

Centre for Archaeological Fieldwork

School of Geography, Archaeology and Palaeoecology
Queen's University Belfast



Data Structure Report No. 109

Community excavation adjacent to Tullaghoge Fort, Cookstown, Co. Tyrone

On behalf of





COMMUNITY EXCAVATION ADJACENT TO TULLAGHOGE
FORT, COOKSTOWN, CO.
TYRONE

AE/14/124E

CAF DSR No. 109

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1 Summary

1.1 Introduction

1.1.2 The following document details the preliminary results of an excavation at Tullaghoge Fort, Cookstown Co. Antrim (Figures 1 and 2). The excavation was undertaken by the Centre for Archaeological Fieldwork QUB, and the Northern Ireland Environment Agency with support from Cookstown Council. Primary School groups as well as adult volunteers participated in the excavation which was undertaken over a three week period during September 2014.

1.1.3 The excavation was carried out under the direction of the author and involved the manual excavation of six trenches at various locations in the immediate vicinity of the fort (TYR 038:016). The trenches were excavated both within the scheduled areas to the north and south of the fort (Trenches 3-6), as well as the non-scheduled area to the west (Trenches 1 and 2).

1.2 Aims and objectives

1.2.1 The primary aim of the September excavation was to investigate a number of geophysical anomalies that have been identified through survey at the site since 2006. It was also intended that magnetic gradiometry would be employed in the Scheduled Areas to assess the potential of this method for identifying archaeological features at Tullaghoge.

1.2.2 An important component of this investigation was the participation of adult volunteers and school groups during the investigation. This was particularly successful with over 400 school children (P6 and P7 age) as well as 35 adult volunteers being involved.

1.3 Excavation

1.3.1 A total of six trenches were manually excavated, located in the areas north, south and west of the fort (Figure 10). The trenches were located in an effort to ground truth geophysical anomalies identified through electrical resistivity survey carried out at the site between 2006 and 2014 (in the case of trenches 1, 2, 4 and 6), as well as to investigate the possible remains of the inauguration chair (trenches 3 and 5). The results of the excavation of these trenches varied with archaeologically significant features and deposits confined exclusively to Trench 6 (the remains of a cereal-drying kiln which produced a radiocarbon date of 722-985 AD). Little else of archaeological

significance was encountered with the excavation of the trenches intended to investigate the possible inauguration sites inconclusive.

1.4 *Discussion*

1.4.1 The excavation was successful in that features dating to the Early Medieval period were identified through geophysical survey, excavated and recorded furthering our understanding of the type and scale of the activity in the immediate vicinity of Tullaghoge Fort at a time when the documentary sources are sparse. The cereal-drying kiln excavated in Trench 6 is the second such feature to be encountered during investigations at Tullaghoge. During a evaluative exercise carried out by CAF in January 2014 in the area intended to be developed as a new car park to serve the monument, a similar feature was excavated (Sloan 2014). Radiocarbon determinations obtained from charred grain suggest this kiln to have been in use in the early to middle seventh century while the feature excavated during this investigation indicate a date range of the eighth to tenth century. This indicates that the processing of cereal was carried out for a prolonged period of time.

1.5 *Recommendations*

1.5.1 A number of recommendations are made in Section 5 of this report so the project can be brought to a successful conclusion. These include analysis of the artefactual material recovered (including flint, pottery and metal working residue) as well as the analysis of the macro-fossil assemblage obtained through processing of the samples recovered from the fills of the kiln in Trench 6.

1.5.2 A radiocarbon determination has been obtained for the cereal-drying kiln in Trench 6. A sample of charred barley from the main fill of the kiln (Context No. 604) returned a calibrated date range of 722-985 AD indicating the kiln was in use at some point between the eighth and tenth centuries.

