The Islay Prehistory Project

Archaeological excavation and survey at Slochd Measach, Giant's Grave, Nereabolls, Islay

2016 Data Structure Report

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University of Reading 2016

Contents

Summary

This document reports on the results of the 2016 fieldwork season at the site of Slochd Measach chambered cairn, locally known as Giant's Grave, located at the southern part of the Rhinns of Islay (NGR NR 2105 5642). The fieldwork consisted of the excavation of two trenches, photogrammetric 3D modelling and geophysical survey, as proposed in the 2016 Project Design (Maričević and Mithen 2016).

The excavation in Trench 1 revealed presence of toppled façade stones lying in the peat in the NE part of the trench and the scant remains of a possible semi-circular shelter constructed against the outer side of the chamber. Underlying the peat were disturbed mixed rubble deposits followed by more compact rubble representing undisturbed cairn material, which increased in size with the depth. The initial stages of the cairn were built from stacked upright stone slabs wedged with smaller rubble on top of a thin soil horizon, which survived in places, but was mangled in others under the weight of the construction. Three small features were discovered cutting into the soil horizon underneath the rubble, but it was not clear whether they were deliberately cut or a by-product of the construction and/or robbing activity. The cairn in this area was built as a single phase of construction, abutting the in situ orthostats. Toppled and leaning orthostats of compartments C1 and C2 prevented the excavation inside these compartments except for the very front of compartment C1, which was disturbed and backfilled with rubble.

The excavation in Trench 3 revealed unexpected structural sequence consisting of a substantial wall built from stone boulders and incorporating the outlier megalith, which was moved into this position from elsewhere on the site, most likely the chamber or the façade of the chambered cairn. The wall was overlying a stone platform or an area of hard standing built from medium sized cobbles, which covered the entire area of the trench, thus extending to either side of the overlying wall and beyond the limits of the excavation.

Underlying this platform or area of hard standing was a tumble of larger stones, which might represent disturbed cairn material of the chambered cairn. Below this tumble was a well-constructed level platform built from large stone slabs and kerbed to the southeast by a double line of long rectangular stone slabs running diagonally across the trench on the same orientation as the chamber of the chambered cairn. This was postulated to be the kerb of the chambered cairn judging by the size of its construction, the alignment and the stratigraphic position.

Electrical resistance survey started in 2015 was extended in 2016 to incorporate the entire forestry clearing in which the monument is located bringing forth a suite of high resistance anomalies, some of which are likely to be of archaeological significance. A 3D photogrammetric model of the monument was created using Agisoft Photoscan. The fieldwork was accompanied by an outreach programme consisting of a public lecture and multiple public site visits including some 90 children from Islay's primary schools.

1. Introduction

Archaeological investigation of an Early Neolithic Clyde-type chambered cairn of Slochd Measach (Giant's Grave) on the Rhinns of Islay was carried out between 20th August and 3rd September 2016 by a team from the University of Reading and the University of Bournemouth, led by Steven Mithen and Darko Maričević. Slochd Measach chambered cairn is located in the forestry plantation on the southeast slopes of Beinn Tart a'Mhill near the southern tip of the Rhinns of Islay (NR 2105 5642, Figure 1). The remains of the cairn have been described by Newall and Newall (1961) and described and surveyed by Henshall (1972: ILY 2) and then by RCAHMS in 1975 (RCAHMS 1984: 50, no. 7).

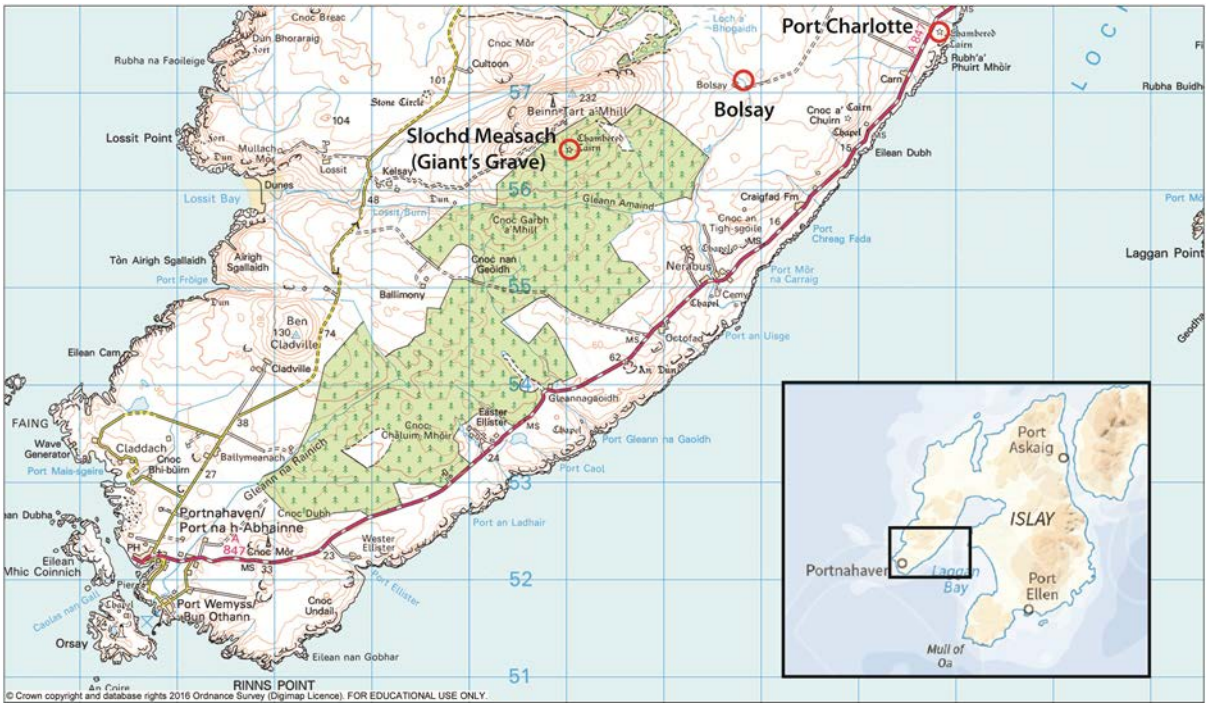

Figure 1 Location of the site in the southern part of the Rhinns of Islay and in relation to the Mesolithic/Neolithic site at Bolsay and the chambered cairn at Port Charlotte

The site is protected under law as a Scheduled Ancient Monument (File Ref. SC 27281/1B). The fieldwork was undertaken after the Scheduled Monument Consent (SMC) and the Section 42 Consent were granted by the Historic Environment Scotland (CASE 201601340). This report includes the results of the second season of fieldwork at the site following the evaluation and survey in 2015 (Mithen and Maričević 2015a, Mithen et al. 2015). The scope of the investigation was previously set out in the Project Design (Maričević and Mithen 2016) which accompanied the SMC application and which was further discussed and approved by the Historic Environment Scotland (HES).

1.1 Research background

The transition from hunting and gathering to Neolithic farming lifestyles is one of the most pivotal events in human history. Having occurred independently in several different regions of the world during the early Holocene, including the Southwest Asia shortly after 8000 BC, Neolithic farming lifestyles spread across the European continent and eventually reached Britain sometime around 4000 BC. In the British archaeological and environmental record this 'event' is marked by the near simultaneous appearance of pottery, polished stone axes, domesticated animals and plants, increased vegetation clearance and the construction of monuments. The latter includes several groups of monument from throughout the western seaboard of Europe, including the Clyde type of chambered cairns in western Scotland, which are concentrated in Argyll, Arran and Bute. The current range of radiocarbon dates

from the chambered cairns of this type places the start of their construction sometime before 3700 cal BC, although it remains unclear when exactly the first chambered cairns were built in western Scotland (Schulting and Richards 2002, Noble 2006, Cummings and Robinson 2015, Harris et al. 2014, Ashmore in Scottish Radiocarbon Database (SRD) via Canmore).

Islay and the surrounding islands, most notably Oronsay, provide a unique concentration of nationally important Mesolithic and Neolithic sites (Figure 2). For example, Storakaig, in the east of Islay, is the only non-shell midden Mesolithic site in Scotland with faunal remains (Wicks, Pirie & Mithen 2014). The site has a date range between 4460-4330 cal BC and 3930-3650 cal BC, which provides a significant overlap with the combined date range for the Oronsay middens between 4740-4060 cal BC and 4250-3140 cal BC. Both date ranges have a significant overlap with the dates of the Clyde cairns, including Port Charlotte on Islay with preconstruction dates of 3980-3640 cal BC, 3950-3630 cal BC and 3650-3100 cal BC, (Harrington and Pierpoint 1980). Similar dates come from Newton, c.5km northwest from Storakaig, where two pits containing Neolithic pottery produced dates of 3940-3640 cal BC and 3800-3520 cal BC (McCullogh 1989). Although we are dealing with overlaps between substantial date ranges, which by no means prove overlap in the activities at these Mesolithic and Neolithic sites, there is a significant cluster of dates spanning the transition in a narrow geographic proximity.

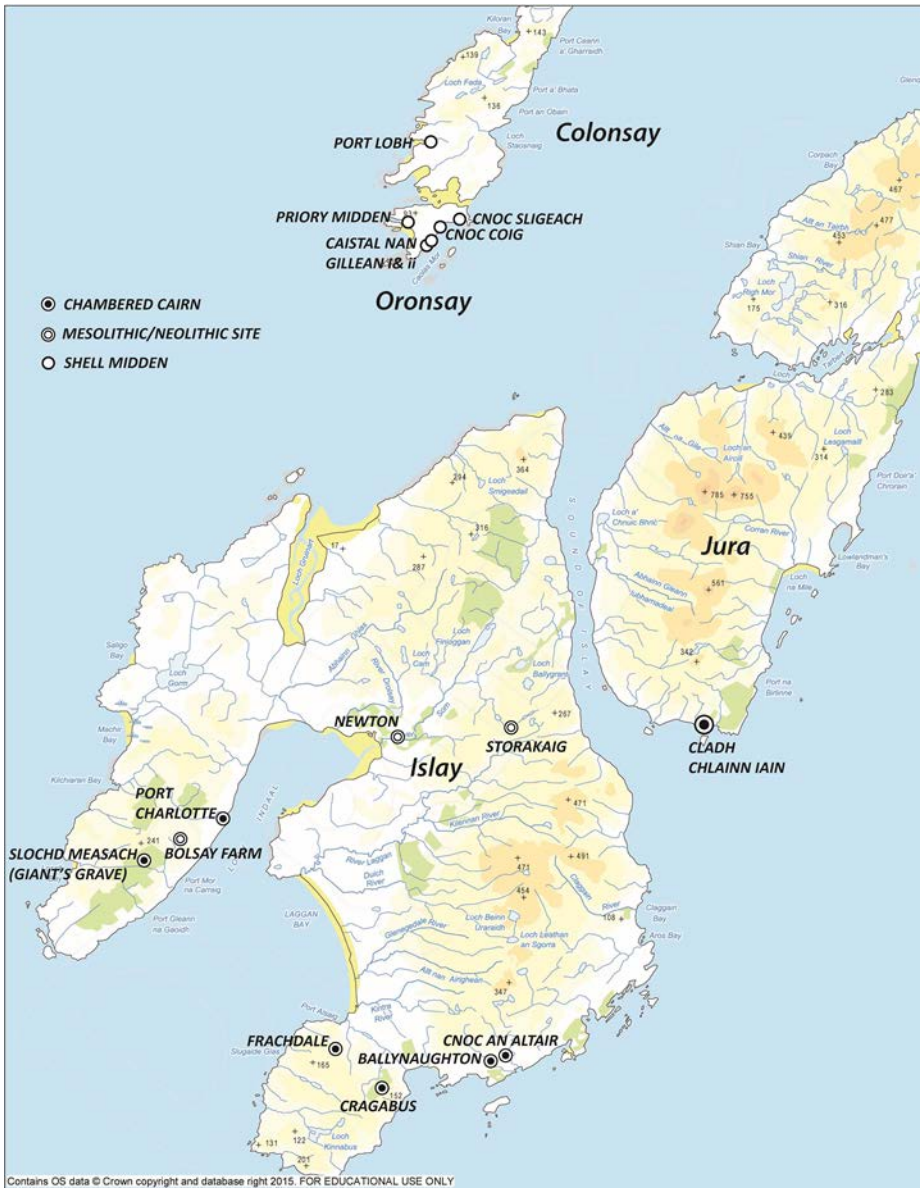

Figure 2 Map showing the location of Slochd Measach in relation to the Late Mesolithic and the Early Neolithic sites on Islay and the surrounding islands

Slochd Measach is located in the landscape known to have been regularly visited by the Mesolithic hunter-gatherers, as attested by the nearby site at Bolsay, which is 2km away and equidistant between Slochd Measach and Port Charlotte (Figure 1). Bolsay is the largest Mesolithic site excavated on Islay with 329,667 pieces of chipped stone forming no more than 20% of what is likely to be surviving at this location. In addition to the Mesolithic horizon interpreted as a hunting camp, Neolithic activity at Bolsay was demonstrated by a fragment of a polished stone axe and three C14 dates (3650-3100 cal BC, 3640-3370 cal BC and 3350-2920 cal BC). The second of these dates was taken from a willow sample deriving from undisturbed 'Mesolithic' occupation deposits (Mithen 2000). The location of Slochd Measach in the immediate vicinity of Bolsay offers a unique opportunity to investigate the expansion of the Neolithic monumentality and settlement into the landscape known to have

been important in the Mesolithic and where the Mesolithic way of life may have survived longer than on mainland. Scotland's Archaeological Research Framework states that the ''Neolithic' is not uniformly manifested, either in terms of its character or chronology, across Scotland' (ScARF, Neolithic – Section 3.1). The excavation at Slochd Measach looks to bring better chronological resolution to a well-defined area and contribute to the understanding of the transition on both national and regional level.

1.2 Aims and objectives

The aims and objectives of the project as first set out in the 2015 Project Design (Mithen and Maričević 2015b) were:

1. To evaluate the state of the preservation of the monument including the soil profiles, with particular regard to the current vegetation cover and root disturbance;

2. To evaluate the soil profiles on the site with regard to the presence and preservation of archaeological deposits and palaeoenvironmental evidence;

3. To obtain modern digital record of the monument, the surrounding topography and any other relevant archaeological features in the vicinity;

4. To evaluate the potential of the site in contributing to the study of the Mesolithic-Neolithic transition on Islay and in western Scotland;

5. To contribute to the local understanding, appreciation and care for the heritage on the Isle of Islay.

The first three aims were successfully addressed by the scope of the investigation in 2015 the results of which were described in the 2015 Interim Report (Mithen and Maričević 2015b). We have, however, stated that further fieldwork incorporating the excavation was needed to address the key issue of the potential of the site to contribute to the study of the Mesolithic-Neolithic transition (Mithen and Maričević 2016). In the light of the results of the evaluation and the survey work carried out in 2015 and in direct response to as yet unanswered questions related to the circumstances of the initial construction of the chambered cairn, we proposed a plan of investigation to be carried out in 2016 and 2017 with the aims:

1. To investigate the threat posed by vegetation inside the open part of the chamber and undertake rescue excavation, if necessary, as means of preservation by record of any deposits that might be affected by the disturbance;

2. To gain better understanding of the morphology, stratigraphy and construction history of the chambered cairn;

3. To gain understanding of the site prior to the construction of the chambered cairn;

4. To gain understanding of the ways in which the monument and the site as a whole were used in the Neolithic and subsequent periods;

5. To reconstruct absolute chronology for all parts of the archaeological sequence including pre-, during and post-chambered cairn phases of activity;

6. To use the results of the investigation and its published outcomes to create the basis for a funding application to AHRC in support of a wider landscape based project looking at the Mesolithic-Neolithic transition on Islay;

Fieldwork objectives specifically designed to meet these aims were as follows:

1. To empty the chamber of water in order to investigate the internal deposits within the front two compartments of the chamber (C1 and C2) and establish whether any in situ deposits survive in this part of the tomb;

2. To carry out archaeological excavation of four trenches (Trenches 1-4, Figure 18) in the course of two seasons, each lasting two weeks. Trenches 1 and 2 are conjoined and are designed to meet the aims related to the morphology, stratigraphy, phasing, use and dating of the chambered cairn, while Trenches 3 and 4 are targeting the geophysical anomalies spatially related to the two outlier megaliths to the southeast and the southwest of the chamber;

3. To obtain dating evidence for all parts of the sequence including any possible pre-construction deposits, the initial construction of the chambered cairn and any possible subsequent phases of construction or other Mesolithic/Neolithic and later activity that can be identified by the excavation;

4. To carry out further recording of the monument's architecture by the means of 3D scanning and photogrammetry;

5. To expand the existing limits of the geophysical survey and obtain the coverage across the entire clearing;

2. Methodology

2.1 Vegetation cropping and water management

Following the survey and thorough cropping of the vegetation carried out in 2015 it was expected that the cropping of vegetation in 2016 was not going to be as intensive. The cropping of vegetation took place around the cairn to enable the excavation and the recording. Further cropping was carried out across the clearing to enable geophysical

survey. Vegetation adjacent to the upstanding and recumbent stones of the chambered cairn was carefully cropped using hand tools to avoid any chance of damage to the monument.

