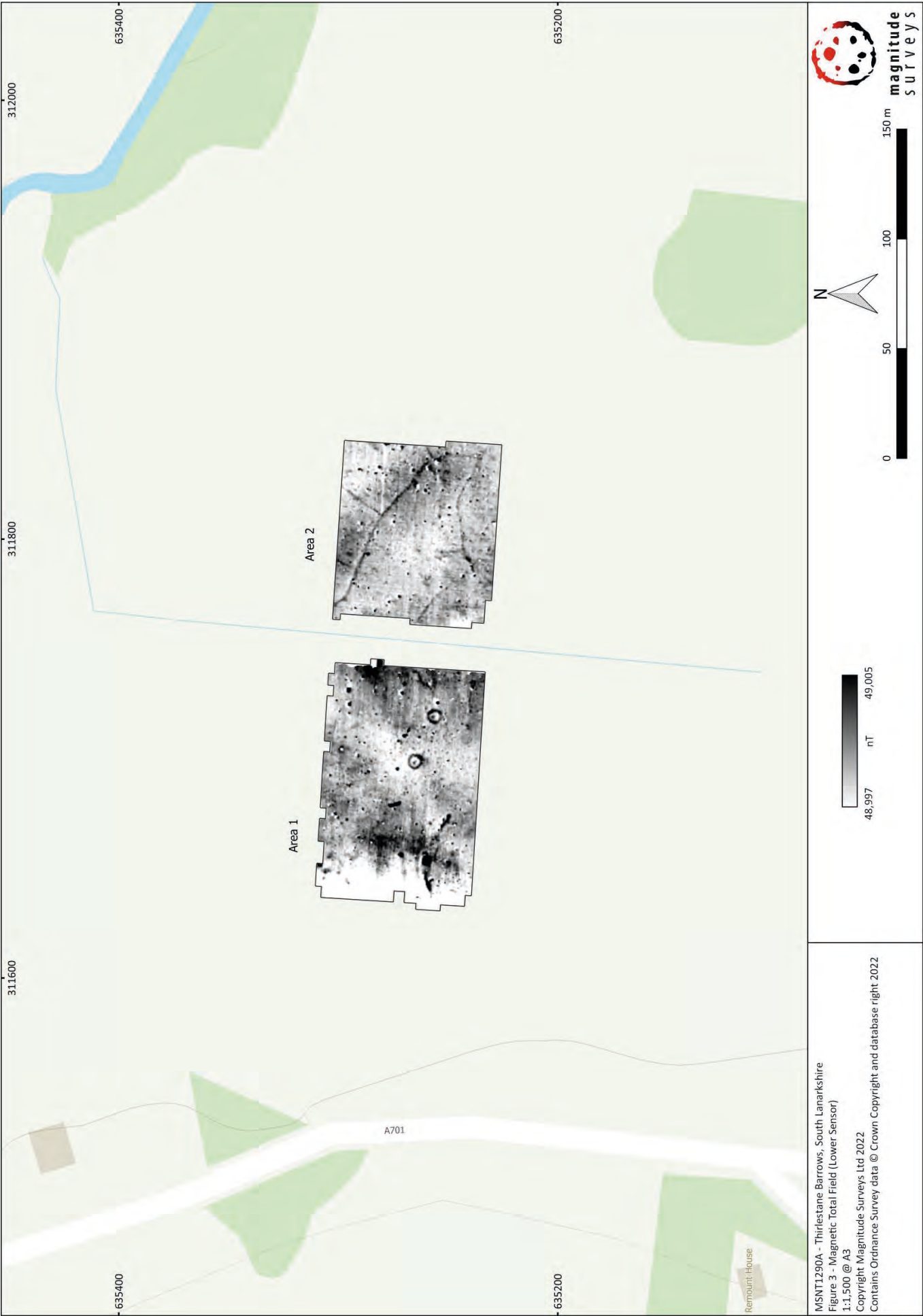
MS Job Code	MSNT1290
Project Name	Thirlestane Barrows, Scottish Borders
Client	Guard Archaeology
Grid Reference	NT 11656 35258
Survey Techniques	Magnetometry
Survey Size (ha)	1.1ha (Magnetometry)
Survey Dates	2022-10-17
Project Lead	Jake Dolan BSc FGS
Project Officer	Jake Dolan BSc FGS
HER Event No	N/A
OASIS No	N/A
S42 Licence No	N/A
Report Version	0.3

13. Document History

Version	Comments	Author	Checked By	Date
0.1	Initial draft for Project Lead to Review	JA	JD	11 November 2022
0.2	Comments following Project Lead review	ED	JD	09 December 2022
0.3	Addition of OASIS information	JD	-	03 February 2023















Appendix G: Merlin's Grave Geophysics Report



Geophysical Survey Report Merlin's Grave, Drumelzier, Scottish Borders, Scotland

**For
Guard Archaeology**

Magnitude Surveys Ref: MSNT1278

OASIS Number: magnitud1-512876

February 2023

Merlin's Grave
MSNT1278 - Geophysical Survey Report



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Issue Date:

03 February 2023

Abstract

Magnitude Surveys was commissioned to access the subsurface potential of a c. 2.13ha area of land at Drumelzier, Scottish Borders, Scotland. A fluxgate gradiometer survey was successfully completed across the survey area. One discrete anomaly has been identified as the most likely candidate for the possible cist grave. Agricultural activity has been identified in the form of ridge and furrow ploughing. Natural variations in the subsurface geology have been identified. Some anomalies have been classified as undetermined because it has not been possible to definitively establish whether these anomalies are archaeological, agricultural, or natural in origin. Modern interference is limited to field boundaries. A few traverses were negatively affected by periodic noise, likely from magnetically enhanced material being picked up from the surface of the field by the surveying team.