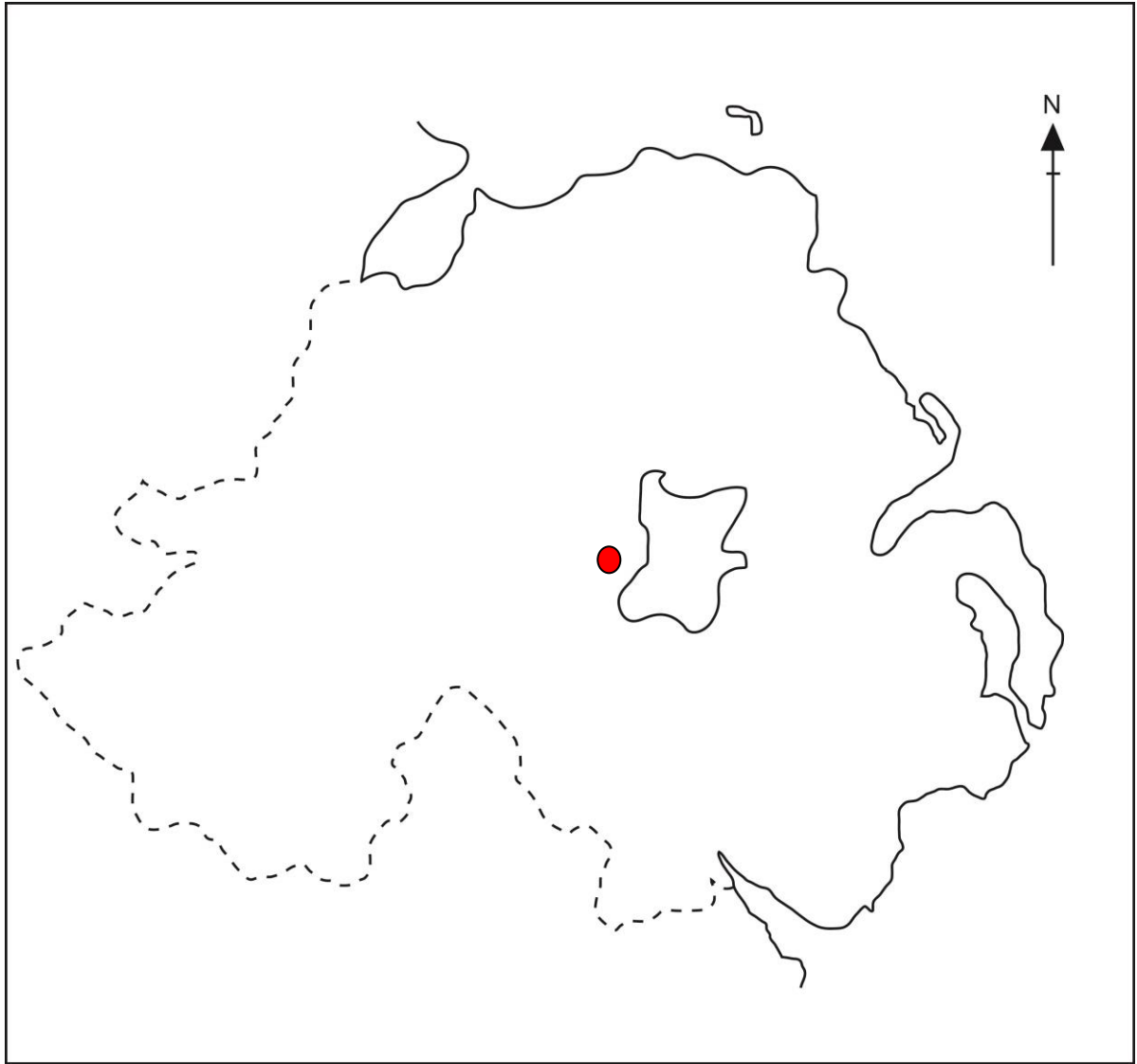


Figure 1: Location of Tullaghoge Fort (TYR 038:016) (red dot).

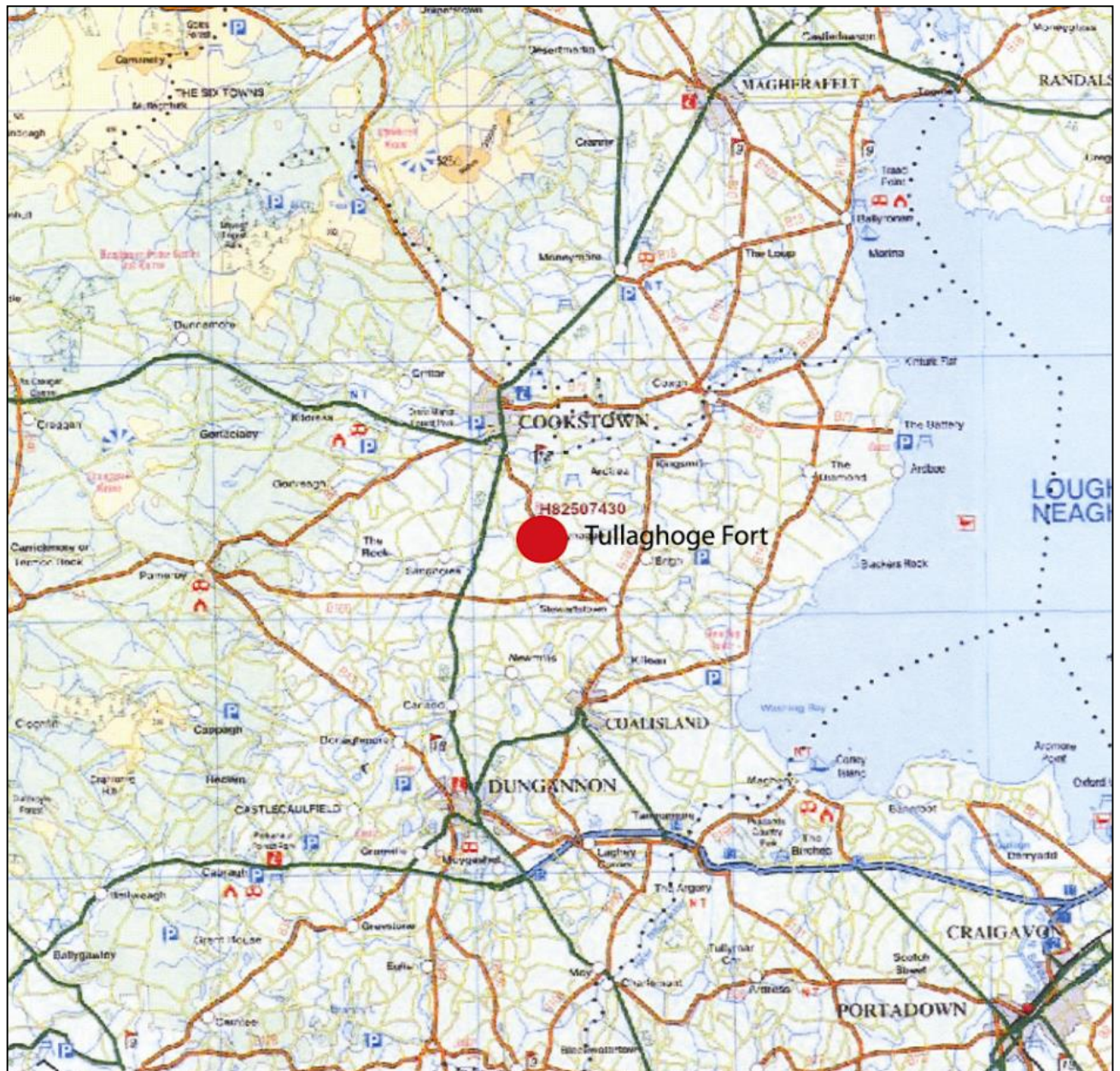


Figure 2: Detailed location of Tullaghoge Fort (TYR 038:016) (red dot).