The interior of the chamber is perpetually filled with standing water, the surface level in the interior being lower than the surface of the surrounding peat as first noted by Henshall (1972). In order to be able to carry out the excavation of Trench 1, which encompassed the front two compartments of the chamber, the water had to be taken out. Water pump with 50mm diameter inlet/outlet was used initially followed by bailing out with the aid of buckets, plastic cups and sponges. Once the Trench 1 was stripped of peat the same procedure had to be repeated every morning due to both the trench and the chamber filling up with water overnight. The water levels during the day were mainly managed manually. The same type of water level management was being carried out in Trench 3 (Figure 3).

Figure 3 Top: Water being pumped out of the chamber; Bottom: Sponging of water prior to photographs being taken In Trench 3.

2.2 Excavation, recording and reinstatement

The SMC granted for the archaeological work proposed in the 2016 Project Design (Mithen and Maričević 2016) came with two conditions one of which was in regard to the extent of excavation of in situ deposits (Condition 1). Condition 1 stated that: '*No in situ archaeological deposits shall be excavated, subsequent to the removal of upper deposits, until the extent of any excavation has been agreed in writing by Historic Environment Scotland*'. The excavation followed the methodology set out in the 2016 Project Design (Mithen and Maričević 2016) and in compliance with the conditions attached to the Scheduled Monument Consent (SMC).

Trenches 1 and 3 were planned to be excavated in 2016 and Trenches 2 and 4 in 2017 (Figure 4). Trenches 1 and 2 are conjoined and are positioned at the WNW side of the chamber and over the forecourt area, respectively. Trenches 3 and 4 were positioned in relation to two outlier megaliths located to the SSW and the ESE from the chamber and were additionally associated with the high resistance anomalies identified in the results of the 2015 electrical resistance survey (Mithen and Maričević 2015a).

One of the contributions of the survey work carried out in 2015 was to inform about the true position of the monument in relation to its OS location which was shown to be incorrect (Mithen and Maričević 2015a). The immediate implication of this was that the limit of the scheduled area was rectified by HES and the new scheduled area polygon was produced (Figure 4). The 2016 Project Design was written before the new scheduled area was designated and it was guided by previous information that all four trenches were located within the scheduled area. However, the re-designated scheduled polygon shows that Trench 3 is entirely outside the scheduled area and that Trench 4 straddles its limit line (Figure 4).

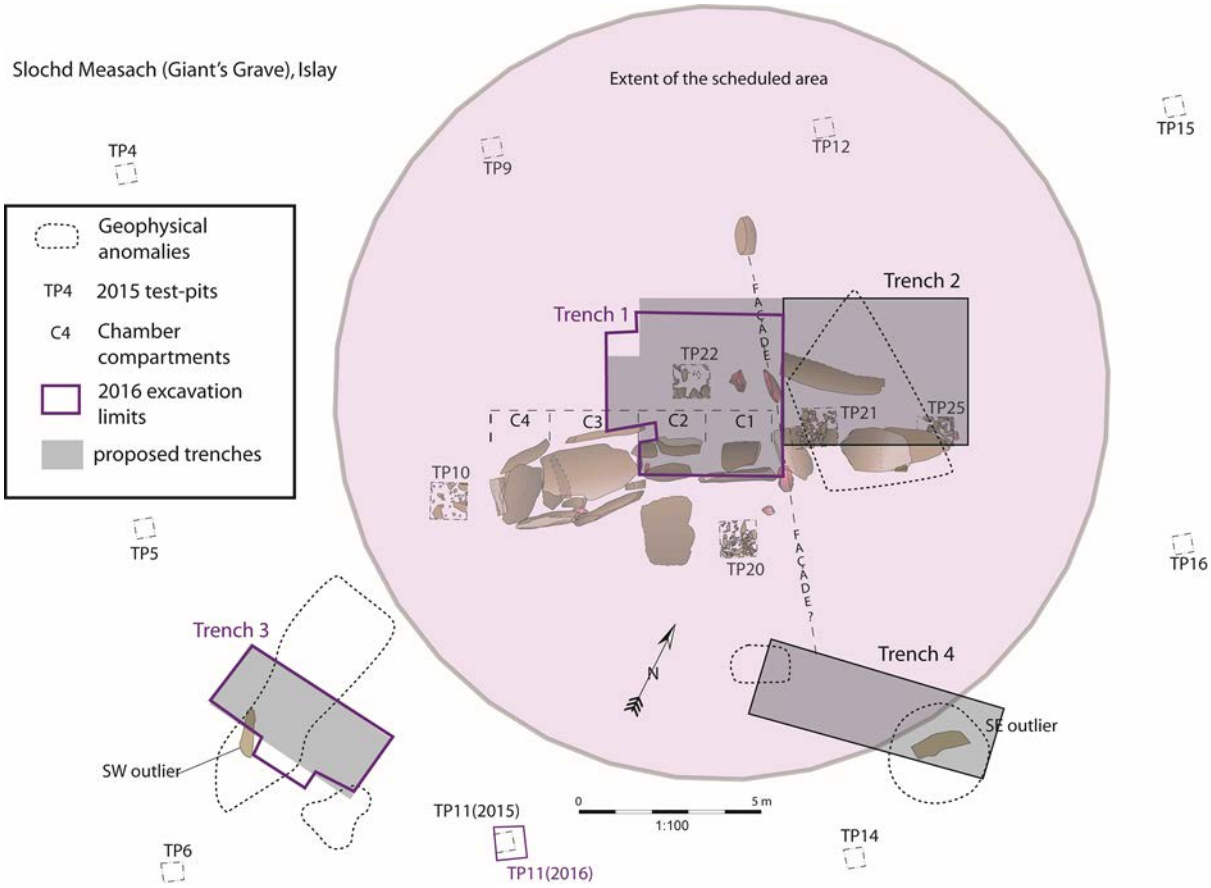

Figure 4 Plan of the megalithic chamber with the layout of the proposed trenches in relation to the re-designated scheduled area and the surveyed trenches as excavated in 2016

Trench 1

In compliance with Condition 1 of the SMC, the excavation in Trench 1 proceeded beyond the removal of the peat cover only after the on-site meeting with the HES officer and after the agreement in writing, required by the condition, was received. All orthostats and monoliths, whether displaced, leaning or in situ, were left in place and sufficient deposits were left around them to preserve their stability.

Trench 1 was to be orientated along the axis of the chamber with its main part 5m by 4m in extent with a smaller 2m wide and 1m long projection jutting out to the SSW along the *in situ* orthostat S5 of the chamber compartment C3 (Mithen and Maričević 2016). In practice, the excavated trench was smaller, ending 0.5m shorter towards the NNW and with a small unexcavated baulk between the orthostats of chamber compartments C3 and C2, which was required for stability of the orthostats. Further alteration was made following an email consultation with HES, which included annotated photographs of the excavation, by which

we requested a widening of the 1x2m projection to 1x2.5m. Plan in Figure 4 demonstrates the difference between the trench extent as proposed in the 2016 Project Design (grey) and the excavated trench (purple outline).

The majority of the trench was located alongside the NNW side of the chamber, but it also included the front two chamber compartments C1 and C2. Unlike the back compartments C3 and C4, the front compartments were in poor state of preservation with either fallen or leaning orthostats, displaced capstones and missing septal and jamb stones. In addition, their interior was overgrown by bracken and rushes (Figure 5), whose roots were thought to be a threat to any potential surviving archaeological deposits inside the chamber.

Figure 5 Cropping of vegetation inside chamber compartment C1 in August 2015 (left) and the view of the interior of compartment C2 after the cropping of the vegetation

It was proposed that following the bailing out of the chamber interior the compartments (Figure 5) were cleaned from the top mud/turf to see if any archaeological deposits survive and if they were being disturbed by the roots. This was to be followed by the consultation with HES regarding how to proceed. No further excavation inside the chamber was to take place without the approval from HES. In addition to mitigating the threat to any surviving deposits in the interior of these two chamber compartments, the 2016 Project Design stated that their excavation would contribute to the overall aims of the project and general understanding of the site. In the unlikely event that undisturbed Neolithic deposits have survived, it would be an opportunity to sample these for C14 dating, phosphate analysis and the environmental micro- and macro-fossil evidence.

Trench 3

Trench 3 targeted the geophysical anomalies identified in the immediate vicinity of the SSW outlier megalith (Figure 4). Trench was designed to be 5m long and 2m wide on E-W orientation. Towards the end of the excavation a small extension measuring 1.5m by 0.75m was added at the south side of the trench in order to strengthen the evidence regarding the

kerb of the chambered cairn. The aim of Trench 3 was to evaluate the geophysical anomalies, their archaeological significance and any potential relationship with the outlying megalith and with each other. Excavation in Trench 3 was also aimed to provide the information on whether the outlying megalith has been moved into its current location or perhaps represents a standing stone that has toppled in its original location.

Recording and sampling

The excavation of both trenches was carried out with hand tools and recorded using single context recording system tied into the overall digital survey of the site. All archaeological deposits were photographed and drawn at the scale of 1:20, all sections to the scale of 1:10. Newly exposed architectural parts of the chambered cairn have been planned and incorporated into the 3D scanning/photogrammetry part of the recording process. All features were excavated to no more than 50% of their total, thus leaving part of the in situ deposits for future research. The location of all small finds was recorded in 3D using *Leica GS09* GPS rover. Bulk samples (30l) from each context were collected to be either wet sieved through 4mm sieve or selected for flotation as appropriate and depending on context. A series of spot charcoal samples for C14 dating have been taken. These will be cleaned and given to a charcoal specialist for identification and assessment prior to a selection being sent for the AMS dating in respect to their suitability and the stratigraphic position. All lists generated by the fieldwork, namely context, sample and small find registers are included in the appendices to this report, which also include the copies of the drawn record.

Reinstatement

The monument was returned to its original state. The excavation trenches were backfilled at the end of the season (Figure 6). Special care was taken during the excavation and recording of the cairn and other structural material, which was reinstated according to the 3D records obtained prior to its excavation, so it resembles its original appearance and stratigraphic order as closely as possible.

Figure 6 Backfilled and reinstated Trench 1 and Trench 3 both from the southwest

2.3 Geophysical survey

Following the initial electrical resistance survey around the chamber in 2015, the survey was extended in 2016 to cover the entire extent of the forestry clearing. The area surrounding the chamber surveyed in 2015, was resurveyed to insure consistency of collected data over the entire survey area. The area occupied by Trenches 1 and 3, which were being excavated was not surveyed in 2016. The electrical resistance survey was carried out using *Geoscan RM15* resistance meter with the twin probe electrode configuration. The readings were taken at 0.5m intervals along the traverses with 0.5m spacing. The data was processed using *Geoplot* software.

A repeated trial with *Bartington Grad601* fluxgate gradiometer confirmed that the area was geologically unsuitable for this type of magnetic survey due to the high magnetic background related to the bedrock.

2.4 Photogrammetric survey

Photogrammetric survey of the megalithic chamber was carried out using Canon EOS 50D digital SLR camera. In addition, parts of the architecture exposed by the excavation of Trenches 1 and 3 were also recorded by the photogrammetric survey. The images were processed using *Agisoft PhotoScan* software.

3. Results of the 2016 fieldwork

3.1 Electrical resistance survey

The electrical resistance survey carried out in 2016 season covered the entire area of the forestry clearing in which the chambered cairn is located (Figure 7). It measured 92.5m by 49.5m divided into thirteen complete and incomplete 20x20m grids orientated along the main axis of the megalithic chamber. The survey obtained the results closely comparable to the results of the 2015 survey, which covered only 30m by 20m area around the chamber including the areas occupied by Trenches 1 and 3 during 2016 survey (Mithen and Maričević 2015a).

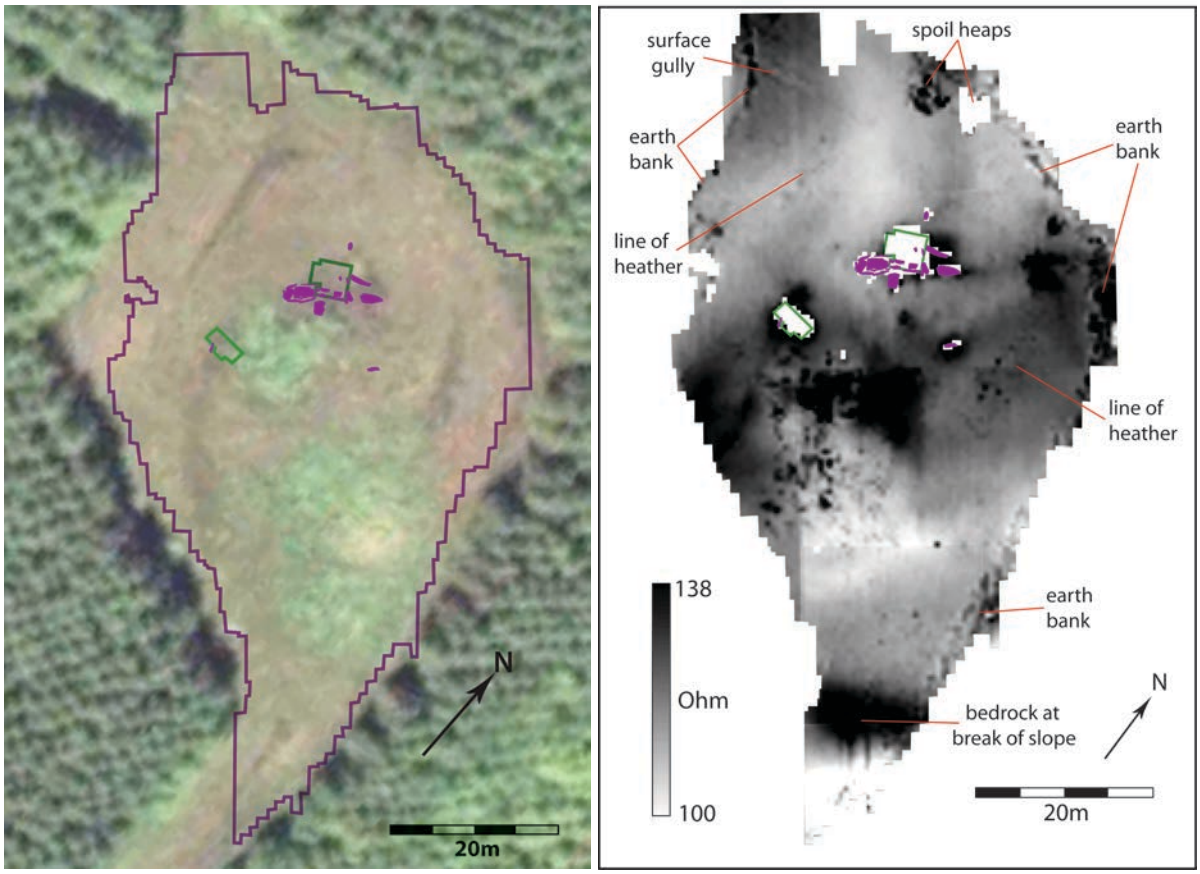

Figure 7 Left: Outline of the electrical resistance survey over Google Earth image of the clearing and in relation to the megalithic chamber and Trenches 1 and 3. Darker linear growths of heather can be seen east and west of the chamber; Right: Electrical resistance plot with annotated anomalies related to the surface features and disturbances.