Merlin's Grave
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1. Introduction

- 1.1. Magnitude Surveys Ltd (MS) was commissioned by Guard Archaeology to undertake a geophysical survey over a c. 2.13ha area of land at Merlin's Grave in Drumelzier, Scottish Borders (NT 13433 34534).
- 1.2. The geophysical survey comprised hand-pulled, cart-mounted, and hand-carried GNSS-positioned fluxgate gradiometer survey. Magnetic survey is the standard primary geophysical method for archaeological applications in the UK due to its ability to detect a range of different features. The technique is particularly suited for detecting fired or magnetically enhanced features, such as ditches, pits, kilns, sunken featured buildings (SFBs) and industrial activity (David *et al.*, 2008).
- 1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David *et al.*, 2008), the Chartered Institute for Archaeologists (CIfA, 2020) and the European Archaeological Council (Schmidt *et al.*, 2015).
- 1.4. It was conducted in line with a WSI produced by MS (Dolan J., 2022).
- 1.5. The survey commenced on 07/11/22 and took one day to complete.

2. Quality Assurance

- 2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society for Archaeological Prospection).
- 2.2. The directors of MS are involved in cutting edge research and the development of guidance/policy. Specifically, Dr Chrys Harris has a PhD in archaeological geophysics from the University of Bradford, is a Member of CIfA and has served as the Vice-Chair of the International Society for Archaeological Prospection (ISAP); Finnegan Pope-Carter has an MSc in archaeological geophysics and is a Fellow of the London Geological Society, as well as a member of GeoSIG (CIfA Geophysics Special Interest Group); Dr Paul Johnson has a PhD in archaeology from the University of Southampton, is a Fellow of the Society of Antiquaries of London and a Member of CIfA, has been a member of the ISAP Management Committee since 2015, and is currently the Chair of the Archaeological Prospection Community of the European Archaeological Association.
- 2.3. All MS managers, field and office staff have degree qualifications relevant to archaeology or geophysics and/or field experience.

3. Objectives

- 3.1. The objective of this geophysical survey was to assess the subsurface archaeological potential of the survey area.
- 3.2. A further objective is to identify the precise location of any archaeological features associated with the possible location of Merlin's Grave using geophysical magnetometer survey.

4. Geographic Background

4.1. The survey area was located c. 402m north of Drumelzier (Figure 1). Gradiometer survey was undertaken across one field under pasture. (Figure 2). The area is located in the Tweed Valley, surrounded by fields on most sides with the B712 running to the southeast and river Tweed to west/northwest. The Drumelzier Kirk church lies at the southern corner of the field. A tributary stream from the river Tweed flows along the eastern side of the church.

4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	The area is consisted of a flat and pasture.	The area is bordered to the northeast by a treeline, by a hedgerow to the northwest and southeast and a footpath and barbed wire fence to the southwest.

4.3. The underlying geology comprises of a Kirkolm Bedrock Formation. The superficial deposits are alluvium, comprising of silt, sand, and gravel (British Geological Survey, 2023).

4.4. The soils consist of slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils (Soilscapes, 2023).

5. Archaeological Background

5.1. According to an entry in the online Canmore national record of the Historic Environment a Bronze age cist discovered inside the survey area, approximately at its west corner, c. 200 yards north of Drumelzier Church. No physical remains of the cist are visible today, but its discovery is linked with a 15th century myth that the wizard Merlin had been buried in that location.

6. Methodology

6.1. Data Collection

6.1.1. Magnetometer surveys are generally the most cost effective and suitable geophysical technique for the detection of archaeology in England. Therefore, a magnetometer survey should be the preferred geophysical technique unless its use is precluded by any specific survey objectives or the site environment. For this site, no factors precluded the recommendation of a standard magnetometer survey. Geophysical survey therefore comprised the magnetic method as described in the following section.

6.1.2. Geophysical prospection comprised the magnetic method as described in the following table.

6.1.3. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval
Magnetic	Bartington Instruments Grad-13 Digital Three-Axis Gradiometer	0.5m	200Hz reprojected to 0.125m

Merlin's Grave
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- 6.1.4. The magnetic data were collected using MS' bespoke hand-pulled cart GNSS-positioned system.
- 6.1.4.1. MS' cart system was comprised of Bartington Instruments Grad 13 Digital Three-Axis Gradiometers. Positional referencing was through a multi-channel, multi-constellation GNSS Smart Antenna RTK GPS outputting in NMEA mode to ensure high positional accuracy of collected measurements. The RTK GPS is accurate to 0.008m + 1ppm in the horizontal and 0.015m + 1ppm in the vertical.
 - 6.1.4.2. Magnetic and GPS data were stored on an SD card within MS' bespoke datalogger. The datalogger was continuously synced, via an in-field Wi-Fi unit, to servers within MS' offices. This allowed for data collection, processing and visualisation to be monitored in real-time as fieldwork was ongoing.
 - 6.1.4.3. A navigation system was integrated with the RTK GPS, which was used to guide the surveyor. Data were collected by traversing the survey area along the longest possible lines, ensuring efficient collection and processing.

6.2. Data Processing

- 6.2.1. Magnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to the EAC and Historic England guidelines for 'minimally enhanced data' (see Section 3.8 in Schmidt *et al.*, 2015: 33 and Section IV.2 in David *et al.*, 2008: 11).

Sensor Calibration – The sensors were calibrated using a bespoke in-house algorithm, which conforms to Olsen *et al.* (2003).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

6.3. Data Visualisation and Interpretation

- 6.3.1. This report presents the gradient of the sensors' total field data as greyscale images, as well as the total field data from the lower sensors. The gradient of the sensors minimises external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images of the gradient and total field at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plot

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(Figure 6). XY trace plots visualise the magnitude and form of the geophysical response, aiding anomaly interpretation.

- 6.3.2. Geophysical results have been interpreted using greyscale images and XY traces in a layered environment, overlaid against open street maps, satellite imagery, historical maps, LiDAR data, and soil and geology maps. Google Earth (2023) was also consulted, to compare the results with recent land use.
- 6.3.3. Geodetic position of results – All vector and raster data have been projected into OSGB36 (ESPG27700) and can be provided upon request in ESRI Shapefile (.SHP) and Geotiff (.TIF) respectively. Figures are provided with raster and vector data projected against OS Open Data.