2 Introduction

2.1 *General*

2.1.1 The Centre for Archaeological Fieldwork (CAF), Queen's University Belfast was requested by the Northern Ireland Environment Agency (NIEA) to undertake a community excavation in the immediate environs of Tullaghoge Fort (H8250 7430; TYR 038:016). This work was carried out in collaboration with Cookstown Council and was aided by the participation of local primary schools and adult volunteers.

2.1.2 Tullaghoge is situated in the low-laying, water-logged geography of mid-Ulster west of Lough Neagh. The fort is sited on top of a drumlin and commands impressive panoramic views. The monument is in the townland of Ballymully Glebe (*Farmstead of the summit – Siobhan McDermott*). The monument today consists of a central, raised hexagonal platform with a pronounced lip forming a bank around the perimeter. This is encircled by a broad, flat-bottomed fosse and a high outer bank, which is overgrown with trees. The focus of this report is the area to the west of the fort, and the scheduled areas to the immediate north and south of the monument.

2.1.2 Excavation was requested to further our understanding of the activity in the immediate environs of the monument as well as to ground-truth geophysical anomalies that have been identified through resistivity (2006-2013) and magnetic gradiometry surveys (2014). Excavation duly took place between Monday 8th September – Wednesday 1st October 2014.

2.1.3 The excavation was directed by Brian Sloan (CAF) under Licence AE/14/124E.

2.2 *Geological Background*

2.2.1 The solid geology of Tullaghoge consists of carboniferous limestone, with significant glacial deposits above (Alistair Ruffell *pers comm.*). The drift geology is interesting as it varies quite considerably across the site from firm red orange boulder clay to loose gravel.

2.3 *Historical background of Tullaghoge*

2.3.1 A comprehensive review of the historical background of Tullaghoge Fort has previously been provided by Dr. Siobhan McDermott (McDermott 2013). What follows here is a short synopsis of McDermott's work.

2.3.2 The origin of Tullaghoge Fort is uncertain. It has been speculated that the monument has origins as a prehistoric enclosure, or perhaps as an Early Medieval rath (FitzPatrick 2004, 144). Documentary sources concerning the Early Medieval occupation of the area are relatively scarce, although evidence is present that the territory of *Tulach Og* (bounded by the Moyola River to the north, Lough Neagh to the east and the Blackwater River to the south) is in existence by at least the eleventh century, being first under the influence of the *Aileach* and then coming under *Cenel Eoghain* control (*ibid*, 139; Donnelly 1997, 74). The site is mentioned in *The Annals of Ulster* under the date 914AD where it states a peace treaty was signed between Niall Son of Aed, King of Ailech and Aed King of 'The Province' (Mac Niocaill 1983). Although not specifically referenced as an inauguration site until 1432AD (O'Donovan 1851), it can be reasonably assumed that the area served this purpose for first the Airgialla, followed by the Aileach and then the Cenel Eoghain (*ibid*) indicating the importance of the area from at least the later stages of the Early Medieval period. Specific references to the actual site of Tullaghoge are rare in the early texts, although there are accounts of an attack by the *Ulaid* in 1111AD when the venerable tree was cut down in revenge to a previous *Cenel Eoghain* attack on Crew Hill in 1099AD (*ibid*, 140).

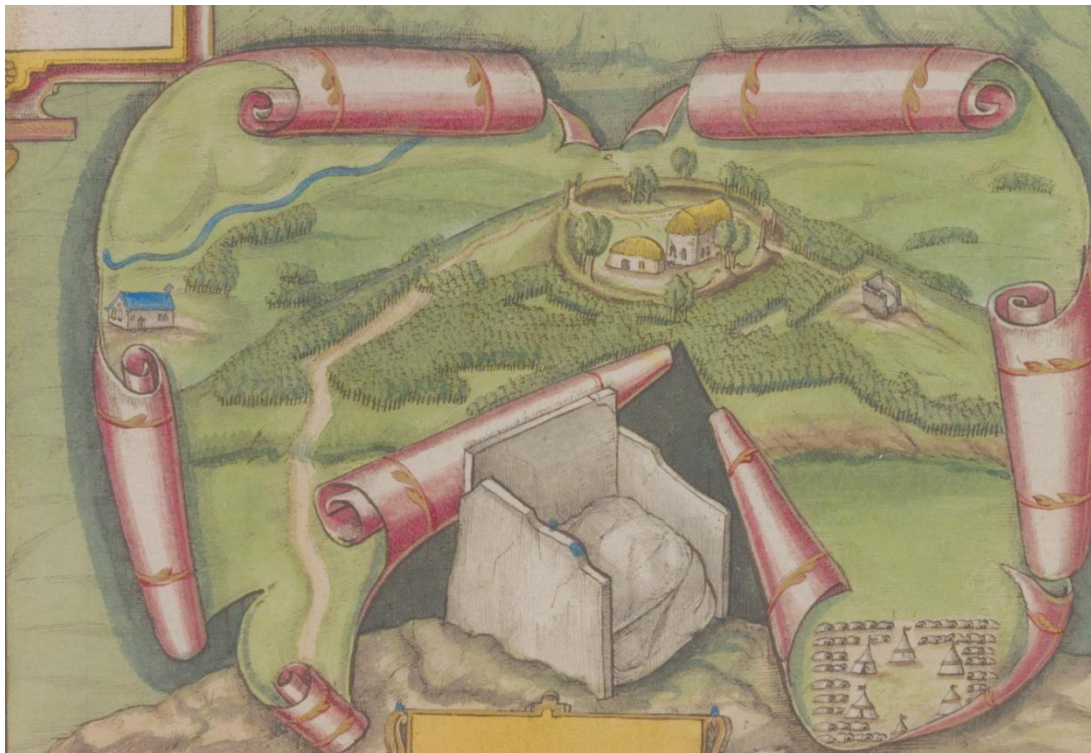


Figure 3: Composite map drawn by Bartlett c. 1601. This map depicts the O'Neill strongholds of Tullaghoge and Dungannon (only the upper portion of the map showing Tullaghoge Fort and the inauguration chair are shown here).