The main challenge for the survey, as noted in 2015, was the thickness of peat, which in the area to the west and the north of the chamber reaches up to 1m. Unsurprisingly, these areas show relatively uniform resistance response with no major geophysical anomalies apart from those associated with the features visible on the surface, such as field banks and

drainage gullies (Figure 7). Two N-S orientated lines of heather, which run equidistant on the west and the east sides of the chamber, coincide with vague and irregular higher resistance anomalies in the resistivity plot and might indicate the response of the vegetation to a turf and stone boundary, now engulfed by the peat. Their presence could suggest that the megalithic chamber was enclosed at some point (Figure 8). No such enclosure can be seen on the 1880s and 1900s OS maps of the area.

Archaeologically the most interesting and the most complex resistance response can be seen in the areas to the northeast and to the south of the chamber (Figure 8). Some of these high resistance anomalies were detected in 2015 and, indeed, the positioning of Trenches 3 and 4 was planned in relation to their relationship with the outlying megaliths (Mithen and Maričević 2016). The 2016 survey shows that the extent of the high resistance anomalies is both larger and more complex and it stretches across the widest central part of the clearing in SSW-NNE direction. This extent has to be considered in relation to the topography of the site as it follows the break of slope where the lesser thickness of the peat allows better penetration by the twin probe. Thus, it is possible that the areas to the north would have provided corresponding dataset if the peat was not as thick. Whether the same can be said for the area in the southeast part of the trench, where the topography plateaus and the geophysical anomalies are sparse, is unclear because this area was not evaluated by test-pitting in 2015 and the exact thickness of peat is unknown. In the far southeast the ground falls sharply again and this break of slope is marked by a band of high resistance in the geophysics plot, which could be the response of the bedrock being closer to the surface or simply better drainage (Figure 7).

The interpretation of the high resistance anomalies in the central belt of the plot is not straightforward, although we have the benefit of the additional information gained by the excavation results from Trenches 1 and 3, which provide ‘ground truth’ in respect to the anomalies detected in these areas in 2015. Two resistivity plots in Figure 8 show the same dataset, first with its original values as collected by the survey (Figure 8a) and the second with the original measurements ‘clipped’ to a narrower range to accentuate the high resistance (Figure 8b). Both versions have their advantages in aiding the interpretation (Figure 8c). The first plot shows certain anomalies as discrete entities, while the clipped version suggests that the wider areas around these anomalies are generally high in resistance. Thus the apparent discrete anomalies may be more pronounced parts of larger high resistance anomalies rather than isolated entities. In addition, stone features and deposits which overlie each other have a combined high resistance response, which cannot be separated in the geophysical results.

The results of the excavation in Trench 3 help to illustrate this as the trench contained superimposed and stratified stone structures and rubble deposits (Section 3.2), all of which contribute to the overall high resistance response in the resistivity data. The dataset in its original form shows the line of wall (3003), which is the uppermost stone structure in the

trench and due to its linear form it is possible to follow it southwards to the limit of the survey area (Figure 8a). The alternative plot brings forth the more generic high resistance in this area, which makes the line of the wall difficult to see (Figure 8b). The broader high resistance is not surprising considering the amount of stone rubble underlying wall (3003) in Trench 3, which extended beyond its limits in all directions. It is not possible to say how far any respective rubble deposit seen in Trench 3 extends, but the general area of the high resistance stretches c.20m eastwards and southwards from the west end of the trench. This large area could in reality contain a suite of complex and stratified archaeological remains, but this is impossible to ascertain from the geophysics alone.

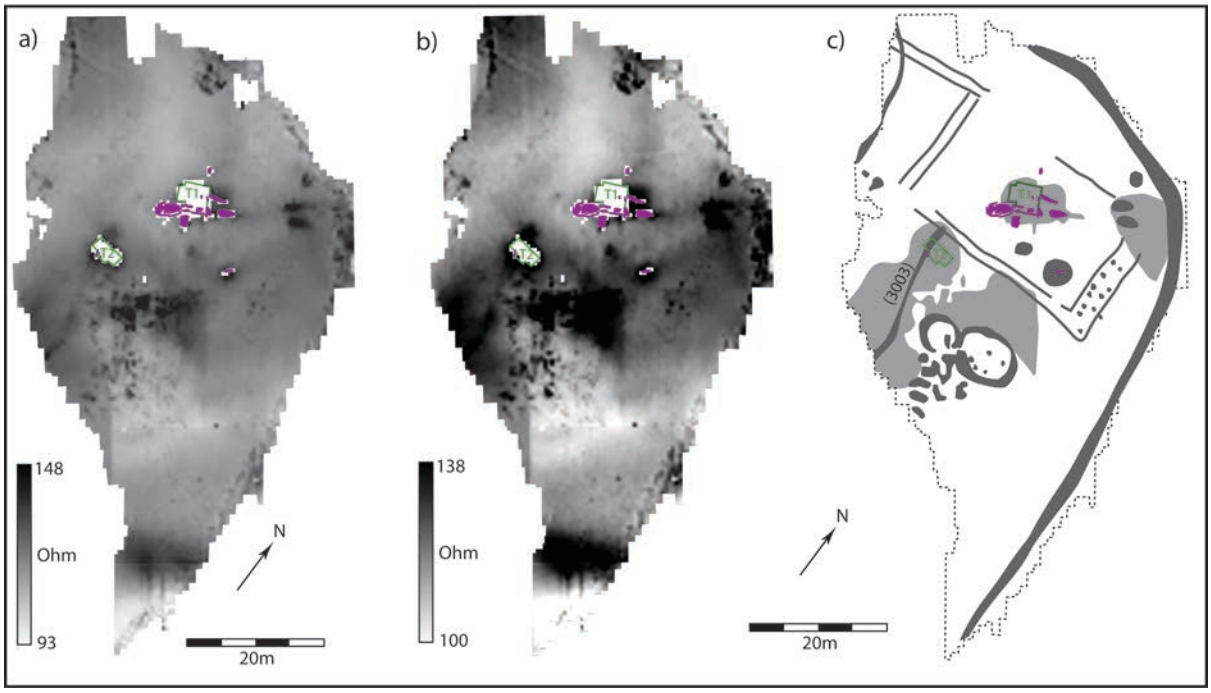

Figure 8 Electrical resistance survey results: a) original dataset; b) 'clipped' dataset; c) archaeological interpretation.

In the southeast part of this area the generic high resistance gets broken up into a scatter of smaller anomalies. Among them two conjoined penannular rings are suggestive of cellular structures, although this interpretation has to be treated as speculative considering the sheer number of high resistance spikes in this area, which could be interpreted in more than one way. Nevertheless, the penannular shape of these anomalies is preserved in both dataset plots, which gives this interpretation further support.

Second large area of high resistance is located in the northeast part of the site, next to the turf boundary wall which marks the limit of the clearing along the east and the northeast. In the original dataset this generic high resistance appears as three discrete high resistance anomalies, two of which are elongated, roughly parallel and in line with the alignment of the chambered cairn (Figure 8a). Considering that the test-pitting in this general area did not detect any rise in the bedrock, it is probable that these anomalies represent archaeological features containing a considerable amount of rubble or large stones. In this respect they are

not dissimilar to the high resistance response located around the chamber, which we know from the excavation of Trench 1 represents both rubble and fallen megaliths.

Finally, the two anomalies first detected in 2015 in the area to the southeast of the chamber, which will be part of the investigation in Trench 4 in 2017, are seen here in a broader geophysical context. Whilst both anomalies stand out in their own right in the original plot (Figure 8a), the second plot (Figure 8b) also shows that they are located within the large band of higher resistance related to the break of slope across the site. The westernmost of the two anomalies is close to the projected line of the façade of the chambered cairn and might relate to a fallen monolith, whilst the easternmost circular anomaly lies underneath outlier megalith and could be a small round cairn. Either way Trench 4 will help to contextualise these high resistance anomalies and add another part to the history of the site as a whole, which, on the basis of both the geophysical results and the excavation, is shaping be much more archaeologically complex than anticipated after 2015 season.

3.2 Excavation

Trench 1

The aim of the excavation in Trench 1 was to gain insight into the history and the dating of the use of the cairn and its construction, as well as any potential pre- and post-cairn activity on the site. In consideration with these aims the trench included parts of all three main architectural components of the chambered cairn – the chamber, the cairn and the façade (Figure 9). The main part of the trench was positioned over the cairn rubble first identified in test-pit TP22 during 2015 season, but remained unexcavated due to the small size of the test-pit (Mithen and Maričević 2015a). The SSE end of the trench encompassed the front two compartments of the chamber (C1 and C2), which were in derelict state, filled with standing water and overgrown with rushes and bracken. The ENE part of the trench was located over the projected line of the façade from which the majority of the monoliths were missing.

Following the clearing of the vegetation, the front two chamber compartments were emptied of water, probably for the first time in the living memory. The water level in the back compartments was also affected; however, being deeper they were never completely drained. At first sight the uppermost deposits inside the chamber compartments C1 and C2 were peaty sludge mixed with roots and occasional stones (Figure 10). Considering the inside of the chamber as a whole is lower than the surrounding peat, the chamber was filled with water every night and had to be bailed out every morning. After the end of the excavation the water returned to its pre-excavation level.

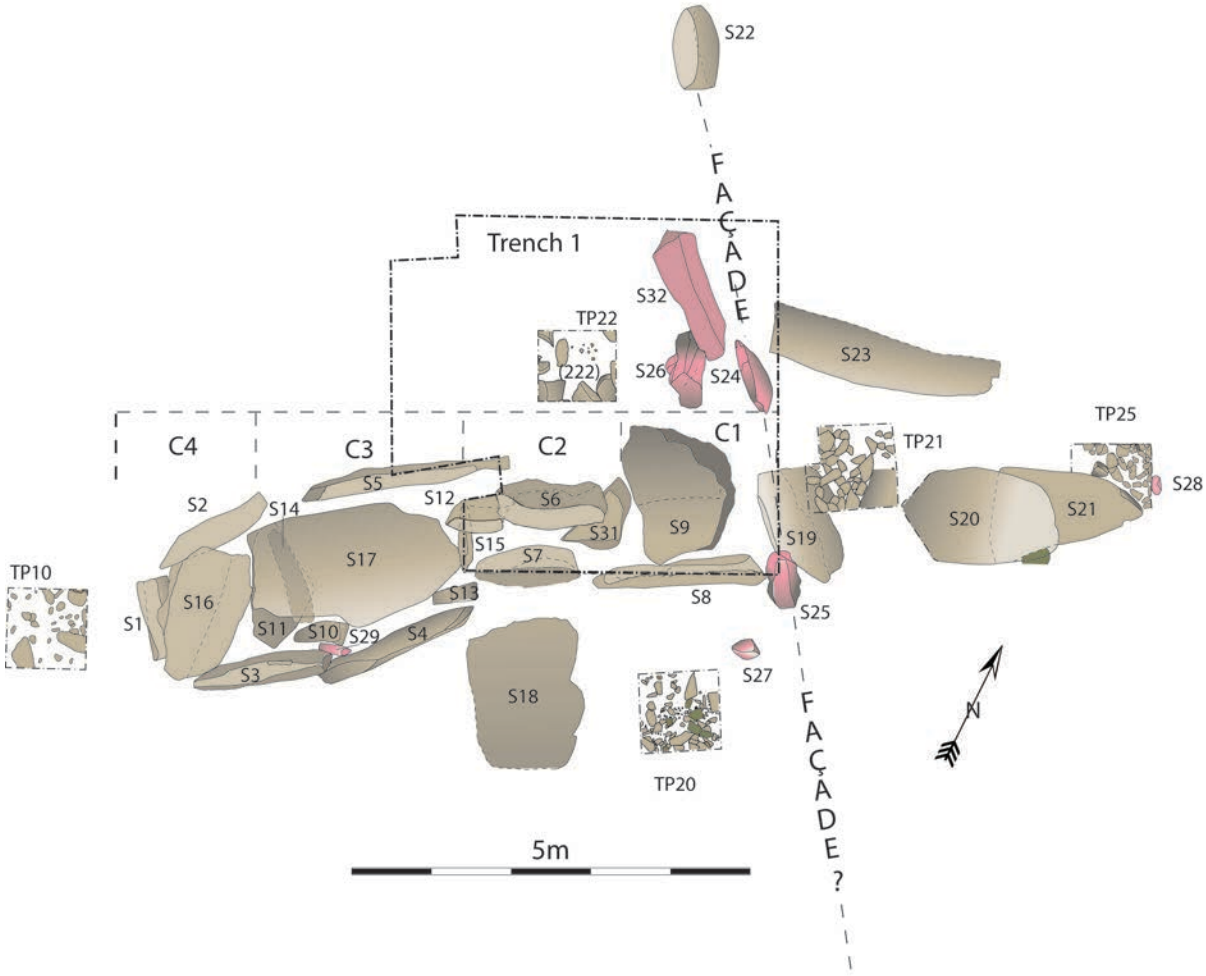

Figure 9 Trench 1 in relation to the architecture of the chambered cairn

The uppermost deposit inside the chamber was sludgy peat (1005), which contained the roots of the plants growing inside the chamber (Figure 10). In both investigated compartments peat (1005) was overlying dense rubble. Rubble (1008) was located predominantly in compartment C2, but also extending into compartment C1 up to the fallen orthostat S9 (Figure 11), which with its presence prevented the excavation in the major part of compartment C1. Rubble (1009) was excavated at the other side of this orthostat at the very front of the chamber. The main difference between the two rubble deposits was that (1008) was made up of predominantly larger stones and was at a higher level than (1009). Among rubble (1008) was a large stone S31 which, judging by its position, shape and size, probably represents fallen jamb stone which stood on the inside and in between orthostats S6 and S9 (Figure 9). A corresponding jamb stone on the other side of the chamber, which probably stood between orthostats S7 and S8, was not present and it was probably removed, as was the septal stone missing between compartments C1 and C2. The excavation in compartment C2 did not continue beyond rubble (1008) as this could have had destabilising effect on the leaning orthostats S6 and S7 (Figure 10).

Table 1 List of contexts from Trench 1

Context no.	Description	Interpretation	Stratigraphic relationships	Initials/Date
Trench 1				
1000	Stone paving/structure	Remains of a semi-circular structure sitting in peat. May have abutted the orthostats on its SE side	U/L 1001, O/L 1002	NP 23/08/16
1001	Brown peat	Top peat in Tr 1	O/L 1000, same as 220 in TP22	NP 23/08/16
1002	Black/dark grey peat	Lower peat in Tr 1.	U/L 1000, O/L 1006, 1003, 1004; same as 221 in TP22	NP 23/08/16
1003	Rubble below 1002	loamy spread located between fallen orthostats and façade stones in the east of Tr 1. Probable trample.	U/L 1002, 1009, O/L 1010, 1014	SLG 25/08/16
1004	dark grey/black peat in SW corner of Tr 1	peat formed in the hollow within the rubble next to orthostat S5 of C2.	poss same as 1002. U/L 1002, O/L 1011	NP 25/08/16
1005	Infill of the chamber	brown peat in the chamber	same as 1001 only in standing water. O/L 1009, 1008	TL 25/08/16
1006	Rubble spread	Soily spread of rubble abutting leaning orthostat S6. Disturbed.	U/L 1002, O/L 1007	NP 25/08/16
1007	Rubble curve/spread	Soily/peaty rubble over cleaner stone rubble in the SW corner of Tr 1. Probable trample.	U/L 1006, O/L 1011	SLG 25/08/16
1008	Infill of the chamber compartment C2	Rubble infill of C2 chamber compartment. Contains previously unseen septal/jamb stone	U/L 1005,	CL 26/08/16

1009	Infill of the chamber compartment C1	Rubble infill of C1 chamber compartment.	U/L 1005, O/L 1003	TL 26/08/16
1010	Loose rubble in NW part of T1	Possible cairn rubble, but probably disturbed or even redeposited.	U/L 1003, O/L 1011	DM 28/08/16
1011	Cairn rubble abutting othostats	Substantial stone blocks with smaller rubble between them making up the cairn structure	butts C2, U/L 1007, 1010, 1004, O/L 1013	NP 30/08/16
1012	Buried soil horizon	Soil horizon below cairn material 1011, but also pressed into by 1011	U/L 1011, O/L 1016, 1018, 1020	NP 30/08/16
1013	Fill of construction cut/packing for orthostat S5 of the chamber	Rubble packing abutting and underlying orthostat S5. Fill of construction cut for the erection of the chamber.	FO 1022, U/L 1011	CL 31/08/16
1014	Fill of probable robber cut inside chamber compartment C1	Rubble infill of C1 chamber compartment. Basal fill.	FO 1023, U/L 1003	DM 31/08/16
1015	Pale brown clayey natural	Natural glacial till over bedrock	cut by 1017, 1019, 1020, 1022, 1023, U/L 1012	TL 31/08/16
1016	Fill of small cut	Fill of a shallow feature. Similar to 1012	FO 1017, U/L 1012	LG 31/08/16
1017	Possible cut for a small feature	Small feature either cut or a stone hollow from stone robbing	FB 1016, cuts 1015	LG 31/08/16
1018	Fill of small cut	Fill of a shallow feature. Similar to 1012	FO 1019, U/L 1012	LG 31/08/16
1019	Possible cut for a small feature	Small feature either cut or a stone hollow from stone robbing	FB 1018, cuts 1015	LG 31/08/16

1020	Fill of small cut	Fill of a shallow feature. Similar to 1012	FO 0121, U/L 1012	LG 31/08/16
1021	Possible cut for a small feature	Small feature either cut or a stone hollow from stone robbing	FB 1020, cuts 1015	LG 31/08/16
1022	Construction cut for orthostat S5	Cut sloping under orthostat S5 representing construction cut for the erection of the chamber	FB 1013, cuts 1015, 1012?	NP 31/08/16
1023	Cut inside chamber compartment C1	Inwards sloping cut at the front of C1 chamber compartment representing either a robber cut or a construction cut equivalent to 1022	FB 1014, cuts 1015	DM 31/08/16
1024	drystone wall	drystone walling under jamb stone S25 and abutting S8	U/L 1014, F.O. 1023, butts S8	

Figure 10 View of compartment C2 of the chamber from the ENE showing sludgy peat (1005) on the left and rubble (1008) on the right including fallen jamb stone S31 in the foreground.