7. Results

7.1. Qualification

7.1.1. Geophysical results are not a map of the ground and are instead a direct measurement of subsurface properties. Detecting and mapping features requires that said features have properties that can be measured by the chosen technique(s) and that these properties have sufficient contrast with the background to be identifiable. The interpretation of any identified anomalies is inherently subjective. While the scrutiny of the results is undertaken by qualified, experienced individuals and rigorously checked for quality and consistency, it is often not possible to classify all anomaly sources. Where possible, an anomaly source will be identified along with the certainty of the interpretation. The only way to improve the interpretation of results is through a process of comparing excavated results with the geophysical reports. MS actively seek feedback on their reports, as well as reports from further work, in order to constantly improve our knowledge and service.

7.2. Discussion

- 7.2.1. A fluxgate gradiometer survey was successfully completed across all the survey area. The geophysical results are presented in consideration with historical maps and satellite imagery (Figure 7).
- 7.2.2. The fluxgate gradiometer survey has responded well to the environment of the survey area. A few traverses were negatively affected by periodic noise, likely from magnetically enhanced material being picked from the surface of the field up by the surveying team. The periodic noise has not hindered any interpretation of the anomalies within the survey area. The geophysical survey has primarily detected natural formations. The impact of modern activity on the results is generally limited to magnetic interference from fencing, and metal objects at the edges of the survey areas.
- 7.2.3. Possible archaeological activity has been identified within the survey area (Figures 5 & 7). While this anomaly has limited context, it has been identified as the most likely candidate for the location of the postulated cist grave (see Section 5.1).
- 7.2.4. Broad sinuous bands across are present across part of the surveyed area caused by natural variations in the subsurface geology (Figure 5 & 7), which are most visible in the Total Field data (Figure 3).
- 7.2.5. Several anomalies that have been classified as 'undetermined' were detected in the survey area (Figure 5 & 7). These anomalies have limited context or lack any clear pattern or morphology to enable a confident interpretation. Nevertheless, an archaeological origin cannot be excluded.

7.3. Interpretation

7.3.1. General Statements

- 7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

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-
- 7.3.1.2. **Data Artefact** – Data artefacts usually occur in conjunction with anomalies with strong magnetic signals due to the way in which the sensors respond to very strong point sources. They are usually visible as minor 'streaking' following the line of data collection. While these artefacts can be reduced in post-processing through data filtering, this would risk removing 'real' anomalies. These artefacts are therefore indicated as necessary in order to preserve the data as 'minimally processed'.
- 7.3.1.3. **Ferrous (Spike)** – Discrete dipolar anomalies are likely to be the result of isolated pieces of modern ferrous debris on or near the ground surface.
- 7.3.1.4. **Ferrous/Debris (Spread)** – A ferrous/debris spread refers to a concentration of multiple discrete, dipolar anomalies usually resulting from highly magnetic material such as rubble containing ceramic building materials and ferrous rubbish.
- 7.3.1.5. **Magnetic Disturbance** – The strong anomalies produced by extant metallic structures, typically including fencing, pylons, vehicles, and service pipes, have been classified as 'Magnetic Disturbance'. These magnetic 'haloes' will obscure weaker anomalies relating to nearby features, should they be present, often over a greater footprint than the structure causing them.
- 7.3.1.6. **Undetermined** – Anomalies are classified as Undetermined when the origin of the geophysical anomaly is ambiguous and there is no supporting contextual evidence to justify a more certain classification. These anomalies are likely to be the result of geological, pedological or agricultural processes, although an archaeological origin cannot be entirely ruled out. Undetermined anomalies are generally distinct from those caused by ferrous sources.

7.3.2. Magnetic Results - Specific Anomalies

- 7.3.2.1. **Possible Archaeology (Strong)** – One discrete, strong, and positive magnetic enhancement amorphous anomaly has been identified in the south-east of the survey area (Figures 4, 5 & 7). This anomaly possibly relates to the underlying geology of the survey area, however, considering the objectives of the survey and the archaeological background of the site, this anomaly is the most likely candidate to be the cist grave postulated in historical records of the area (Figures 5 & 7, section 3.2 & 5.1).
- 7.3.2.2. **Ridge and Furrow** – Numerous parallel curvilinear anomalies have been identified (Figure 5). These anomalies do not follow any current or past crop marks or agricultural trends and are thus indicative of ridge and furrow cultivation.
- 7.3.2.3. **Natural (Spread/Weak)** – There are two linear anomalies, weak and diffuse, in the north of the survey area that run side-by-side and have been determined as natural in origin. There is also an amorphous anomaly in the middle of the survey area which has also be deemed natural in origin, likely relating to fluvial processes.

- 7.3.2.4. **Undetermined (Strong & Weak)** – In the south of the survey area a large curvilinear anomaly with a negatively magnetic signal has been identified. This signal is likely caused by alluvial sediment infilling a cut feature, or depression, in the landscape. However, there is limited context and a lack of any clear morphology that would enable a confident interpretation. These anomalies are likely representative of modern, agricultural, or natural processes, but an archaeological origin cannot be excluded.

8. Conclusions

- 8.1. A fluxgate gradiometer survey was successfully completed across the c. 2.13ha survey area. Magnetic disturbance was limited to haloes caused by fencing and metal objects around the survey area perimeter. Throughout the survey a few anomalies have been identified as natural in origin.
- 8.2. The geophysical survey identified an anomaly of possible archaeological origin. This anomaly may possibly be related to the geology of the survey area, but has been identified as the most likely candidate to be the postulated cist grave in the area.
- 8.3. Agricultural activity has been identified in the form of a ridge and furrow ploughing regime across the north of the survey area.
- 8.4. A few anomalies have been classified as undetermined because it has not been possible to definitively determine whether these anomalies are the result of archaeological, agricultural, or natural processes.

9. Archiving

- 9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.
- 9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to any dictated time embargoes.