2.3.3 By the thirteenth century Tullaghoge was the epicentre of the Northern O'Neill Lordship, existing as such until the early seventeenth century. Richard Bartlett is credited with at least two illustrations of Tullaghoge, both drawn during the conflict between the O'Neill Lordship and the crown forces at the end of the sixteenth and beginning of the seventeenth centuries. A composite image depicting the O'Neill strongholds of Tullaghoge and Dungannon illustrates a two storey, hip-gabled house and a single storey dwelling, within the interior of Tullaghoge fort (Figures 3 and 4) (McDermott 2013, 9). The monument drawn by Bartlett differs from what now tops the hill: It is enclosed by a single, tree-topped bank. Two entrances marked by posts which form lintel gateways appear to oppose each other. A path runs to the north of the fort from the foot of the hill. The area to the south and east is wooded (*ibid*). The inauguration seat is located further downhill on the eastern slope of Tullaghoge drumlin (Figures 3 and 4).



Figure 4: Detail of Bartlett's representation of Tullaghoge Fort, with two houses located in the interior. The inauguration chair is located down-slope on the right of the map.

2.3.4 Such was the importance of the inaugural chair at Tullaghoge, to Tudor expansion, that it was illustrated on a number of occasions. Jobson's maps from c. 1590 and c. 1598 (FitzPatrick 2004, 151) both note the location of 'the stone where Oneale is named'. An unsigned map of Ulster probably dating to the beginning of the seventeenth century depicts a scene from an inauguration ceremony at Tullaghoge (Figure 5). An inscription underneath the scene reads, 'Tullogh oge on this hill the Irish create their ONEale'. The chair was destroyed by English forces after O'Neill's defeat at Kinsale, although three large boulders are currently located in the general

area that Bartlett depicts the chair. It was hoped that the location of two of the trenches in relation to these stones would clarify their relationship with the fort and perhaps identify the site of the inauguration stone (for further details see Account of the excavations for Trenches 3 and 5)..

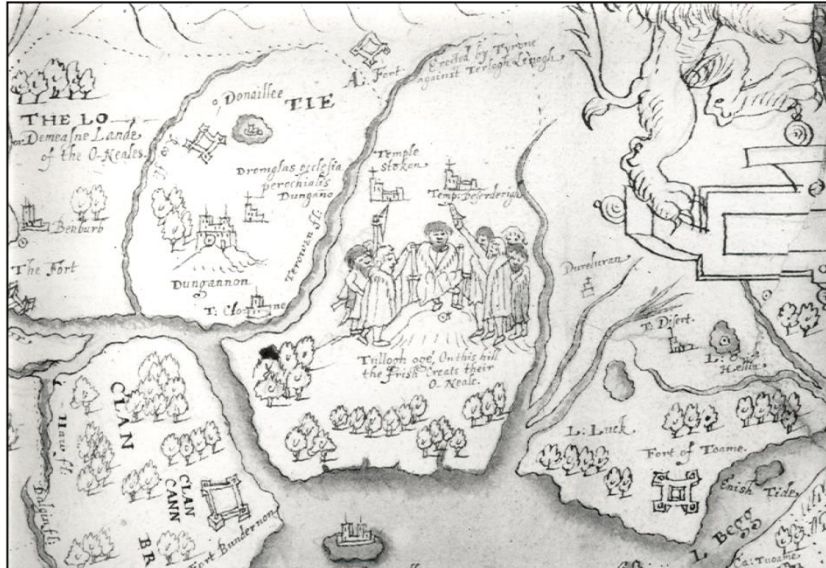


Figure 5: Unsigned map showing the inauguration ceremony at Tullaghoge.

2.3.5 Following the Flight of the Earls, occupation of the site continued on into the early Plantation period when it was granted to a Robert Lindsey in 1611. In 1619 a Mrs Lindsey held 1,000 acres with 'a good strong bawne of earth, with a quick-set hedge upon it, and a ditch, a timber house within, in which she and her family dwell' (*Cal. Carew MSS.1619*, 413). The adoption of Gaelic settlement foci and forms by the Planter community in the early 17th-century occurred throughout the escheated counties (*Cal. Carew MSS. 1611*, 94; Harris 1757, 84-5; McDermott 2013). However by 1622 the family had moved to a new residence at the foot of the hill, probably to the south of the monument near to where the village of Tullyhogue is situated (Edith Logue *pers comm.*).

2.4 Previous archaeological investigation

2.4.1 An archaeological evaluation (directed by Naomi Carver of the CAF under Licence No. AE/12/97E) was carried out at a site 60m north-west of 60 Tullywiggan Road, Ballymully Glebe, Tullaghoge, Co. Tyrone in response to a planning application for a new dwelling and double garage (Planning Ref No: I/2012/0006/F). The evaluation consisted of seven mechanically-excavated test trenches each 30m long and 1.5m wide. No remains of archaeological significance were uncovered during the course of the evaluation with sod and topsoil directly overlying the subsoil in each of the trenches (Carver 2012, 2).