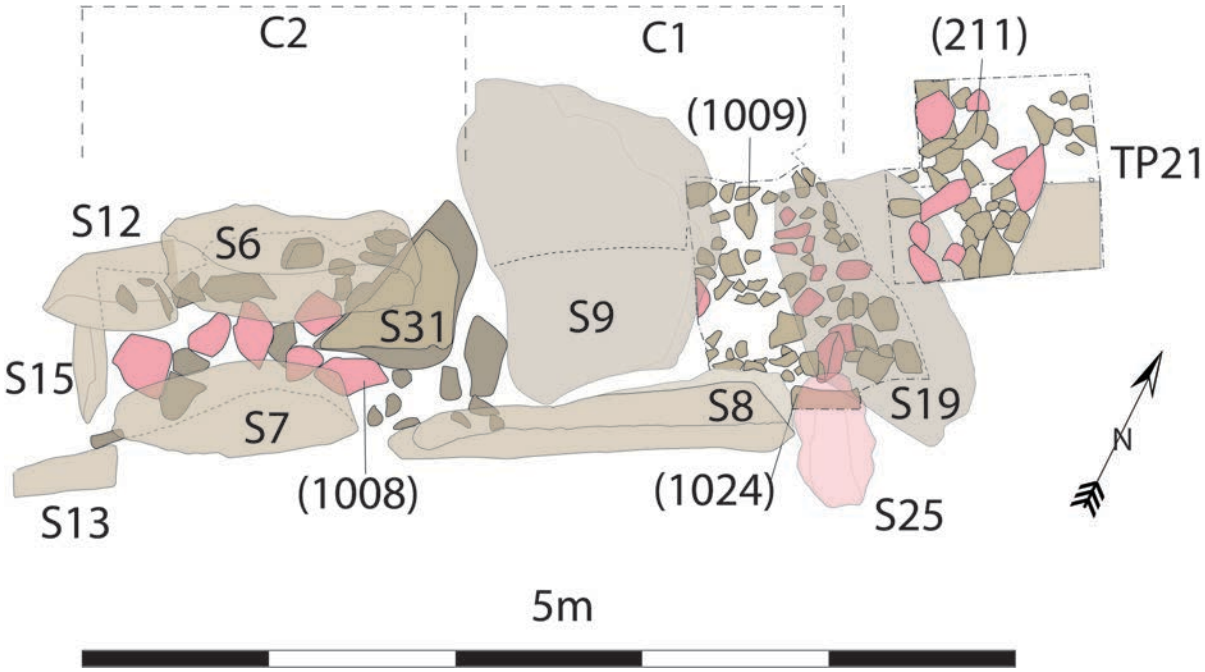

Figure 11 Plan of rubble deposits (1008) and (1009) inside the chamber compartments C2 and C1. The overhanging and leaning orthostats and displaced capstone S19 are shown in lighter shade. The colour of the stones corresponds to the local geology of matagabbro and pinkish syenitic gneiss.

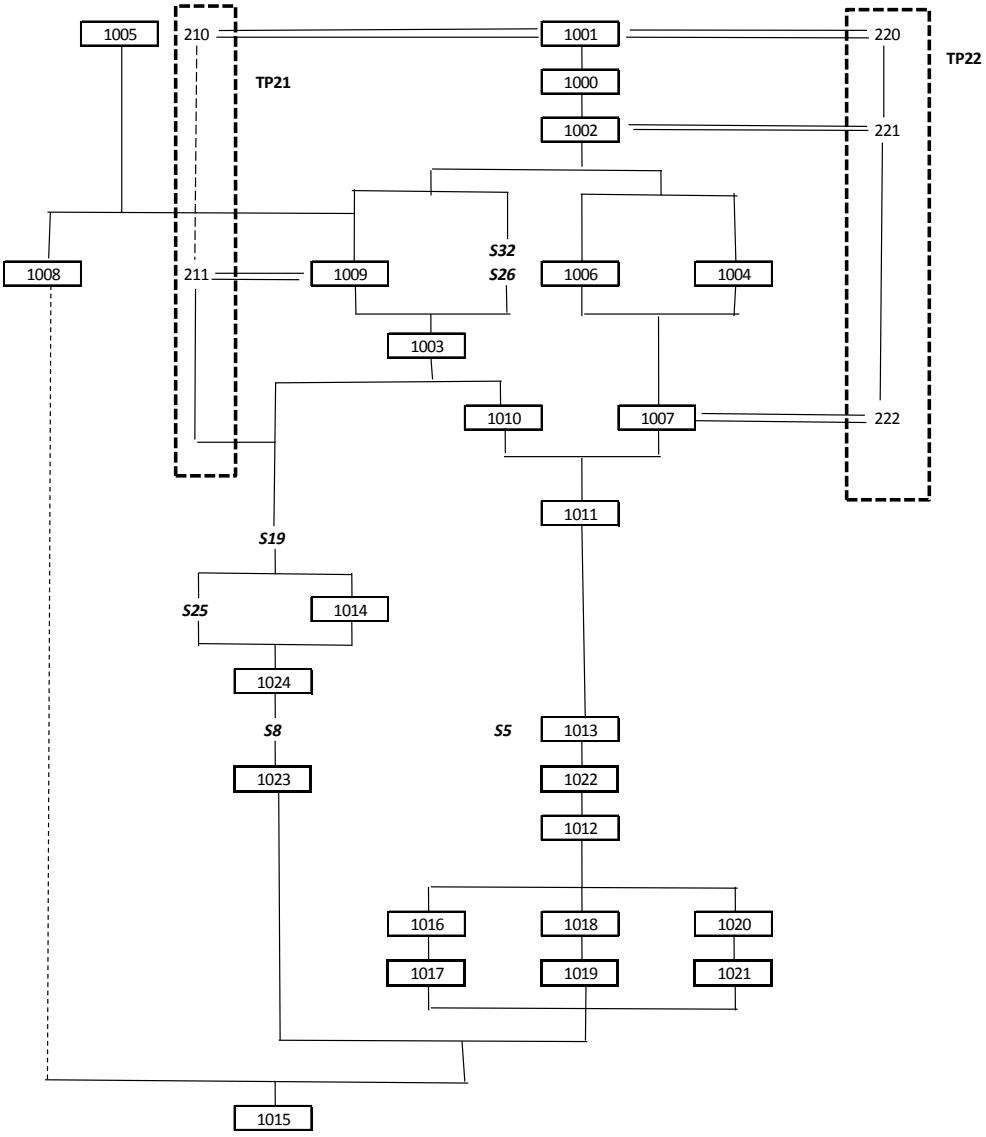

Figure 12 Stratigraphic matrix for Trench 1 with integrated contexts from test-pits TP21 and TP22

At the other side of fallen orthostat S9, which was suspended in near horizontal position against its opposing counterpart S8, the chamber was open towards the rest of Trench 1. Deposit (1003) was underlying rubble (1009) inside the chamber, but its extent was not limited to it, as it stretched right across the east part of the trench and around fallen orthostat S9 (Figure 16), thus providing stratigraphic link with the rest of the Trench 1 sequence (Figure 12). This loamy peat and rubble mix must have been deposited after the chamber was already in disrepair and after orthostat S9 was already toppled inwards. Rubble (1009) abutted the displaced capstone S19 on its underside and occupied similar stratigraphic position to rubble (211) excavated in TP21 at the other side of S19 during 2015 evaluation (Figures 11 and 12).

Inside the chamber, deposit (1003) was overlying cleaner rubble deposit (1014), which was difficult to excavate due to the speed of the incoming water. The excavation of the deposits inside the compartment exposed part of the internal elevation at the base of the *in situ* orthostat S8 and adjacent jamb/facade stone S25. The base of orthostat S8 was set 0.3m lower than jamb/facade stone S25, which was underpinned by a rough drystone walling (1024), constructed from perpendicularly set and wedged flat stones abutting the end of orthostat S8 (Figure 13). The front end of orthostat S8 itself was underpinned by stones, which rested on the base of the chamber. These stones could not be distinguished from the rubble fill (1014), so it is not clear whether they were placed during the construction or were pushed under the raised base of the orthostat at a later date.

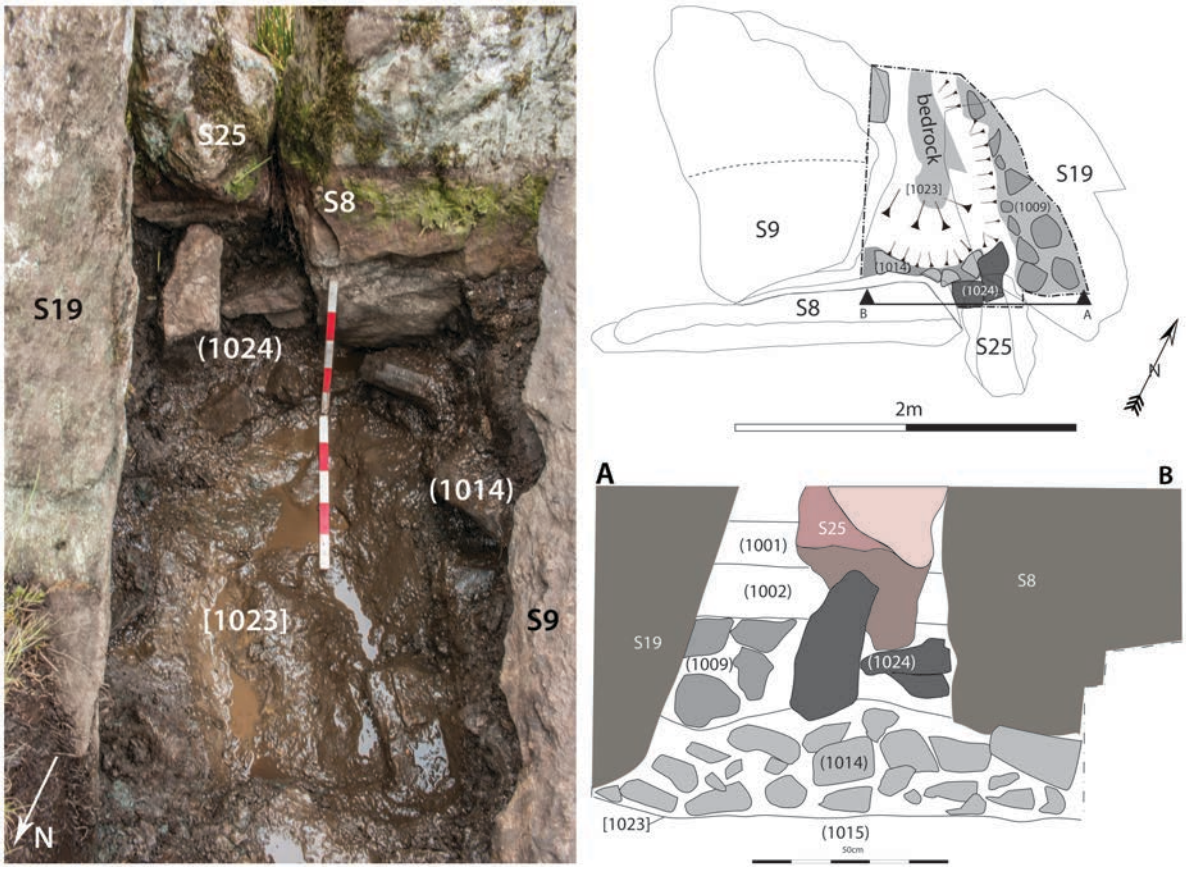

Figure 13 Photo, plan and elevation drawing of the front part of chamber compartment C1 at the end of the excavation. Jamb/façade stone S25 and drystone walling (1024) butt against the end of orthostat S8. Cut [1023] is only partially seen in the excavation slot.

The base of the chamber was seen only in the small opening exposed by the excavation between fallen orthostat S9, in situ othostat S8 and displaced capstone S19 (Figure 13). Rubble deposit (1014) continued under S19, which was resting on top. This is in contrast to (1009), which abutted the stone, and also rubble (211), excavated in test-pit TP21 (Figure 12). Rubble under S19 could not be excavated, but it was noted that the base of the chamber was sloping inwards from this direction suggesting that it was cut into the natural pale brown clayey till (1015) (Figure 13). This cut [1023] was contiguous as it continued

under the drystone walling (1024) and in situ orthostat S8, thus suggesting that this is a construction cut for the chamber. The cut was not followed in the opposite direction towards the base of orthostat S9, where an unexcavated baulk was left to support *in situ* jamb/façade stone S24 (Figure 9).

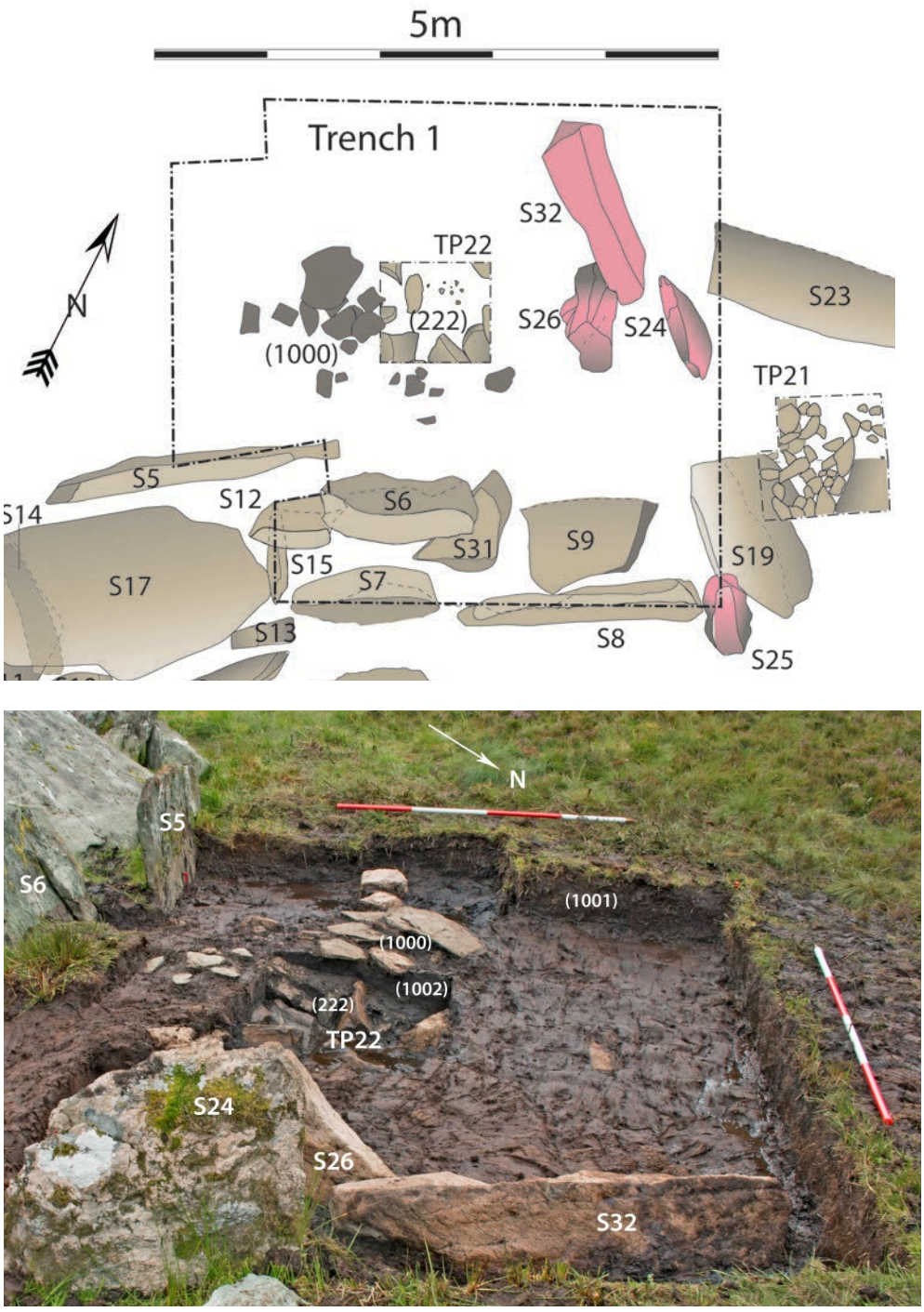

Figure 14 Plan and photo of Trench 1 after the removal of top peat (1001) showing stones (1000) in relation to rubble (222) in test-pit TP22

The sequence in the main part of Trench 1 was topped by peat which consisted of two easily distinguishable episodes. The top brown peat (1001) was overlying darker and more tenacious black peat (1002), which can be equated to deposits (220) and (221) excavated in test-pit TP22. Sandwiched between the two episodes of peat growth were stones (1000), which were adjacent to the southwest and the southeast sides of the test-pit (Figure 14). They consisted of predominantly thin flat stones which may have been remains of a poorly constructed paving or even a semi-circular shelter, which could have utilised the straight sides of the chamber on its southeast side. Stones (1000) were laid flat onto peat (1002), which was in turn overlying rubble (222) in test-pit TP22, thus separating these two contexts (Figure 14).