10. Copyright

- 10.1. Copyright and intellectual property pertaining to all reports, figures and datasets produced by Magnitude Services Ltd is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

11. References

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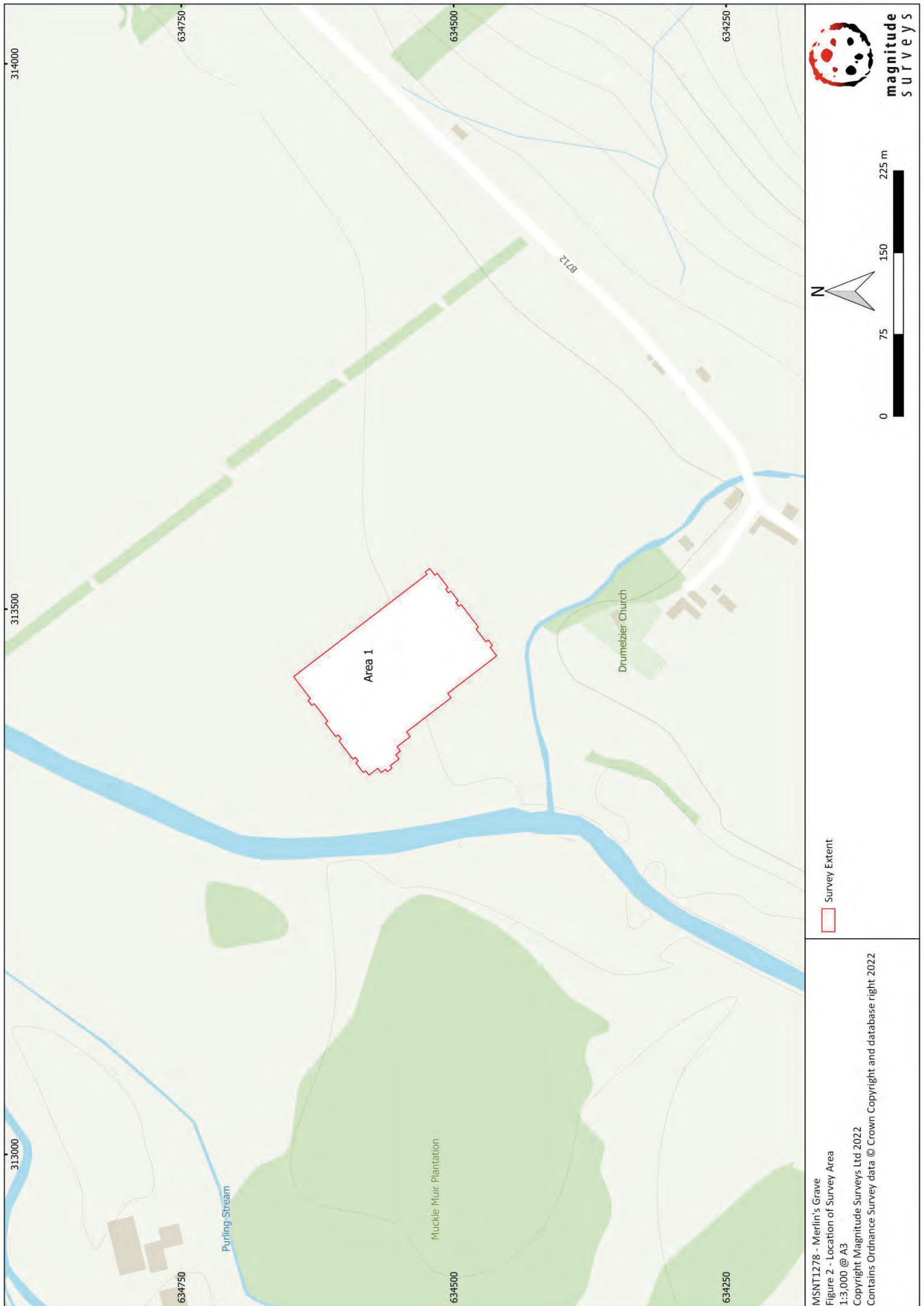
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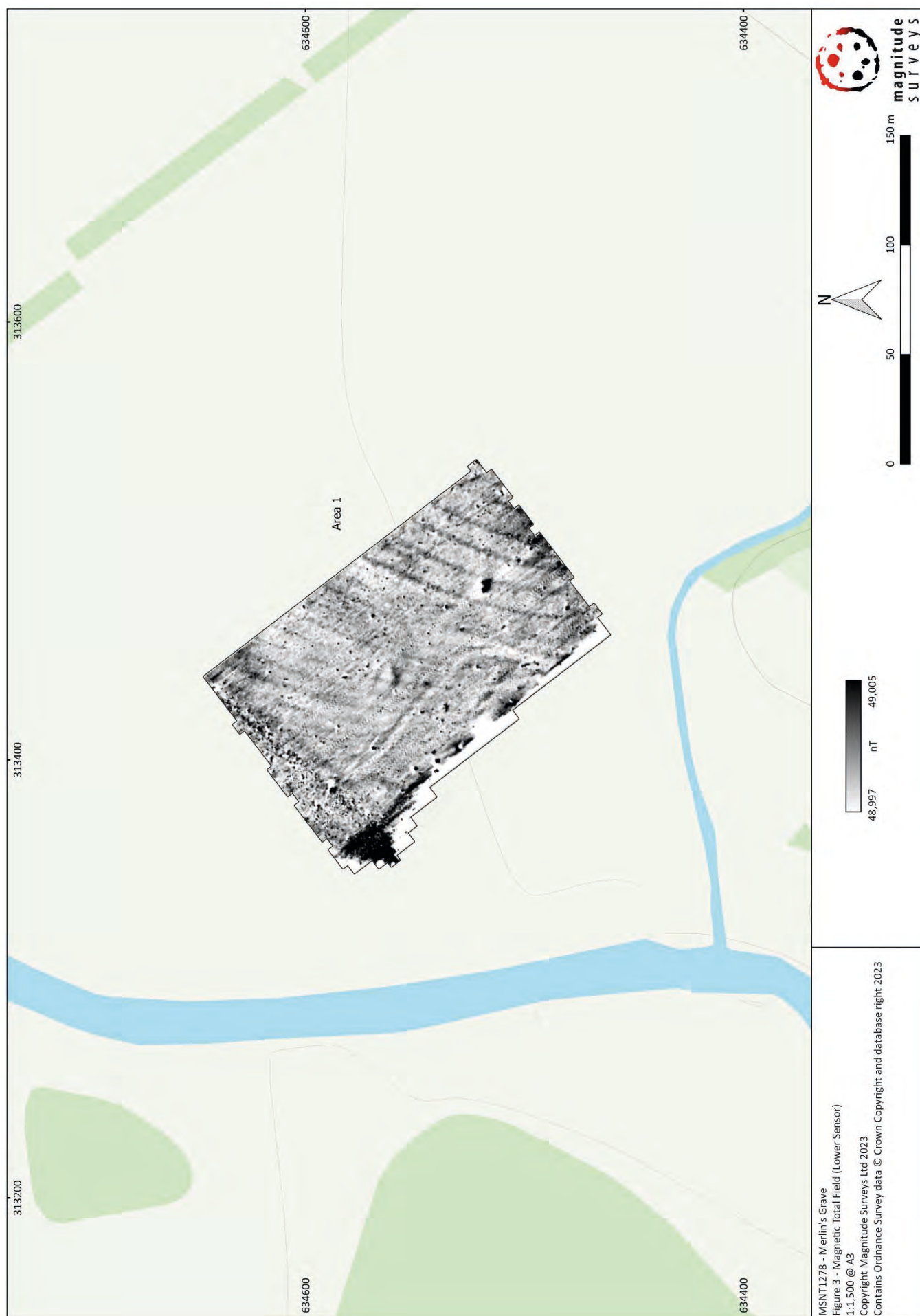
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Project Name	Merlin's Grave
Client	Guard Archaeology
Grid Reference	NT 13433 34534
Survey Techniques	Magnetometry
Survey Size (ha)	2.13ha (Magnetometry)
Survey Dates	2022-11-06 to 2022-11-07
Project Lead	Jake Dolan BSc FGS
Project Officer	Jake Dolan BSc FGS
HER Event No	N/A
OASIS No	N/A
S42 Licence No	N/A
Report Version	0.2