- 2.4.2 An archaeological evaluation was carried out in advance of the proposed development of amenities to better promote the monument to the public (to include a new car park as well as picnic and interpretative facilities). The investigation was carried out in January 2014, under Licence No. AE/14/01E (Sloan 2014). A total of thirty-three trenches were excavated in Areas 1 and 2 (Figure 10). The methodology employed during the investigation included the manual excavation of test pits measuring 2m in length by 1m in width (Trenches 1-26 in Areas 1 and 2) as well as mechanically excavated trenches measuring approximately 12-14m in length by 1.5m in width (trenches 27-33 in Area 1). The mechanical excavation of the trenches was undertaken by a digger using a smooth edged 'sheugh' bucket under archaeological supervision. In all cases, the trenches were excavated to the surface of the natural geological subsoil, which varied across the site.
- 2.4.3 In Area 1, the majority of trenches displayed little archaeological significance with sod and topsoil overlying of hill-wash deposits and subsoil. The stratigraphy encountered was on the whole relatively shallow with the surface of the subsoil being encountered between 0.4-0.6m below the modern ground surface. A deeper stratigraphic sequence was encountered in Trench 8 and it is postulated that this represents post-medieval quarrying of the limestone bedrock, documented on the 1st edition OS map of the area. Evidence of the agricultural improvement of the area was found in Trench 12 where a field drain was encountered. Finds from the fill of this feature indicate that this a relatively modern feature, supported by documentary evidence (Quigley & Hore 1857, 237). In general, the finds from the different trenches included a small corpus of post-medieval pottery sherds, probable prehistoric pottery, flint artefacts and modern glass fragments, on the whole from topsoil and hill-wash deposits within the trenches.
- 2.4.4 The excavation of Trench 32 in Area 1 revealed an archaeologically significant feature. This is a circular pit (Cxt. 3205 measuring 2.5m in width and 0.4m in depth) filled with charcoal rich strata (Cxts. 3207, 3212 and 3204). Following the initial use of the feature (deposition of Context Nos. 3207 and 3212) the feature was made narrower by the positioning of large sub-rounded rocks (Cxt 3208) and clay (Cxt. 3210) along the northern edge, after which the main body of fill (Cxt. 3204) was deposited. Two stake holes (Cxts. 3214 and 3216) were located at the western, down slope edge of the pit, and it is thought that these may be associated with the use of the pit (Cxt 3205). It is proposed that a comparison of the radiocarbon dates from these stakeholes and the fill of the pit will clarify their chronological relationship. No artefacts were recovered from the fills of this feature. However, initial processing of samples taken from the lowermost deposit (Cxt. 3207) has revealed a substantial amount of charred grain and seeds. A sample of these was submitted for radiocarbon

dating (UB_NO 25219), the results of which indicate the feature dates to the 7th Century AD (606 – 668 AD; 95% probability).

2.4.5 The presence of substantial amounts of charred grain within the pit feature suggests that the feature represents the remains of a corn drying kiln. Corn-drying kilns are a common feature in Irish archaeology, with numerous being identified and recorded during infrastructure excavations in the Republic of Ireland (O'Sullivan & Downey 2005, 32). They are generally associated with activity in the Early Medieval period, although were still in use into relatively modern times. Some evidence has emerged recently of a possible Bronze Age origin for the feature (McQuade et al 2009, 33). Nothing else of archaeological significance was encountered during the excavation of Trench 32 or the rest of Area 1, with recommendations made for further investigation in advance of the development of the public services in this area (Sloan 2014).

2.4.6 Area 2 showed more archaeological potential, with evidence of Early Mesolithic activity and 19th century structures being encountered. Subsoil cut features filled with charcoal rich soil were encountered in Trenches 22 and 26, although the lack of artefactual material makes interpretation of these at this stage problematic. Following the identification of Early Mesolithic material from the topsoil deposits in Area 2, the NIEA were consulted and it was decided not to mechanically excavate trenches in this area.

2.4.7 The stone footings for a wall (Context No. 1604) were encountered in Trench 16. A structure is represented in this area on the 1st edition OS map, and geophysical survey undertaken in 2013 showed a high resistance anomaly in the vicinity which could represent the rubble and/or foundations of this structure. The area was selected for further investigation during the community led excavation that forms the basis of this report (please see the Account of excavations for Trench 1).

2.5 *Surrounding archaeological landscape*

2.5.1 Tullaghoge Fort is located in a relatively sparse archaeological landscape. An analysis of the Sites and Monuments Record (NISMR) for the immediate area surrounding the fort shows that, what sites are identified in the immediate area, predominately date to the Early Medieval period. Of particular interest is the Counterscarp Rath (TYR 038:013) located in Loughry townland approximately 600m to the west of Tullaghoge Fort (Figure 6; Table 1).

2.5.2 Also of interest are two sites that are located in Donaghrisk townland, on the opposite side of the Tullywiggan Road (TYR 038:014 and 038:015). Both these sites relate to a Medieval ecclesiastical site apparently established in the thirteenth century (Chapman 2013, 4; McDermott 2013, 8). The graveyard enclosed by the 18th/19th-century circular wall (TYR 038:015) is traditionally seen as the ancient burial place of the O'Hagan's.