Towards the north corner of the trench the removal of peat (1001) revealed a large syenitic gneiss monolith S32 lying on NW-SE orientation, approximately parallel with the line of the façade from which it probably derived. Next to it was another large pinkish gneiss stone S26, which was previously barely visible above the surface, but could now clearly be seen lying at a slight angle in the peat out of its original position. Both stones were lying next to the façade/jamb stone S24, which is still upright and marks the line of the façade and probably represents the side stone of the portal entrance together with stone S25. The excavation was stopped in the eastern part of the trench at this point because stones S26, S32 and S24 occupied large part of it and their stability had to be preserved by leaving the peat below them untouched. The northeast corner of the trench will be revisited in 2017 when Trench 2 will be open in continuation of Trench 1, which will make more space available for excavation.

Excavation of black peat (1002) in the western part of the trench revealed series of deposits shown in Figure 15. Deposit (1003) was mentioned already regarding its relationships with the rubble deposits in C1 chamber compartment. This deposit occupied the entire eastern side of the trench (Figures 15 and 16) and was underlying toppled façade stones S32 and S26. The deposit was comprised of mottled peaty loam and predominantly smaller and often crushed stones, which were overlying cleaner denser rubble (1010). (1003) was only partially excavated along the westernmost part of its extent, while the rest of the deposit extending underneath toppled façade stones was left to support them, thus reducing the area of the excavation in the trench by a third (Figure 18).

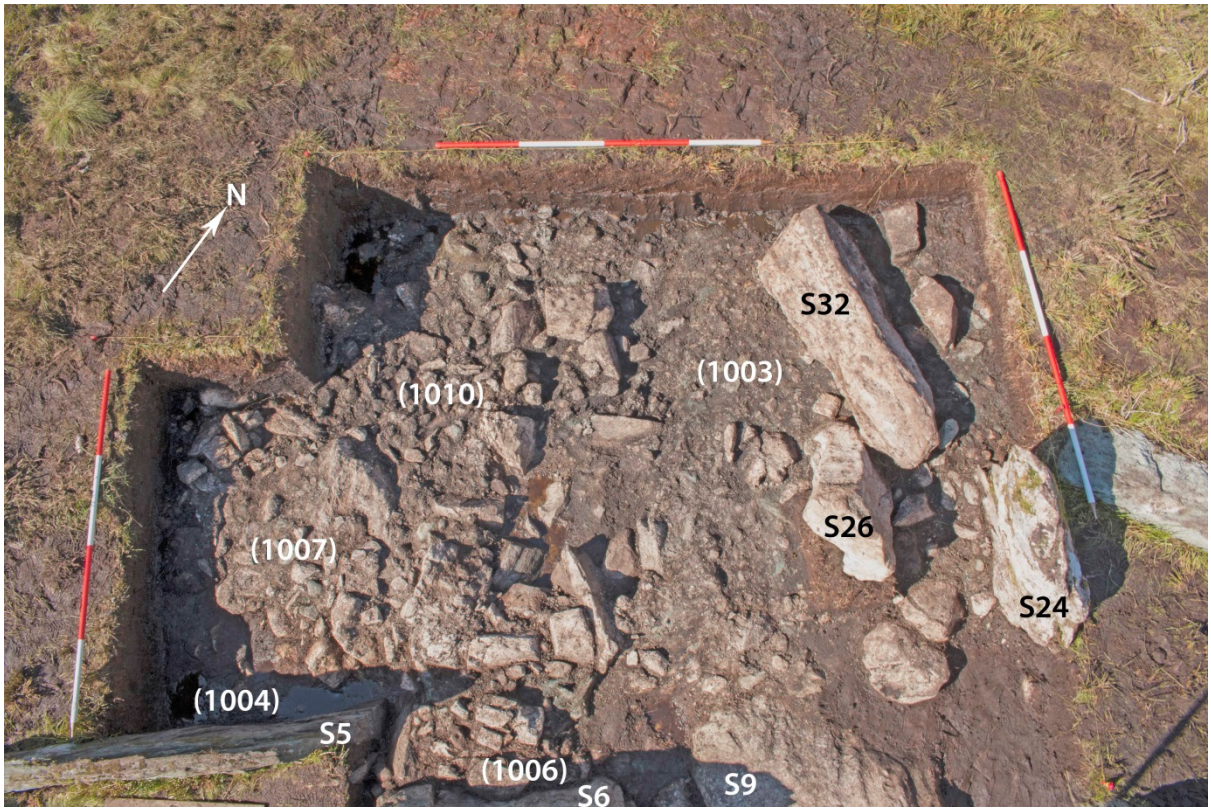

Figure 15 Aerial view of Trench 1 from the southeast after the excavation of black peat (1002) showing the toppled façade stones in the northeast part of the trench and the extent of different rubble deposits across the trench.

Deposit (1004) was not substantially different from the overlying peat (1002), but it was deeper and localised in the southwest corner of the trench where it was filling triangular space between the rubble deposits to the north (1007 and 1010) and the *in situ* orthostat S5. For this reason this space was investigated as a fill of a possible cut. The excavation suggests that peat (1004) formed in a hollow which was probably formed by the removal of the stones and the cairn material adjacent to orthostat S5. Quartz blade SF2 was found in the narrowest part of this context, between the rubble and the orthostat (Figures 16 and 17). A similar quartz blade (Figure 17) was found at the opposite northwest corner of the trench at the base of black peat (1002).

Deposit (1006) was a small rubble spread abutting the face of orthostat S6 (Figure 16). This deposit had a larger percentage of soil and rootlets the underlying rubble deposit (1007). In addition, the entire deposit was abutting the leaning orthostat in the way that suggested that it was either deposited after the orthostat has moved or it has moved together with it.

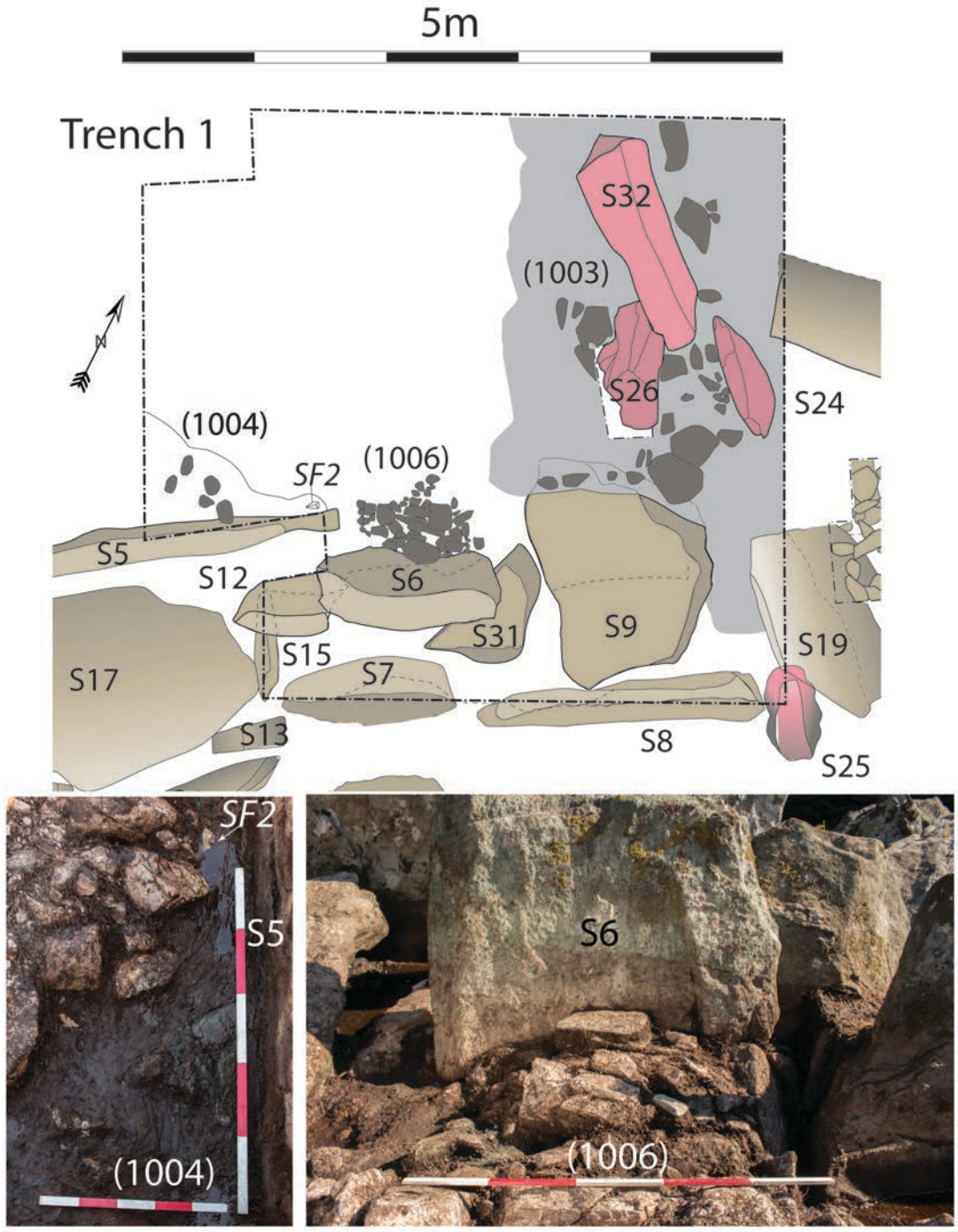

Figure 16 Top: Plan of Trench 1 showing deposits (1003), (1004) and (1006) in relation to the megaliths; Bottom left: Deposit (1004) from the southwest showing quartz blade SF2 in situ; Bottom right: Deposit (1006) abutting orthostat S6 from the northwest.

Figure 17 Quartz blade SF2 in deposit (1004) and quartz blade SF3 from deposit (1002)

The sequence of rubble deposits continued with (1007) and (1010), two deposits which were potentially related, but were located on two sides of a protruding ridge of large stone blocks running on the E-W alignment across the western part of the trench (Figure 18). Rubble (1007) was higher up resting on the platform created by the large stone blocks below it, while (1010) abutted the line of the blocks from the north and filled the spaces between other sporadically visible large blocks in the north part of the trench. Rubble (1010) was denser in the west part of the trench and was gradually becoming sparse towards the façade where it was underlying (1003). Part of the deposit (1007), which was abutting leaning orthostat S6 was not excavated to insure the stability of the orthostat (Figure 19)

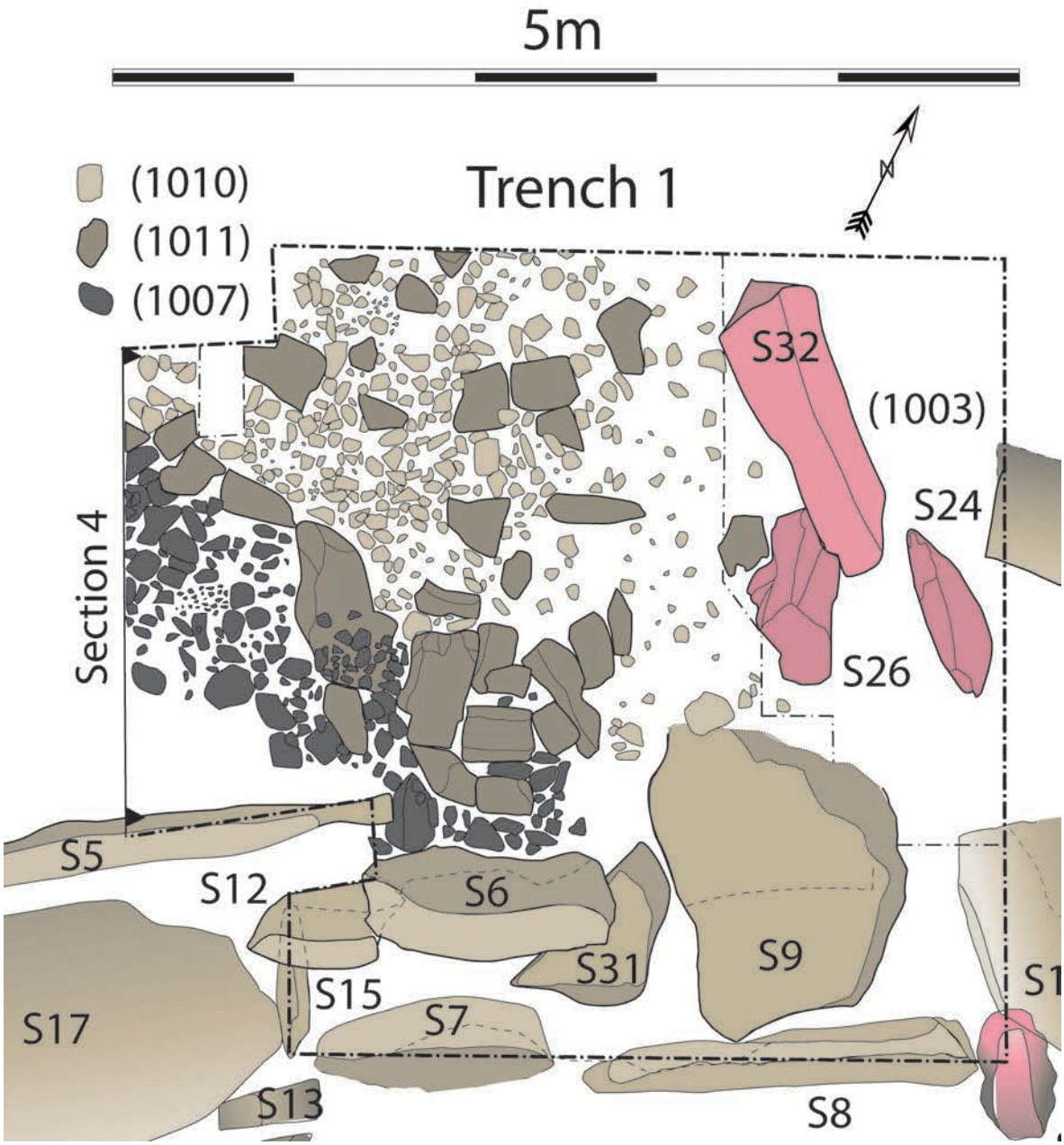

Figure 18 Plan of Trench 1 showing the extent of rubble deposits (1007) and (1010) overlying protruding larger stone blocks (1011). Deposit (1003) remained unexcavated under toppled stones S32 and S26.