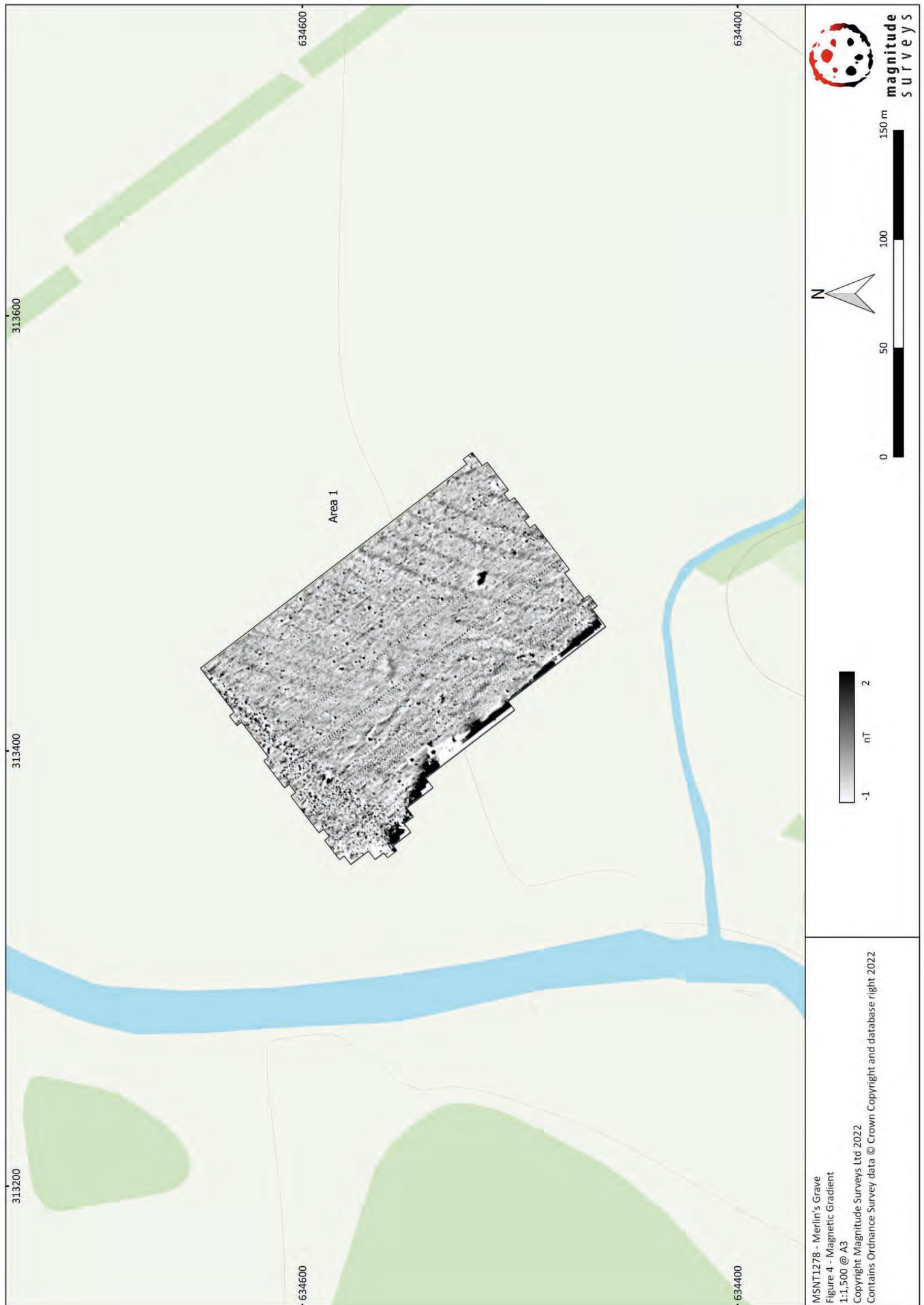
13. Document History

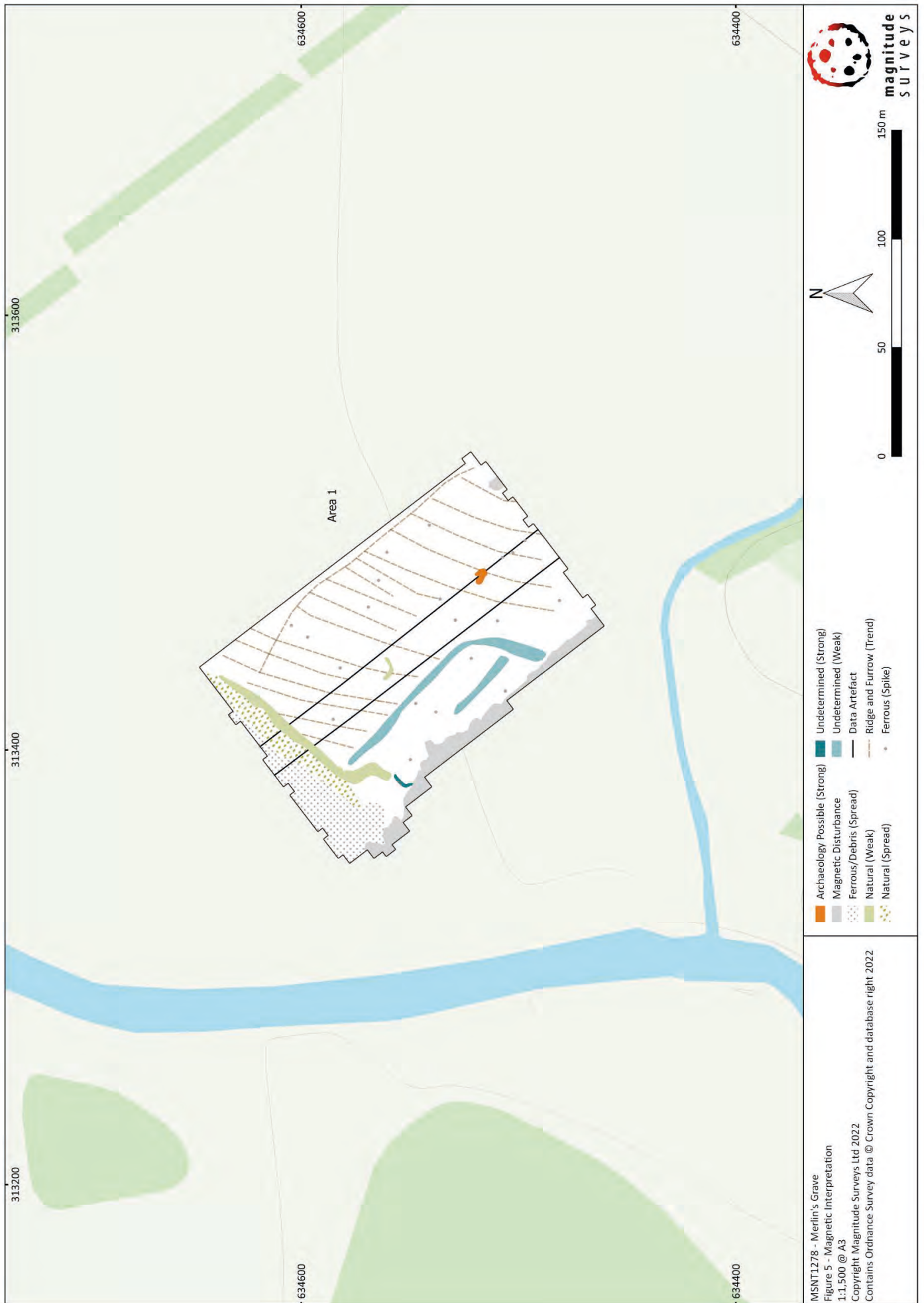
Version	Comments	Author	Checked By	Date
0.1	Initial draft for Project Lead to Review	JA IT	JD	09 December 2022
0.2	Addition of OASIS Record	JD	-	03 February 2023