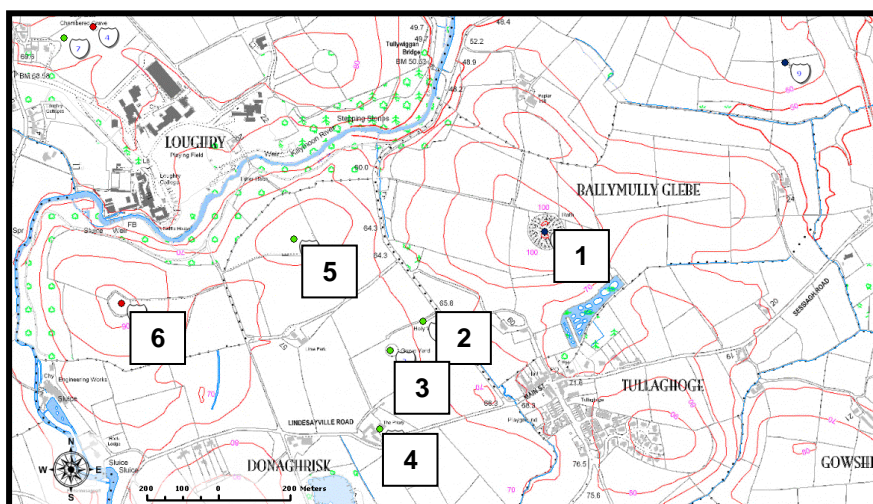


Figure 6: Screen grab from NIEA Map Viewer (accessed 18/2/14) showing sites and monuments in the immediate vicinity of Tullaghoge Fort (TYR 038:016). Detail of the numbered sites and monuments are given in Table 1.

Map Signifier	SMR #	SITE TYPE	TOWNLAND	GRID REF.
1	TYR 038:016	Tullaghoge (multi)	Ballymully Glebe	H82507430
2	TYR 038:015	Friar's Well	Donaghrisk	H 8216074050
3	TYR 038:014	Graveyard	Donaghrisk	H 8207073970
4	TYR 038:038	Circular Cropmark	Donaghrisk	H 8204073750
5	TYR 038:021	Enclosure	Donaghrisk	H 8180074280
6	TYR 038:013	Counterscarp Rath	Loughry	H 8132074100

Table 1: Sites and Monuments in the immediate vicinity of Tullaghoge Fort (TYR 038:016)

2.5 Summary of the geophysical surveys 2006-2014

2.5.1 A number of geophysical surveys have been undertaken by the CAF at Tullaghoge and the surrounding fields that are under the ownership of the NIEA. Currently the fort and the fields to the immediate north and south of the monument are Scheduled. Three seasons (2006, 2008 and 2013) of geophysical survey have been undertaken at Tullaghoge fort and the surrounding fields (Trick and McHugh 2006; McHugh and

Mussen 2008; McHugh and McAlister 2013) (Figure 7). High resolution electrical resistance survey was carried out in all areas.

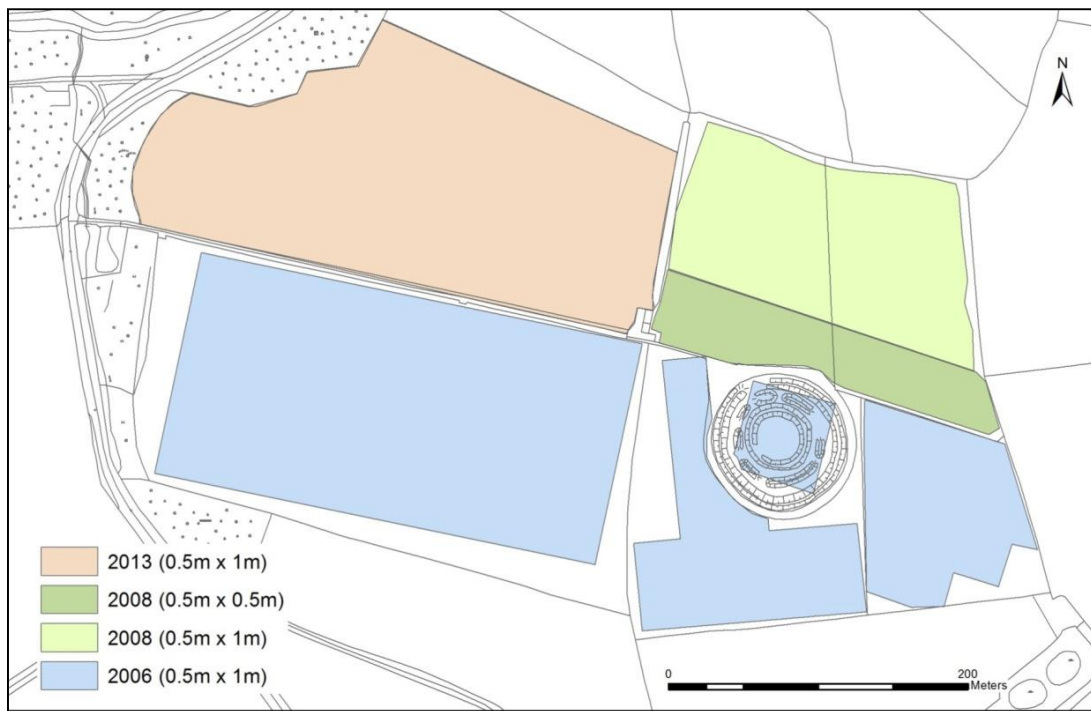


Figure 7: Development of the geophysical survey undertaken at Tullaghoge and its environs by the Centre for Archaeological Fieldwork since 2006 (Murray 2013, Figure 5)

2.5.2 The 2006 survey area (shaded blue in Figure 7) concentrated on the area of the fort (TYR 038:016) as well as the fields to the east, south and west. Unfortunately the resistivity survey was not geo-referenced to the same extent as the magnetic gradiometry survey (McDermott 2014) with the survey areas being tied into the field boundaries. This made the location of the trenches over the anomalies problematic. The survey identified a number of anomalies, the majority of which relate to modern agricultural practices at the site (Figure 8; Trick & McHugh 2006, 11). Anomalies identified in the field to the east of the fort, where the inauguration stone is located, as well as anomalies associated with the fort itself were considered to have the most archaeological potential (*ibid*). Of particular interest are two high resistance linear anomalies located to the west of the fort, potentially representing the late medieval trackway depicted on Bartlett's map (Figures 3 and 4).