The line of stone blocks was at this stage of the excavation treated as a possible curvilinear structure underlying smaller rubble deposits (1007) and (1010). The western projection of the trench was extended 0.5m to the northwest in order to see more of its potential continuation. The excavation of rubble deposits (1007) and (1010), however, revealed that its linear appearance was fortuitous and that the larger stone blocks across the trench comprised a single jugged horizon of large stones (1011). Certain number of stones was set onto their shorter edge leaning towards the southwest and occasionally they were still stacked against each other in this way (Figure 19), indicating the direction in which this part of the cairn was constructed.

Figure 19 Robbed out remains of the cairn structure (1011) from the northwest showing the lean of the stone blocks and the areas where buried soil horizon (1012) could be investigated between them.

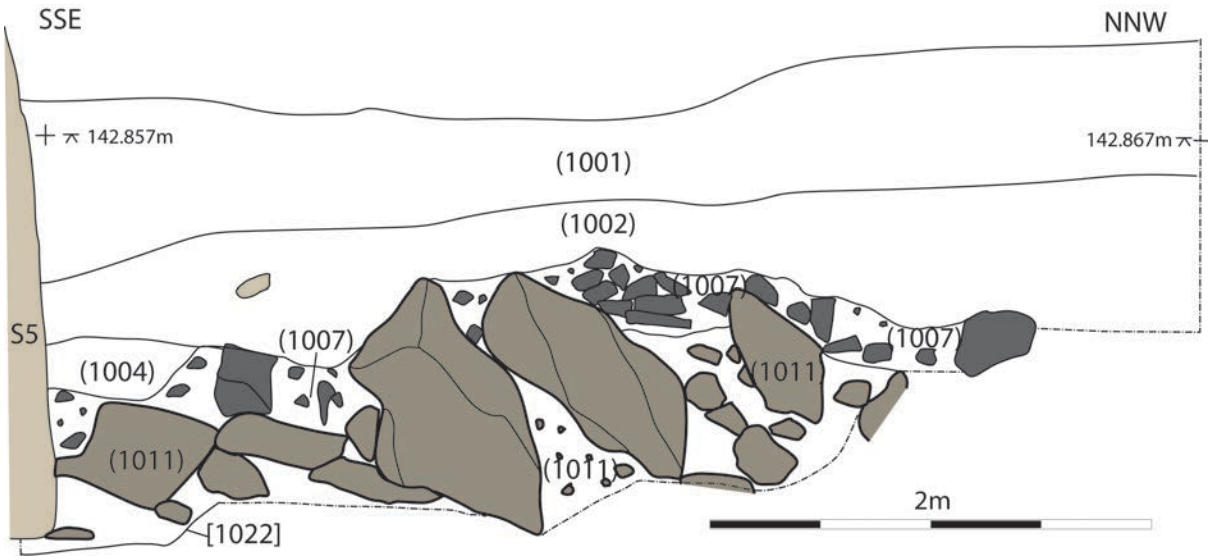

Figure 20 Section 4 of the SW baulk of the trench showing the stratigraphy in this part of the cairn

Figure 21 Orthostat S5 at the end of the excavation with a human scale from the northwest and 1m scale from the northeast

The cairn structure was visibly robbed even at this level as there were many gaps in between otherwise densely stacked blocks (Figure 19). Smaller stones were used as choking stones in between the larger blocks and rubble was still filling the deeper spaces between them. Some of the larger stones abutted the in situ orthostat S5 of C2 compartment of the chamber (Figures 20 and 21). Smaller rubble continued underneath orthostat S5 including its lowest base point. This rubble and the base of the orthostat were sitting in a shallow cut [1022], which was sloping towards the chamber and cutting thin horizon dark greyish brown clay silt (1012), which was sandwiched between cairn material (1011) and the natural till (1015). This arrangement was similar to the relationships inside C1 compartment of the chamber where some of the rubble filling the chamber was underlying orthostat S8 inside shallow cut [1023].

Deposit (1012), interpreted as a buried soil horizon, was observed and excavated only in those parts of the trench in which stone blocks (1011) were not too large to move. This limited its investigation to two roughly 1x1m areas, one of which was located centrally in almost exactly the same space where test-pit TP22 was located higher up in the sequence. The second 1x1m area was in the north corner of the excavation area (Figure 22). The buried soil (1012) was visibly pressed in by the weight of the stone blocks and the rubble above it. In the northern 1x1m area upon its excavation three small depressions or possibly cut features [1017], [1019] and [1021] were revealed, filled by dark grey soft clay silts (1016), (1019) and (1021), respectively (Figure 23). All three fills were very similar to the buried soil itself, which made it quite difficult to ascertain whether they were cut features or depressions left after the removal of stone blocks, which then filled up with the silting from the surrounding deposit. All three features were half sectioned, sampled and recorded in plan and section (Figure 24).

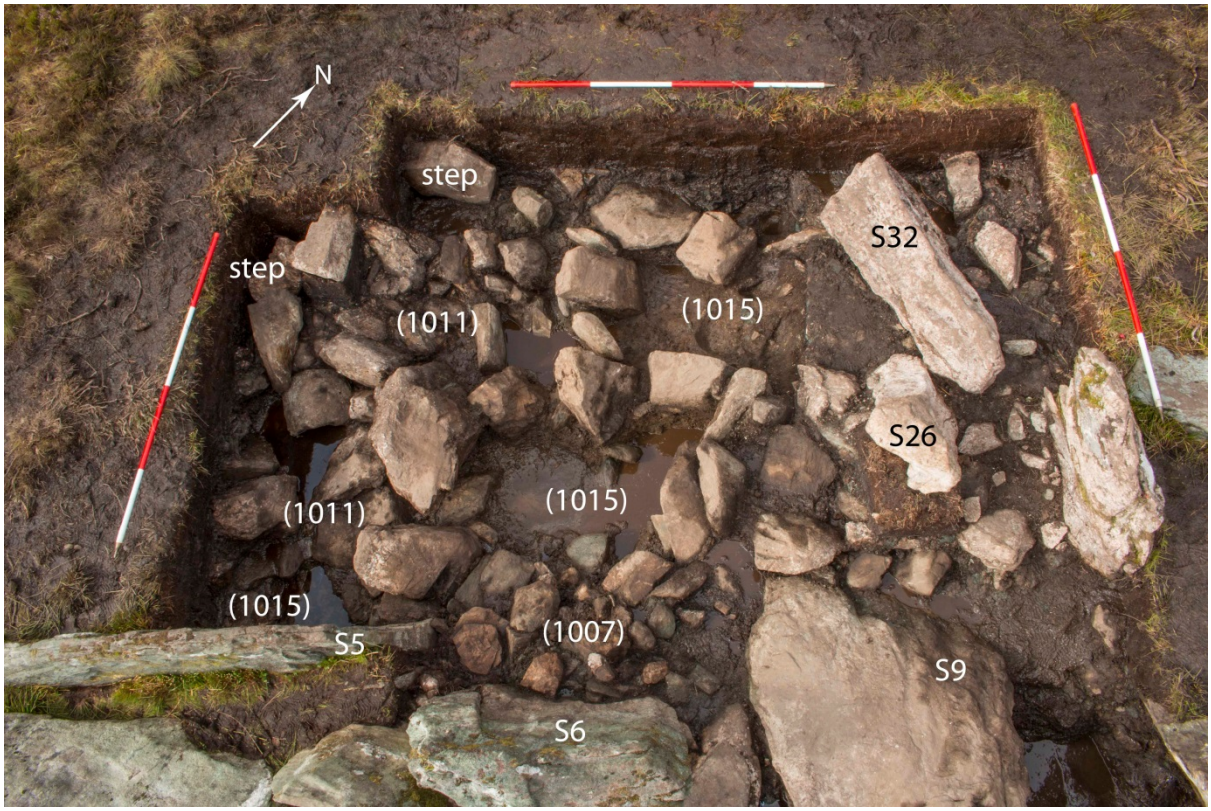

Figure 22 Aerial view of Trench 1 from the southeast showing the areas in between cairn material (1011) where excavation reached natural glacial till (1015). The stones labelled as 'step' have been moved into this position, but were too large to move out of the trench.

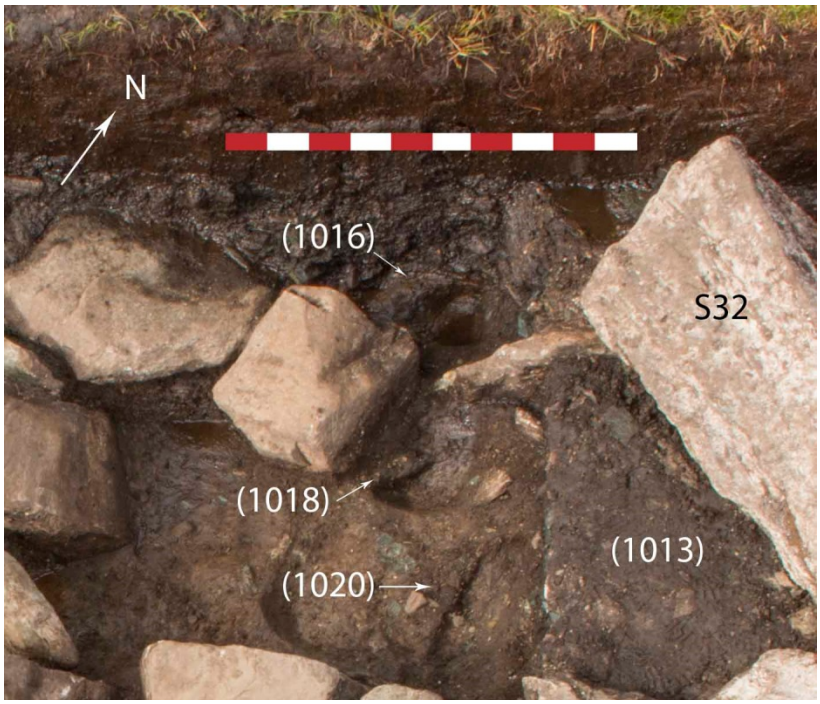

Figure 23 Half-sectioned features (1016)[1017], (1018)[1019] and (1020)[1021] from the southeast. Note the way the stones are impressed into glacial till (1015).

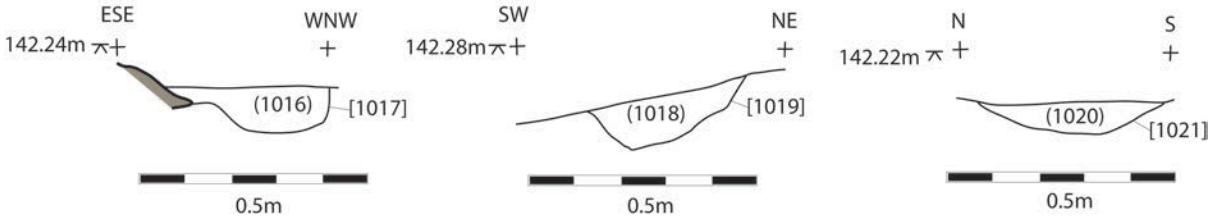

Figure 24 Sections nos. 1, 2 and 3 through features [1017], [1019] and [1021]

Trench 3

Trench 3 was aimed at answering questions about the role of the SW outlier megalith and its potential relationship with the high resistance anomalies that were identified around it (Figure 4). The list of excavated contexts is given in Table 2 and the stratigraphic matrix in Figure 25.

Context no.	Description	Interpretation	Stratigraphic relationships	Initials/Date
Trench 2				
3000	Top brown peat in Tr 3	Top peat in Tr 3		DM
3001	Black/dark grey peat	Lower peat in Tr 3	U/L 3000,	DM
3002	Rubble layer over whole of Tr 3	Cobbled surface/hard standing extending beyond the limits of Tr 3	U/L 3003, O/L 3004	DM
3003	Wall built of large boulders and incorporating outlier megalith	Field wall partially seen on the surface and incorporating outlier megalith in Tr3	U/L 3001, O/L 3002	DM
3004	Layer of large stones	large rubble either placed as a make up for cobbled surface 3002 or represents tumble of the cairn	U/L 3002, O/L 3007	
3005	Mid brown silty clay layer	silty accumulation between the stone blocks of cairn kerb 3006. Poss. Same as 3007?	U/L 3007, O/L 3006	LW 30/08/16
3006	Stone block structure, kerb and cairn	Large flat mainly rectangular stone blocks making up the platform and the kerb of the chambered cairn	U/L 3005, O/L 3008	DM 30/08/16
3007	Dark smooth interface between the cairn and the rubble	Silty interface between rubble 3004 and cairn kerb and platform 3006. Poss. Same as 3005?	U/L 3004, O/L 3005	LW 30/08/16
3008	Buried soil horizon	buried soil horizon below the cairn kerb	U/L 3006, O/L 3009	DM 01/09/16
3009	Pale brown clayey natural	Natural glacial till over bedrock	U/L 3008	DM

Table 2 List of contexts from Trench 3

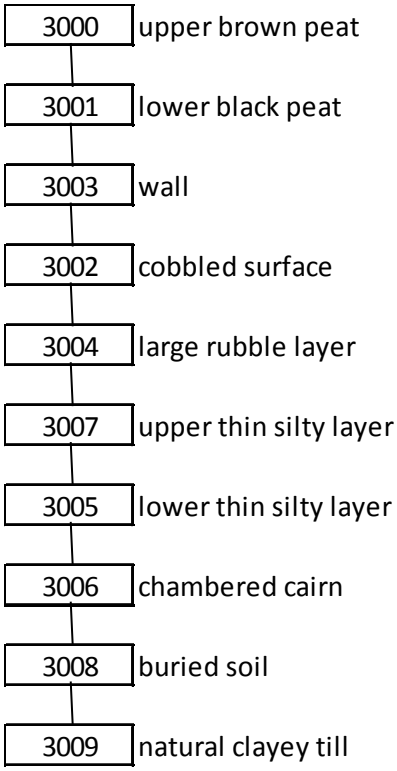

Figure 25 Stratigraphic matrix for Trench 3

The uppermost deposits excavated in the trench were top brown peat (3000) and below it black peat (3001). These deposits were much thinner than in Trench 1, as expected from the results of the test-pitting evaluation across the clearing in 2015. During the vegetation clearing and subsequent trample around the trench a part of wall (3003) has become visible on the surface at the north side of the trench and its continuation was exposed in the trench below the turf. This wall was surviving as a single course of large irregular boulders which were edge matched when positioned next to each other. The wall ran on the N-S orientation perpendicularly across the trench with a small gap in the middle where two stones have been moved 0.5m to the west. At the southern baulk of the trench the wall incorporated the outlying megalith, which was the biggest and the only green metagabbro block in the exposed part of the structure (Figure 26).

The walls' location and orientation make it clear that it was the main cause of the linear geophysical anomaly seen in association with the outlying megalith. However, wall (3003) was only the latest in sequence of several superimposed stone structures and rubble deposits revealed in Trench 3. The wall itself was built directly across a cobbled surface (3002), which extended across the entirety of the trench and stretched below the wall in both lateral directions (Figure 26). The cobbles to the west of wall (3003) were somewhat larger on average (Figure 27) which might indicate that the laying of the cobbled surface was already anticipating the construction of the wall at this juncture, which is also supported by the lack of any deposit accumulation between the cobbled surface and the wall.