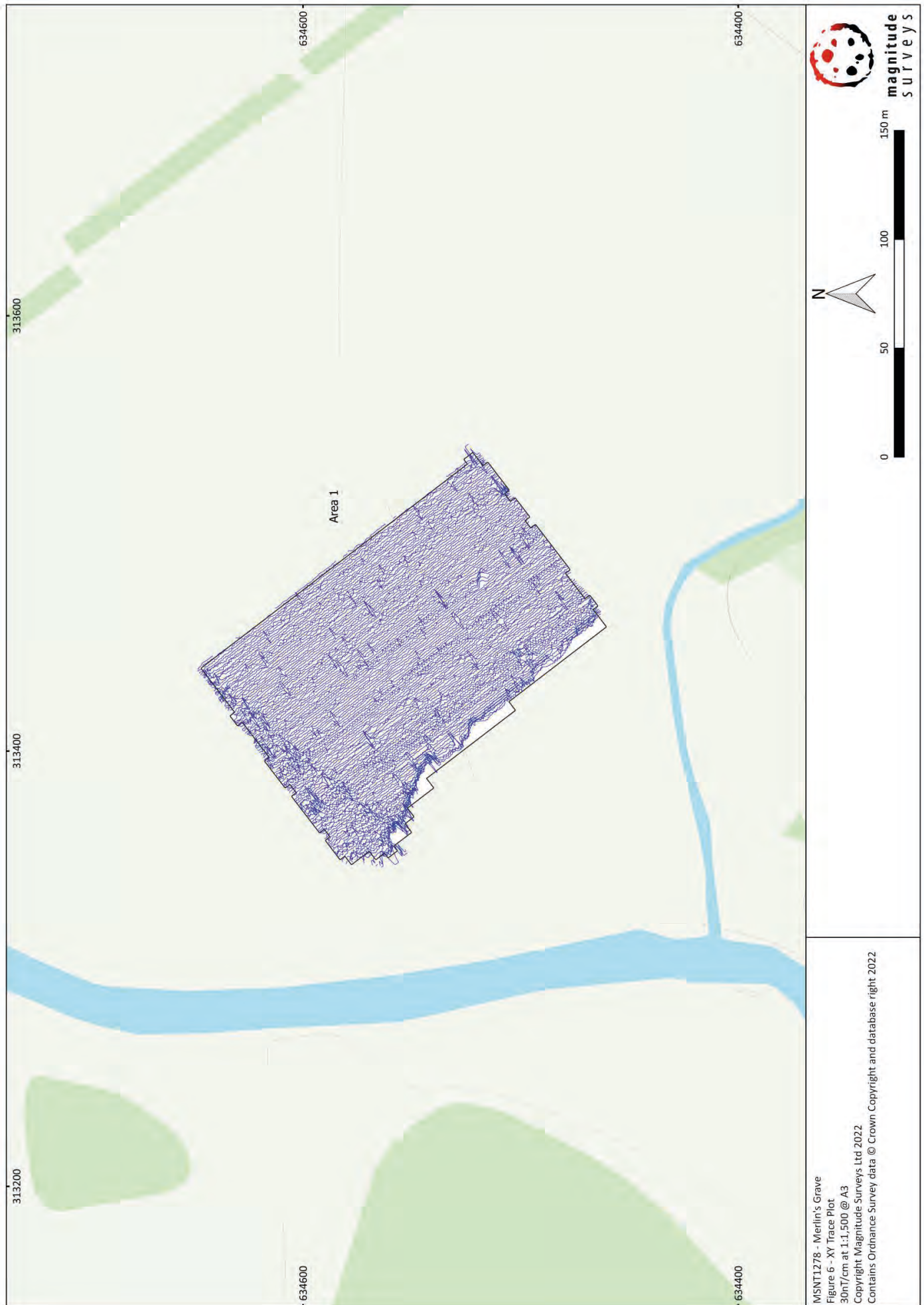












MSNT1278 - Merlin's Grave
Figure 6 - XY Trace Plot
30nT/cm at 1:1,500 @ A3
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Appendix H: Discovery and Excavation Scotland Report (Tinnis)

LOCAL AUTHORITY:	Scottish Borders
PROJECT TITLE/SITE NAME:	Tinnis Castle and Fort
PROJECT CODE:	5181
PARISH:	Drumelzier
NAME OF CONTRIBUTOR(S):	Thomas Muir, Laura Muser, Eduardo Perez-Fernandez, Lauren Reid, Ronan Toolis
NAME OF ORGANISATION:	GUARD Archaeology Limited
TYPE(S) OF PROJECT:	Topographic Survey and Excavation
NRHE NO(S):	NT13SW 23; SAM 2984
SITE/MONUMENT TYPE(S):	Fort; Castle
SIGNIFICANT FINDS:	Medieval assemblage (pottery, iron, lead, mortar, animal bones, oyster shells, charcoal)
BNG (2 letters, 6 figures)	NT 14155 34439
START DATE (this season)	5th August 2022
END DATE (this season)	19th August 2022
PREVIOUS WORK (incl. DES ref.)	RCAHMS Survey 1967
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A survey and excavation were carried out in August 2022 at Tinnis Castle and Fort to principally examine the fort that underlies Tinnis Castle. The castle comprises the remains of thick mortared walls with traces of round towers at the north-west and south-west corners of the keep. It was destroyed c. 1525 by the Flemings of Biggar during a feud with the Tweedies of Drumelzier. The underlying fort comprises a rampart around the edge of the summit, from which vitrified stone has been previously recovered from the southwest corner. Two pairs of non-concentric ramparts also enclose lower-lying terraces on the north-east and southwest flanks of the hill. An initial drone survey was undertaken by members of the Peeblesshire Archaeological Society in order to create a new site plan and 3D model of Tinnis Castle and Fort. Two trenches were subsequently excavated across the summit rampart, with a third trench excavated within one of the lower enclosed terraces. This was done with the hope of recovering charcoal that may yield radiocarbon dates for the construction and destruction of the ramparts. It was also hoped to recover traces of any occupation contemporary with the ramparts. Trench 1, at the south-east side of the summit, revealed a 1.7m thick NE/SW aligned drystone rampart wall, comprising inner and outer faces of large stone blocks and a rubble core. Traces of vitrified stone and charcoal were recovered from within the rampart core and charcoal from a thin soil deposit underlying