2.5.3 The 2008 season of geophysical survey concentrated on two fields to the immediate north of Tullaghoge Fort (shaded green in Figure 7). In general the areas were found to have numerous linear anomalies reconcilable with modern agricultural features shown on maps from the early 19th century to present day. Two curvilinear anomalies

located close to the fort were deemed to have archaeological potential (McHugh & Mussen 2008, 1).

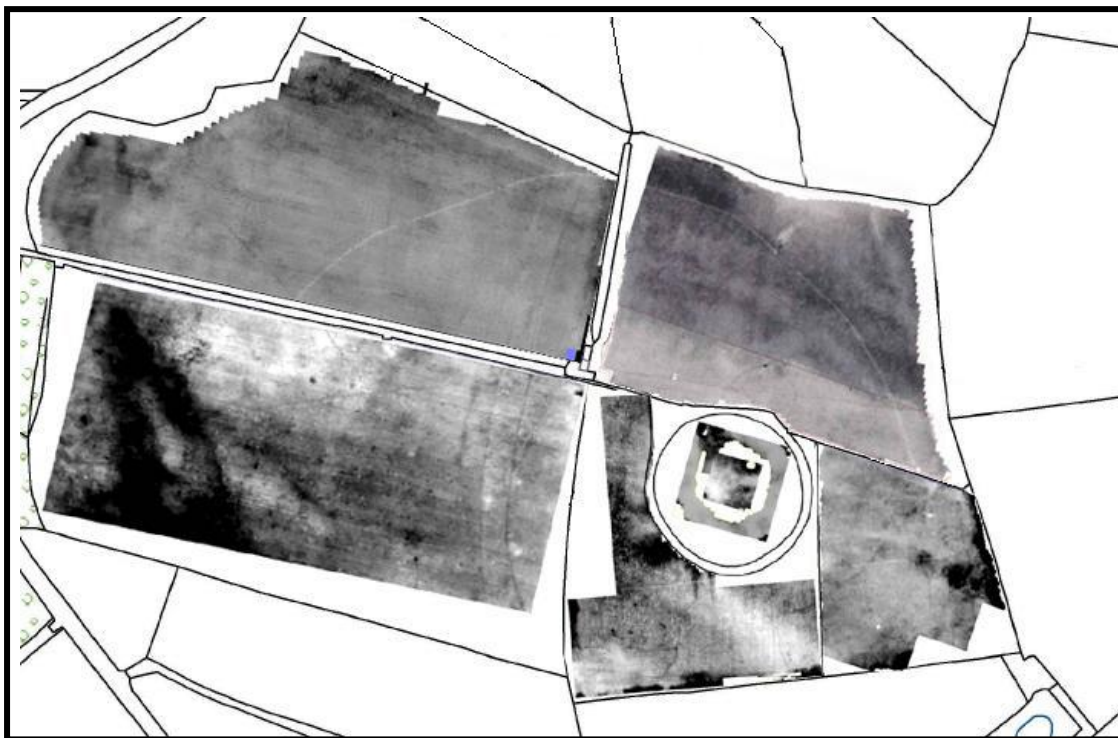


Figure 8: Combined results of the resistivity surveys carried out since 2006. An effort was made to locate trenches (Trenches 1, 2 and 4) over anomalies identified through these surveys.

2.5.4 As with the two previous seasons, the majority of the 2013 geophysical survey results were interpreted as being of geological or modern origin (Figure 8; McHugh & McAlister 2013, 24). However, by viewing the results in the context of the other surveys, a possible enclosure circling the fort is visible. However, further survey in this area in 2014 failed to identify no archaeological features in this area and the excavation of Trench 4 failed to identify anything of archaeological significance.

2.5.6 In August 2014, the decision was taken to attempt magnetic gradiometry survey to see if this method would prove effective in identifying potential archaeological features. The areas chosen for this incorporated the entire Scheduled Area to the south of the fort and a portion of the Scheduled Area to the north (Figure 9). The survey proved successful with features of archaeological potential being identified and tested (please see Account of the excavations for Trench 6). The results of this survey are detailed in full in McDermott (2014).



Figure 9: Magnetic gradiometry survey of the scheduled areas to the south and north of the Fort (image provided by Siobhan McDermott CAF).

2.6 Archiving

2.6.1 Copies of this report have been deposited with the Northern Ireland Environment Agency. All site records and finds are temporarily archived with the Centre for Archaeological Fieldwork, School of Geography, Archaeology and Palaeoecology, Queen's University Belfast.

2.7 Credits and acknowledgements

2.7.1 The investigation was directed by Brian Sloan (CAF). The author is particularly thankful to the excavation crew who consisted variously of: Stuart Alexander, Ruth Logue, Ruairi O'Baoill, Dermot Redmond and Harry Welsh (all from CAF). The illustrations were prepared by Brian Sloan (CAF).

- 2.7.2 Thanks are due to both Tony McChance and Caroline Sheehy (both of Cookstown Council) for their help and support during the excavation and with the organising of the school participation in the project. The school groups included: Ballylifford Primary, Ballytrea Primary, Holy Trinity Primary, Cookstown Primary, Crievagh Primary, Derrychrin Primary, St. Mary's Dunamore, Donaghey Primary, Sacred Heart Rock, St. Peter's Moortown Primary, St. Joseph's Kileenan, Stewartstown Primary, St. Patrick's Loup Primary, St. Mary's Stewartstown and St. Mary's Pomeroy.
- 2.7.3 The author is also indebted to the following for their help and support during the excavation and the production of this report: Colm Donnelly (CAF), Vicky Ginn (NIEA), Edith Logue (NIEA), Paul Logue (NIEA), Ronan McHugh (NIEA), Emily Murray (CAF), John O'Keeffe (NIEA) and Terence Reeves-Smyth (NIEA).