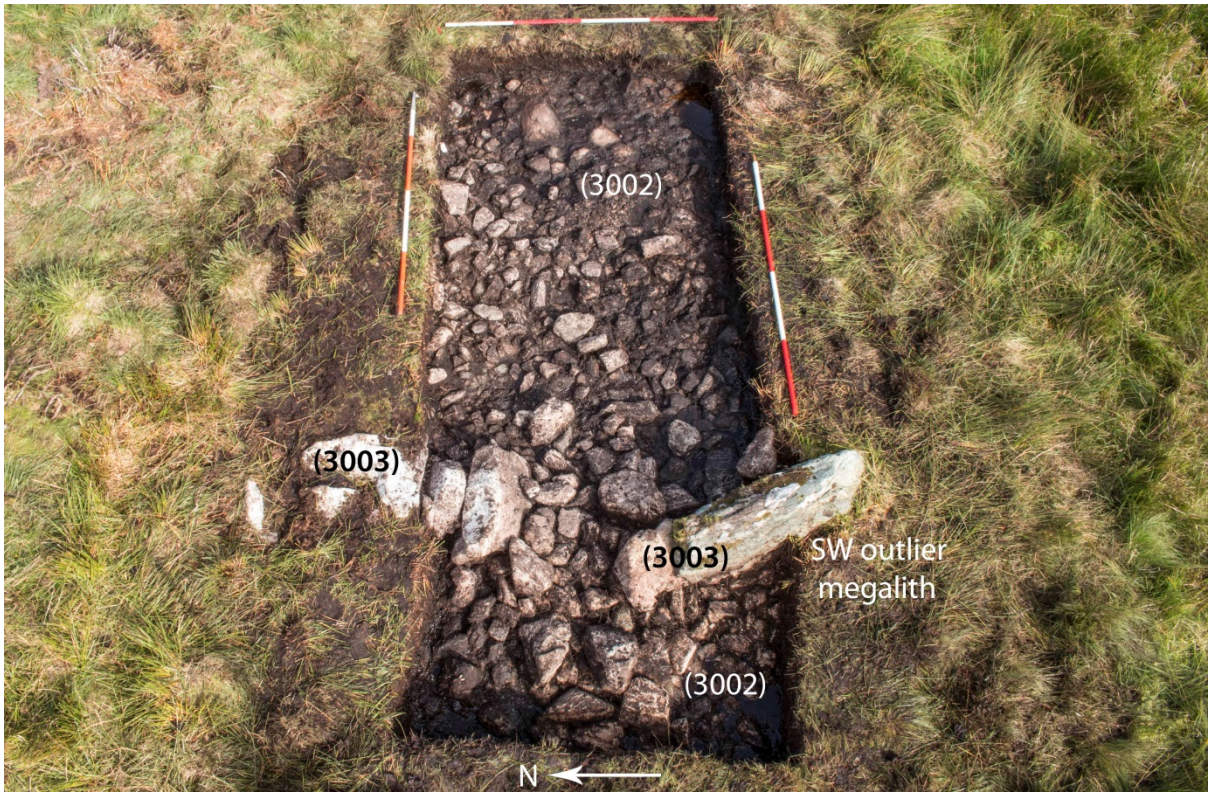

Figure 26 Aerial view of Trench 3 after the removal of the peat showing wall (3003) with a gap in the middle and cobbled surface (3002) underlying it.

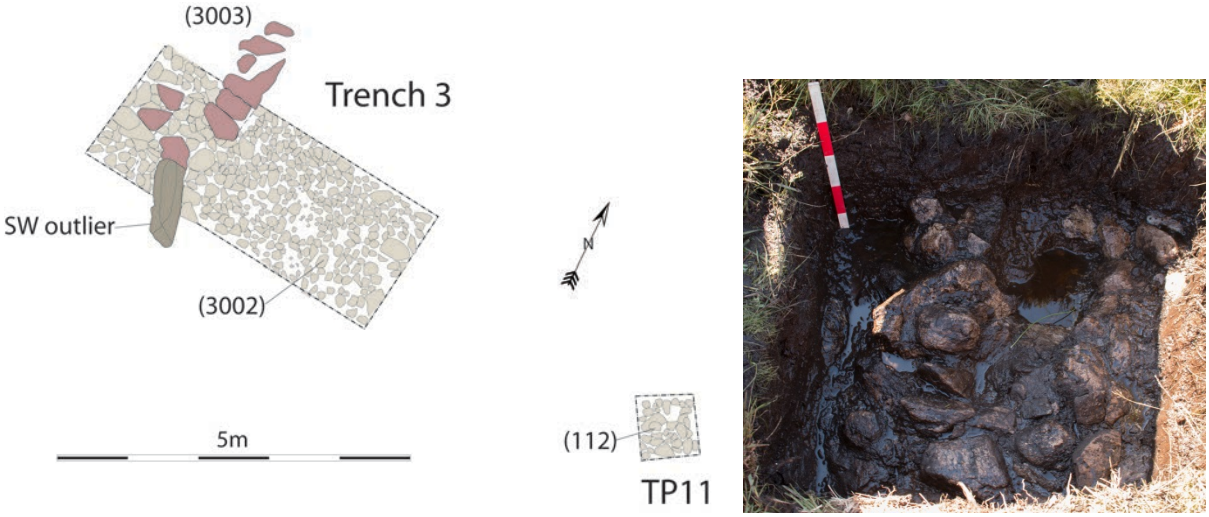

Figure 27 Left: Plan of Trench 3 and test-pit TP11 showing corresponding cobbled surfaces (3002) and (112). Right: Cobbled surface (112) in TP11 from the southeast

It is not known how far does this area of hard standing extend beyond the limits of the trench, but it has been also identified as context (112) in test-pit TP11 located 4m east from the east end of Trench 3 (Figure 27). The test-pit was excavated in 2015 when due to its small size (0.5m²) and the high water table the cobbles were not be recognised as a part of a larger surface or indeed as not being natural in origin. In order to compare the two deposits the test-pit was reopened and enlarged to 1m² (Figure 27), which indeed confirmed that

they probably represent the same surface. Deposit (112) was not excavated and the test-pit was backfilled and reinstated after the recording. Thus we know that the area of hard standing represented by (3002) and (112) extends for at least 10m in the E-W direction. Considering large area of high resistance to the south and to the east of Trench 3 and TP11 it is possible that its full extent could much greater (Figure 8).

The excavation in Trench 3 initially proceeded by sectioning deposit (3002) longitudinally across the trench in order to learn more about the construction of the cobbled surface and to investigate any possible underlying deposits. The sediment the cobbles were set in was very sticky and tenacious peaty clay which may have been partly a result of heavy trample, but it had the effect of keeping the cobbles from being loose. Underlying (3002) was rubble (3004), which was very different in character. Unlike carefully laid cobbles of (3002), this deposit consisted of generally much larger stones which were scattered randomly across the trench (Figure 28). Once again, no sediment accumulation in terms of silting or peat growth has been noted between these stone-rich deposits. Instead, deposit (3002) with its smaller stones was simply packed in between rubble (3004) and then more carefully laid on top (Figure 29). The southwest corner of the trench, on the west side of wall (3003), was at this point excavated down to the natural till (3009) to obtain guidance as to the thickness of deposits in the trench (Figure 28).

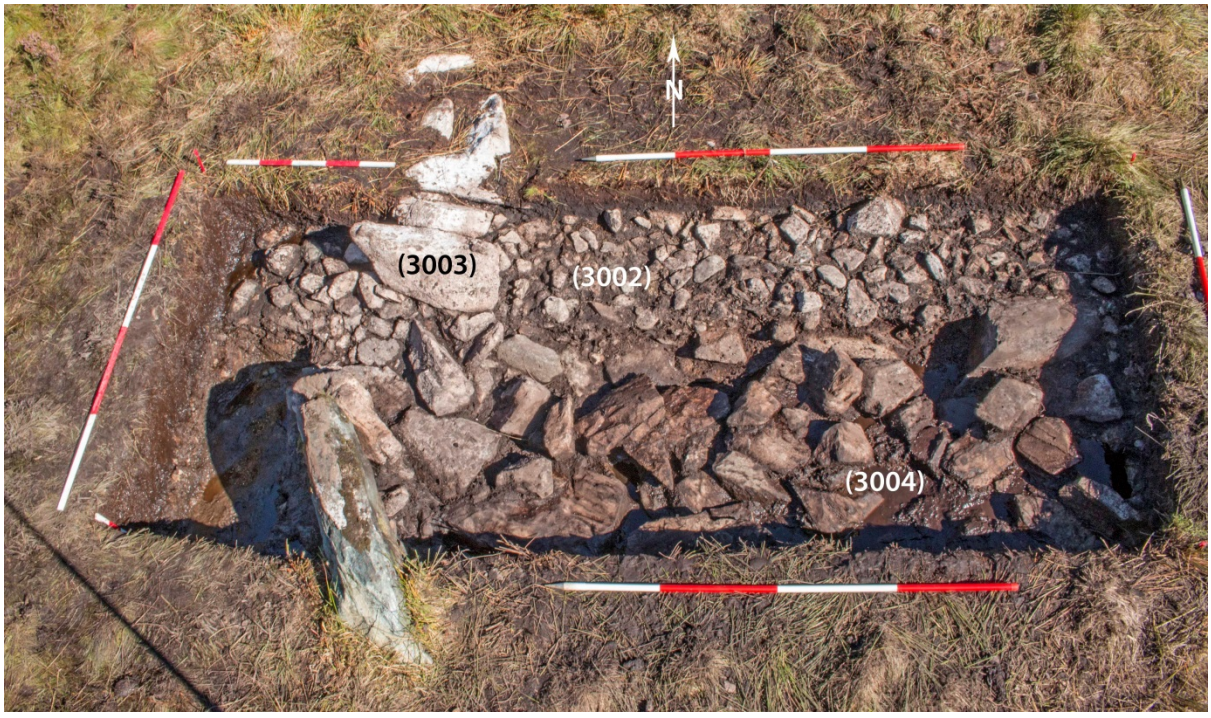

Figure 28 Aerial view of Trench 3 from the south showing sectioned cobbled surface (3002) in the north part of the trench and larger rubble (3004) in the south.

Figure 29 Closer view of the sediment profiles in Trench 3 showing cobbled surface (3002) laid over irregular surface of rubble (3004).

Upon further excavation of rubble (3004) it was becoming apparent that some of the largest stones protruding among the rubble were part of a more uniform arrangement of stone blocks (Figure 30). Some of the flat-topped stone blocks were covered on top with thin layer of dark smooth silt (3007), while similar brownish silt (3005) has accumulated in the hollows between them. Neither of these deposits was more than 0.05m thick. Considering the size of the emerging structure (3006) it was decided that it should be exposed over the entire area of the trench east of wall (3003), which resulted in further excavation of deposits (3002), (3004), (3007) and (3005), previously left in the section at the north side of the trench. Furthermore, in order to confirm the linear nature of the structure beyond any doubt a small extension, measuring 2m by 0.5m was added at the southern edge of the trench (Figure 31).

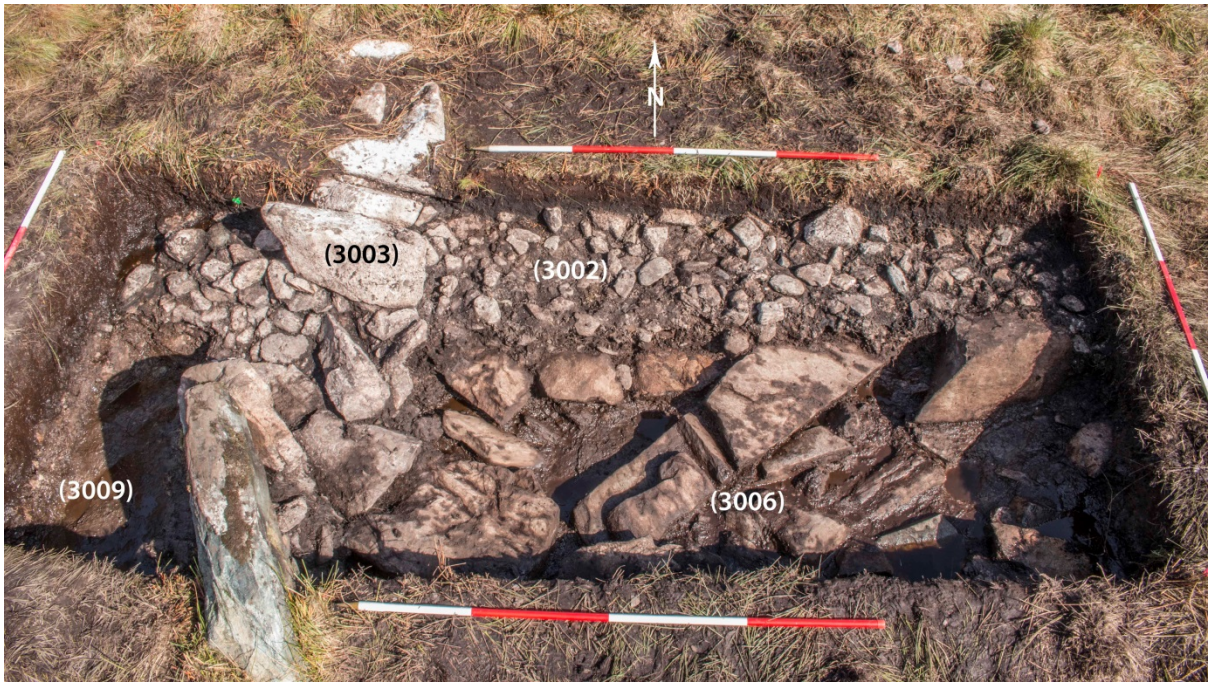

Figure 30 Aerial view of Trench 3 from the south showing the large stone blocks of structure (3006) with unexcavated part cobbled surface (3002) visible in the north part of the trench.

Figure 31 Aerial view of extended Trench 3 from the south showing structure (3006) with wall (3003) remaining in situ.

The result of this was that enough of the structure was exposed to be able to define its alignment and all of its composite parts. The most striking part of the structure is a double skin wall running on the SW-NE alignment from the northeast corner of the trench to the southwest corner of the extension and into the baulk underneath the matagabbro megalith in wall (3003). The stone blocks in this wall were carefully chosen for their large size and their flatness. Most of the blocks in the wall were sub-rectangular in shape, 0.5m to 1.2m in length, 0.3m to 0.6m in width and 0.10m to 0.40m in height. The outer line formed a straight face towards the southeast with a smaller line of thin flat stones abutting it from the outside in form of some kind of paving or an additional decorative kerb (Figure 32). The wall survived two courses high in places, although not all of the blocks were *in situ*, as some slightly displaced, but evidently still part of the structure. The inner skin of the wall was composed of the largest stones, which were also lined up to form a very straight southeast face, which, however, probably would not be visible behind the outer face.

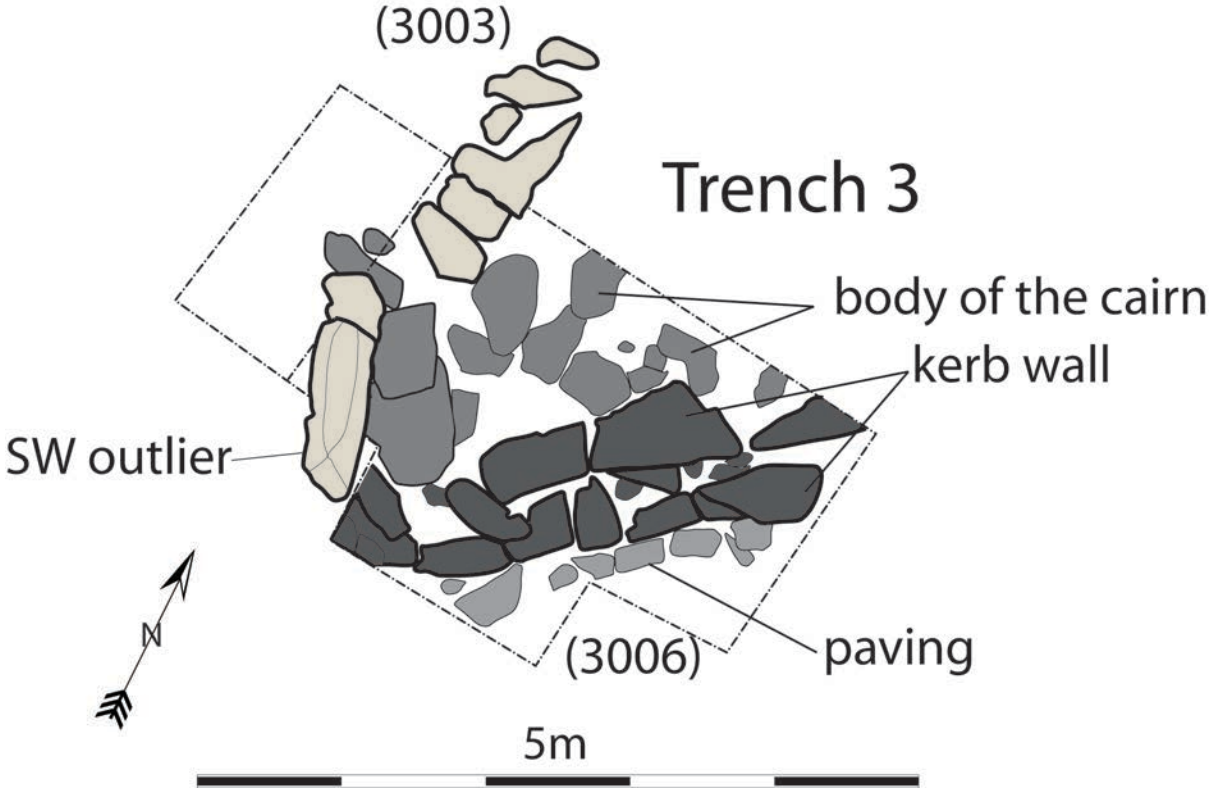

Figure 32 Plan of Trench 3 showing different components of structure (3006)and overlying wall (3003)

On the inside the wall was abutted by further large stone blocks, which were on a different alignment, but carefully edge matched against the wall and against each other. They survived as a single layer of stone blocks forming a substantial platform, which was continuing into the baulk towards the north. The wall and the platform, as well as the outer line of paving, were laid on top of thin greyish brown mottled soil horizon (3008), which was overlying pale brown clay till mottled with manganese (3009). Considering its stratigraphic

position, its location, its size and the alignment of the kerb wall of structure (3006) it is most likely that it represents the kerb and part of the body of the chambered cairn.