the rampart. A smaller E/W aligned wall was found abutting the inner face of the rampart. Near the centre of the trench, discrete patches of flattened mortar and stone slabs directly overlay subsoil and bedrock at around 0.35 m below the present ground surface. Animal bones were recovered from a soil deposit associated with the slab surface. The trench was sealed with a layer of stone rubble collapse from the rampart, with finds including a horseshoe, lead, oyster shells, iron and bone, all consistent with the occupation of Tinnis Castle in the fifteenth and sixteenth centuries. The rubble collapse included mortared stone indicating that the rampart wall had been rebuilt and consolidated during the medieval occupation of the hilltop, probably to serve as a bailey. Trench 2, at the south-west corner of the summit, revealed two parts of the drystone rampart core in the south-east and north-west corners of the trench, each measuring between 1.02m -1.20m thick. The inner and outer face of the rampart were not evident. The south-east segment showed signs for burning and in-situ vitrification, suggesting an earlier phase of destruction. Animal bone was recovered from this rampart core deposit. Between these two segments, a stone platform upon a soil deposit had been inserted, probably during the re-occupation of the hilltop during the medieval period. A further wall was discovered, abutting the north-west segment of the rampart, suggesting a later construction date. The wall ran 3.56m E/W and 3.48 m N/S at an approximately 90-degree angle. The earliest occupational layer exposed was within the area enclosed by this wall, much of which was obscured by rubble collapse. Along the south-east edge of Trench 2 was a charcoal rich deposit, from which medieval glazed redware pottery and animal bones were recovered. The entirety of Trench 2 was overlain with a thick rubble and a soil matrix, likely originating from the destruction of Tinnis Castle itself. As apparent in Trench 1, the rubble collapse included mortared stone indicating that the rampart wall had been rebuilt and consolidated here too during the medieval occupation of the hilltop. This layer had subsequently been truncated by a pit in the north-east corner of the trench, which in turn was also backfilled with demolition material. A variety of finds were recorded from Trench 2, including glazed redware pottery sherds, iron nails, an oyster shell, animal bone and charcoal.