3.3 Summary and conclusions

The results of the 2016 fieldwork have greatly enriched our understanding of the site and have contributed large amount of data, most of which is still to be studied during the post-excavation and in conjunction with the results of the final season of fieldwork in 2017. The geophysical results have contributed broader context by bringing into the fold those parts of the clearing that are beyond our trenches and test-pits. They have introduced further questions in relation to the multitude of high resistance anomalies scattered across the clearing, which, if the results of the excavation in Trenches 1 and 3 are borne in mind, are likely to represent significant concentration of potentially complex archaeology in the immediate surrounding of the chambered cairn. Thus, one of the first and the most important contributions of the fieldwork thus far is to demonstrate that the chambered cairn, which was itself barely visible and not very accessible, is not an isolated remnant from the Neolithic past which lay forgotten ever since, but a monument that at different times has attracted considerable interest. This should really not come as a surprise, but is only at odds with the monuments current setting in the part of the landscape that has only very recently become cut off from the everyday life.

Nevertheless, the chambered cairn remains the primary subject of investigation in 2016. While Trench 1 provided exactly the type of information which we were hoping it would, regarding the history of the construction and the relationships between the cairn, façade and the chamber, our objectives in Trench 3 were not originally centred upon the chambered cairn. Considering the small size of the trench, it is very fortunate that, in addition to the later archaeology associated with the outlier megalith and the geophysical anomalies that were targeted, it also provided an immensely significant evidence for the outer construction of the monument in the form of the kerb wall and associated masonry. This aspect of the excavation has important implications on our knowledge of what the monument looked like including its shape and size, which we can now begin to stipulate with more accuracy than before. Furthermore, we can compare construction techniques used for the different parts of the monument as well as within the Clyde cairns group in general.

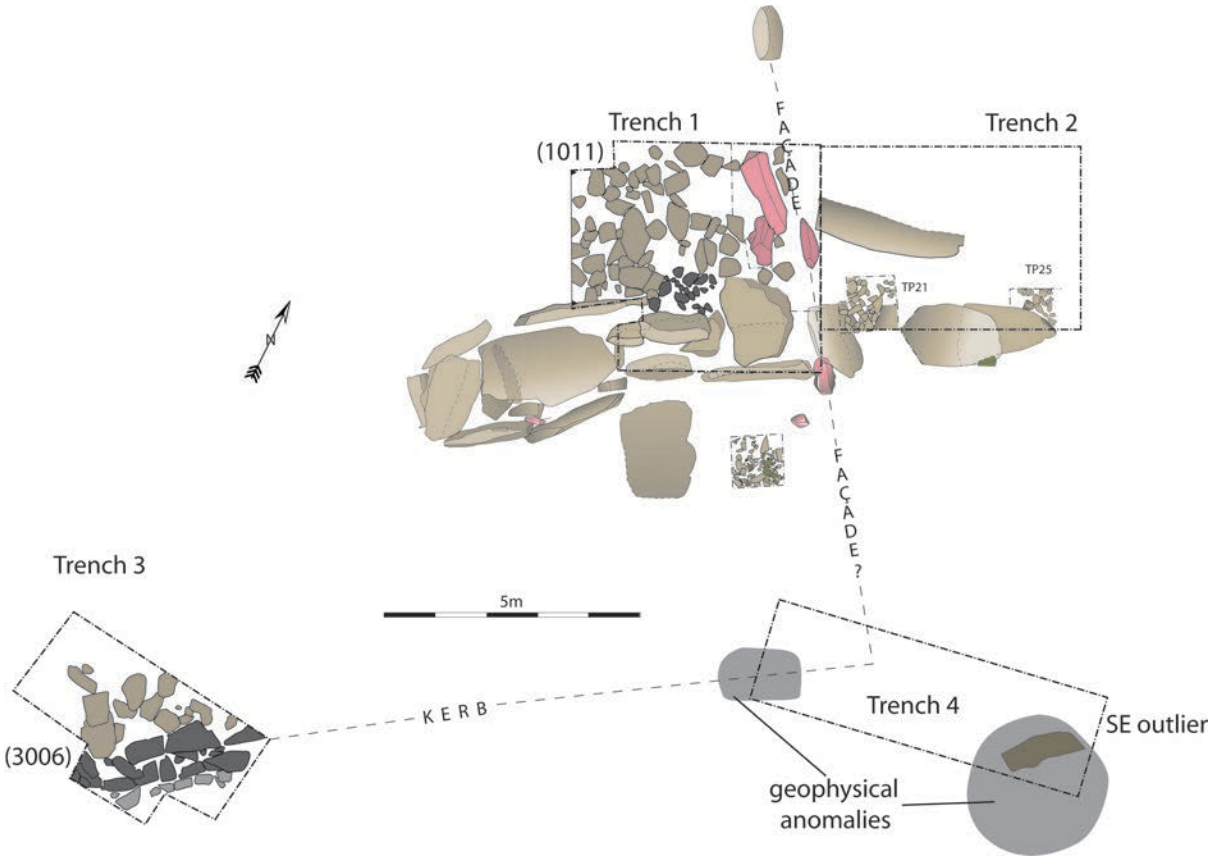

Figure 33 Plan showing kerb (3006) in Trench 3 in relation to the chamber, cairn material (1011) in Trench 1 and the projected line of the facade. Trenches 2 and 4 to be excavated in 2017 are also shown.

The kerb wall revealed in Trench 3 corresponds perfectly to the alignment of the chamber and it is on the right trajectory to meet the end of the projected line of the façade (Figure 33), which presumably extended to the southeast approximately the same distance as it extends to the northwest. Trench 4 is in part designed to investigate the corner where the façade and the kerb might meet, thus it could add another missing link to the overall picture of the monument. What more, encountering the chambered cairn structure in several different places provides the opportunity to obtain dating for the construction of the monument from several different parts of the cairn. All deposits in Trench 1 and Trench 3 have been systematically sampled in addition to the spot charcoal samples, which have been collected as the opportunity arose during the excavation. These will be assessed and identified for species by a charcoal specialist before a selection can be sent for the AMS dating in the course of 2017.

The archaeological sequence in Trench 1 starts with three small features [1017], [1019] and [1021], which were either cut into the natural or were perhaps created when the stone blocks belonging to the cairn structure (1011) were pulled out allowing the resulting depressions to silt up. The fact that the features occur in the area which was devoid of very

large stones might support this. Alternatively, these features might predate the construction and represent remnants of earlier Neolithic or Mesolithic activity. Support for this interpretation is in the fact that the features were not seen until after the excavation of the buried soil horizon (1012), which could have been sealing them. However, the added difficulty was in that the fills were similar in consistency and colour to buried soil (1012), which together with their ephemeral nature makes any conclusive interpretation difficult.

Shallow construction cut was dug into the buried soil and the underlying natural till prior to the construction of the chamber. We can only stipulate its overall shape and size from the current excavation, but the indication is that a single shallow linear cut large enough to receive the chamber was made prior to the erection of the orthostats. The cut was recorded in two separate places; as [1023] sloping inwards at the very front of the chamber compartment C1 and as [1022] sloping inwards on the outside of orthostat S5 of compartment C3. In both cases the cut was few centimetres lower than the bases of the *in situ* orthostats S8 and S5, which were resting on thin layers of small rubble, although in the case of S8 this could have been pushed in at a later date. In either case the orthostats were placed in a shallow cut and at least in some places wedged or balanced by the addition of rubble. Small portion of drystone walling (1024) abutted orthostat S8 at its front narrow side and supported pinkish syenitic gneiss jamb stone S25, thus making its height comparable to that of orthostat S8.

Partially buried orthostat S9, which was toppled across the chamber compartment C1 and suspended against orthostat S8, was uncovered almost entirely by the excavation in Trench 1. As a result we now know that it is more than double in size than what was visible before the excavation. The base of the orthostat would have been in line with that of the *in situ* orthostat S5 of compartment C3 (Figure 18), which means that compartment C1 was twice as wide as it currently appears and that the chamber as a whole was a straight construction fronted by pinkish jamb stones S24 and S25. Similarly, the leaning orthostat S6 would have originally stood along the same line, which proves that the apparent misalignment between chamber compartment C4 and c3 at the back and C2 and C1 at the front is purely the result of the stone displacement rather than an indication of different phases of construction.

The excavation in compartment C2 revealed previously unseen jamb stone S31, which would have overlapped on the inside of orthostats S6 and S9, thus continuing the same construction technique used in the construction of all compartments. The use of internal overlapping jamb stones would have provided additional strength and stability to support heavy capstones. Giant's Grave shares this particular construction technique with the cairn at Port Charlotte, which differentiates these Rhinns cairns from those on the Oa and the south coast of Islay.

The construction of the surrounding cairn in Trench 1 begins with (1011), a series of large stone blocks which were stacked against the orthostats outwards and also from the back of the cairn towards the front, as indicated by the angle at which some of the surviving stones

were pitched. This part of the structure was robbed at a later date in a haphazard fashion, presumably because some of the blocks were too heavy to move. The resulting voids were filled with smaller rubble falling in. The rubble deposits in Trench 1 (1010, 1007, 1006, 1003) decreased in size and were increasingly more mottled higher up in the sequence indicating multiple episodes of disturbance and robbing for stone. Deposits (1003), (1009) and (211) are later than the toppling of orthostat S9 and capstone S19, for example, while façade stones S26 and S32 lay on top of (1003) after which they were covered by the growing peat. As we know from the investigation in 2015 the highest placed rubble deposits on the southeast side of the cairn in test-pit TP20 produced C14 dates falling into the early Iron Age and the overlying peat did not start forming until the last 200-300 years and (Mithen and Maričević 2015). Brief activity on the northwest side of the cairn represented by possible semi-circular shelter or rough paving (1000) belongs to the latter period.

There is no doubt that the stone from the cairn was reused locally and the post-chambered cairn layers in Trench 3 are perfect example of this. Rubble (3004) indicates the disturbance of the cairn material after which the area at the south and the southeast edge of the cairn was covered by an extensive cobbled surface (3002) forming hard standing at the top of the break of slope. Roughly built field wall (3003) was constructed soon after in order to divide it and at least one of the smaller megaliths was moved from the Neolithic chamber and incorporated in this wall. The size and nature of surface (3002) and wall (3003) suggests that they were probably related to animal husbandry, most likely cattle, but the date of this activity remains unclear until the C14 determinations become available.

3.4 Post-excavation and reporting

This report is an interim statement only and it relates primarily to the description of the fieldwork and the recording in 2016 season. It includes only the initial level of interpretation that is possible without further post-excavation work including specialist analyses of the environmental samples, material culture and 3D modelling. More detailed programme of post-excavation work will be laid out in the Post Excavation Design.

3.5 Public outreach

The 2016 fieldwork stirred considerable amount of attention on the island. The interest of the community for the project was once again evident by the attendance at the public lecture given at the Ionad Chaluim Chille Ìle (the Columba Centre Islay) and by a significant number of people who braved an hour plus long trek through the forest to visit the site. An

advertised walk and site visit was organised in association with the Islay Natural History Trust.

Most significantly this fieldwork season saw a four day programme of organised school visits involving over ninety children from all of Islay's four primary schools. Children walked the long distance to the site in all weathers and were rewarded by taking part in a suite of archaeological activities, thus getting an introduction to practical skills that they may have not encountered before, such as trowelling, measuring, geophysics, survey, archaeological photography and recording, as well as some cairn building. At the same time, the archaeology students from the University of Reading and Bournemouth University gained valuable experience in working with children and transferring their knowledge.

Figure 34 Visit by children from Bowmore school reimagining the chambered cairn in its full size and taking part in the archaeological activities

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Appendix 1 – Environmental sample register for 2016 season

Sample no.	Context	sample type	Initials/Date
100	1010	bulk	NP 29/08/16
101	1007	bulk	TL/NP 29/08/16
102	1003	bulk	TL 29/08/16
103	3003	bulk	HT 29/08/16
104	1007	spot sample - charcoal	NP 29/08/16
105	1007	spot sample - charcoal	NP 29/08/16
106	1004	bulk	NP 29/08/16
107	1010	spot sample - charcoal	CL 29/08/16
108	1010	spot sample - charcoal	CL 29/08/16
109	1011	bulk	NP 30/08/16
110	1011	spot sample - charcoal	NP 30/08/16
111	1009	bulk	DM 30/08/16
112	1011	bulk	TL 30/08/16
113	3005	spot sample - charcoal	DM 30/08/16
114	3005	bulk	LW 30/08/16
115	3005	spot sample - charcoal	DM 30/08/16
116	1011	spot sample - charcoal	NP 30/08/16
117	1011	spot sample - charcoal	TL 30/08/16
118	1011	bulk	NP 30/08/16
119	3007	bulk	LW 30/08/16
120	1009	spot sample - charcoal	SLG 30/08/16
121	1009	spot sample - charcoal	SLG 30/08/16
122	3007	spot sample - charcoal	LG 30/08/16
123	1012	bulk	NP 31/08/16
124	1012	spot sample - charcoal	NP 31/08/16
125	1013	bulk	CL 31/08/16
126	1013	spot sample - charcoal	CL 31/08/16
127	1014	bulk	DM 31/08/16
128	1012	bulk	TL 31/08/16
129	1012	spot sample - charcoal	NP 31/08/16
130	1014	spot sample - charcoal	DM 31/08/16
131	1003	spot sample - charcoal	DM 31/08/16
132	1014	spot sample - charcoal	DM 31/08/16
133	1015	bulk	TL 31/08/16
134	1014	bulk	DM 31/08/16
135	1016	bulk	LG 31/08/16
136	1018	bulk	LG 31/08/16
137	1020	bulk	LG 31/08/16
138	1012	bulk	LG 31/08/16
139	1014	spot sample - charcoal	DM 31/08/16

140	1014	bulk	DM 31/08/16
141	1012	spot sample - charcoal	LG 31/08/16
142	1013	bulk	TL 31/08/16
143	1013	spot sample - charcoal	RF 31/08/16
144	3008	spot sample - charcoal	DM 01/09/16
145	3008	bulk	RF,DM 01/08/16
146	3008	spot sample - charcoal	RF,DM 01/08/16
147	3008	spot sample - charcoal	RF,DM 01/08/16
148	3008	spot sample - charcoal	RF,DM 01/08/16
149	3004	spot sample - charcoal	DM 28/11/16

Appendix 2 – Small Find register for 2016 season

SF no.	Context	SF type	Initials/date
1	3000	quartz point/blade	DM 24/08/16
2	1004	quartz blade	NP 24/08/16
3	1002	quartz blade	SS 24/08/16
4	1005	miniature whisky bottle	SLG 25/08/16
5	1003	poss. quartz blade	LWG 25/08/16
6	1009	small quartz blade	TL 26/08/16
7	1003	Flint awl ? (tool)	DM 28/08/16
8	1010	quartz blade (retouched ?)	TL 29/08/16
9	1012	quartz blade	NP 31/08/16
10	1012	quartz core (?)	TL 31/08/16
11	1014	quartz flake	DM 31/08/16
12	1012	quartz blade	SS 31/08/16
13	1012	narrow quartz blade	LG 31/08/16
14	3008	possible burnt clay	DM 01/09/16