MAIN (NARRATIVE) DESCRIPTION (continued): (May include information from other fields)	Trench 3, within one of the lower enclosed terraces on the south-west side of the hill, revealed a 0.70 m wide face of a N/S drystone rampart at least 1.63 m in height. The base of this wall face was not reached. This wall face consisted of at least 9 courses of large sub-angular and cuboid stone blocks. Abutting the rampart wall to a depth of 1.20 m from the modern ground surface, a clay soil deposit was exposed containing one small find of lead. Overlying this layer, at a depth of 0.58 m below the modern ground surface was a charcoal rich deposit. This was in turn sealed by a layer of drystone blocks, rubble, slate and associated soil matrix measuring up to 1.0 m deep, which appeared to be collapse from the rampart summit above. The overlying topsoil contained multiple small finds including vitrified stone which was likely deposited in the trench as tumble from the summit.
PROPOSED FUTURE WORK:	Post-excavation and publication
SPONSOR OR FUNDING BODY:	Arthur Trail Association; SSE Renewables Clyde Borders Community Fund; Fallago Environment Fund; Society of Antiquaries of Scotland Dr Euan MacKie Legacy Fund; Glenkerie Community Fund; National Lottery Heritage Fund
CAPTION(S) FOR ILLUSTRS:	Oblique aerial view of Tinnis Castle and Fort
ADDRESS OF MAIN CONTRIBUTOR:	GUARD Archaeology Ltd, 52 Elderpark Workspace, Glasgow, G51 3TR
EMAIL ADDRESS:	bob.will@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	The archive will be deposited with NRHE.

Appendix I: Discovery and Excavation Scotland Report (Thirlestane)

LOCAL AUTHORITY:	Scottish Borders
PROJECT TITLE/SITE NAME:	Thirlestane Barrows
PROJECT CODE:	5181
PARISH:	Broughton
NAME OF CONTRIBUTOR(S):	Tamsin Scott, Amanda Gilmore, Lauren Reid, Ronan Toolis
NAME OF ORGANISATION:	GUARD Archaeology Limited
TYPE(S) OF PROJECT:	Geophysics Survey and Excavation
NRHE NO(S):	NT13NW 142
SITE/MONUMENT TYPE(S):	Barrows, Round Barrows, Square Barrow
SIGNIFICANT FINDS:	Bronze Age Cremation, Bronze Age Pottery
BNG (2 letters, 6 figures)	NT 1170 3526
START DATE (this season)	17 th October 2022
END DATE (this season)	28 th October 2022
PREVIOUS WORK (incl. DES ref.)	
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A geophysical survey and archaeological excavation of Thirlestane Barrows were undertaken between 17th and 28th October 2022, principally to identify the precise location, character and date of four cropmarks previously identified in two adjacent fields to the south of Broughton by an HES aerial survey in July 2018. An initial magnetometry survey undertaken by Magnitude Surveys identified two round barrows in the western field but no barrows in the eastern field. A trench was subsequently positioned to excavate one of the cropmark locations in the eastern field. Excavation revealed a square barrow, of potential early medieval date, containing at least two east/west aligned supine graves, though no surviving human remains. Another trench examined one of the round barrows in the western field. Excavation here revealed several deposits of cremated human bones associated with Bronze Age pottery. One of the urns was lifted as a block and taken to GUARD Archaeology's Finds Lab for detailed excavation. This revealed an undecorated urn of middle Bronze age date (1550-1150 BC) containing cremated human remains.
PROPOSED FUTURE WORK:	Post-excavation and publication
SPONSOR OR FUNDING BODY:	Arthur Trail Association; SSE Renewables Clyde Borders Community Fund; Fallago Environment Fund; Society of Antiquaries of Scotland Dr Euan MacKie Legacy Fund; Glenkerie Community Fund; National Lottery Heritage Fund
CAPTION(S) FOR ILLUSTRS:	
ADDRESS OF MAIN CONTRIBUTOR:	GUARD Archaeology Ltd, 52 Elderpark Workspace, Glasgow, G51 3TR
EMAIL ADDRESS:	info@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	The archive will be deposited with NRHE.

Appendix J: Discovery and Excavation Scotland Report (Merlin's Grave)

LOCAL AUTHORITY:	Scottish Borders
PROJECT TITLE/SITE NAME:	Merlin's Grave
PROJECT CODE:	5181
PARISH:	Drumelzier
NAME OF CONTRIBUTOR(S):	Magnitude Surveys
NAME OF ORGANISATION:	Magnitude Surveys
TYPE(S) OF PROJECT:	Geophysics Survey
NRHE NO(S):	NT13SW 23; SAM 2984
SITE/MONUMENT TYPE(S):	Cist
SIGNIFICANT FINDS:	
BNG (2 letters, 6 figures)	NT 13480 34516
START DATE (this season)	7th November 2022
END DATE (this season)	7th November 2022
PREVIOUS WORK (incl. DES ref.)	
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A geophysical survey of Merlin's Grave was undertaken as part of the Drumelzier's Hidden Heritage / Hidden History of Dark Age Tweeddale project. A fluxgate gradiometer survey was successfully completed across the 2.13 ha survey area with assistance from volunteer participants. Archaeological activity was identified in the form of one discrete anomaly identified as the most likely candidate for a possible cist grave. This was located to the south-east of the putative location previously marked on maps. Rig and furrow were also identified. Some other anomalies were also noted but it was not possible to establish whether these were archaeological, agricultural or natural in origin. Modern interference was limited to field boundaries.
PROPOSED FUTURE WORK:	Publication
SPONSOR OR FUNDING BODY:	Arthur Trail Association; SSE Renewables Clyde Borders Community Fund; Fallago Environment Fund; Society of Antiquaries of Scotland Dr Euan MacKie Legacy Fund; Glenkerie Community Fund; National Lottery Heritage Fund
CAPTION(S) FOR ILLUSTRS:	
ADDRESS OF MAIN CONTRIBUTOR:	Magnitude Surveys, Unit 17-19 Commerce Court, Bradford BD4 8NW
EMAIL ADDRESS:	projects@magnitudesurveys.co.uk
ARCHIVE LOCATION (intended/deposited)	The archive will be deposited with NRHE.

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