Figure 10: Google earth screen grab showing approximate locations (in blue) of Trenches 1-6. Also depicted are the approximate locations of Areas 1 and 2 (in red) that were subject to evaluation during January 2014 (NB: Trenches and areas are not depicted to scale).

3. Account of the excavation

3.1 Introduction

3.1.1 The investigation involved both manually and mechanically excavated trenches in two areas to the west of Tullaghoge Fort (TYR 038:016). In all cases the trenches were excavated to the surface of the subsoil, with any features considered to be of archaeological significance recorded and excavated in full.

3.2 Methodology

3.2.1 The archaeological features were recorded using the standard recording system. The list of contexts is reproduced as Appendix One, and the field drawing register that was generated during the excavation is reproduced as Appendix Three. The remainder of the site records are reproduced as the Soil Sample Register (Appendix Four), Finds Register (Appendix Five) and .Photographic Register (Appendix Six). All aspects of the field archive are currently housed at the Centre for Archaeological Fieldwork, Queen's University Belfast.

3.2.2 It is intended that the Harris matrices for each trench (Appendix Two) are referred to when reading the stratigraphic sequences encountered.

3.3 Trench 1

3.3.1 Trench 1 was located at the base of the slope to the north-west of the monument, within Area 2 which was evaluated during the January 2014 investigation. The trench was located here to investigate a high resistance anomaly which was identified through geophysical survey (resistivity) carried out in this area in 2013 (McHugh and McAllister 2013; Figures 8 and 11). The trench provided the focus for the community participation component of the project, with over 400 schoolchildren taking part in the excavation of this trench. The trench measured 10m x 3m and was aligned north/south. The trench was excavated to the surface of the subsoil which consisted of a reddish brown clay with regular protrusions of the limestone bedrock. A relatively large assemblage of post-medieval ceramics and prehistoric flint artefacts were recovered during the excavation of this trench, exclusively from the topsoil. The presence of the post-medieval ceramics is likely to be associated with the presence of a structure in this area depicted on the 1st

edition OS map dating to the early nineteenth century, however no structural remains were encountered during the excavation of this trench.

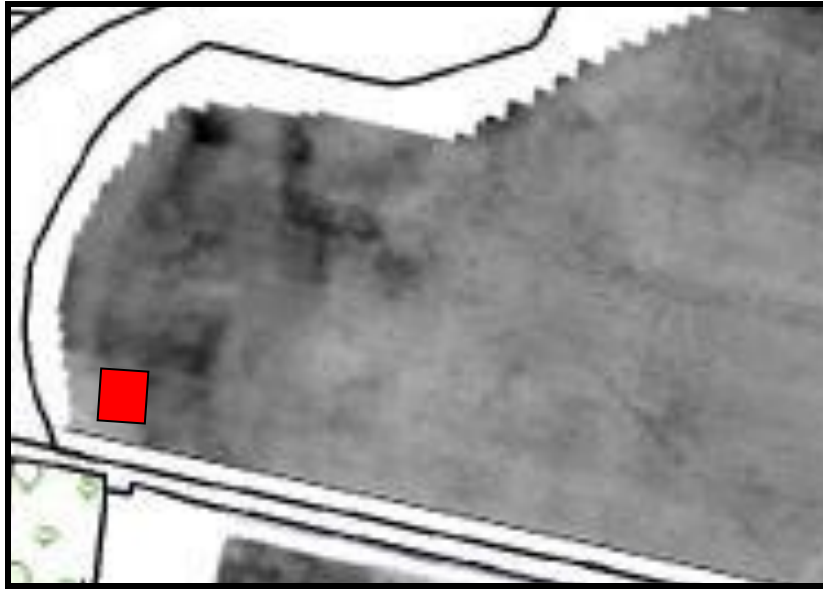


Figure 11: Excerpt of the 2013 resistivity survey showing the approximate location of Trench 1 (shaded red).

3.3.2 The sod in this trench consisted of active grass roots within a light to mid brown sandy clay matrix (Context No. 101). The sod (Context No. 101) was on average 0.05m thick and was mechanically removed to the surface of the underlying topsoil (Context No. 102), averaged 0.25m thick.



Plate 1: Pupils from Ballylifford Primary School excavating through the topsoil deposit (Context No. 102) in Trench 1, looking south.

3.3.3 The topsoil in Trench 1 (Context No. 102) consisted of a light to mid brown sandy clay and was manually excavated by the participating school groups and adult volunteers. Small to large angular and rounded limestone rocks were frequent inclusions throughout the topsoil (Context No. 102) which averaged 0.25m thick. The excavation of this deposit produced a sizeable quantity of post-medieval ceramics as well as lithic artefacts, although nothing diagnostic was noted in the preliminary inspection carried out by the author. Removal of the topsoil (Context No. 102) revealed an extensive deposit of large rounded limestone boulders (Context No. 104) and a discreet patch of rounded stones (Context No. 103) which directly overlay the natural subsoil (Context No.105).

3.3.4 The deposit of limestone boulders (Context No. 104) was present throughout the whole of the trench (Plate 3). The boulders ranged in length from 0.3m – 0.7m and 0.4m in width. No coherent pattern or arrangement to the deposit of boulders (Context No. 104) was observed which sat directly upon the natural subsoil (Context No. 105) which was encountered at an average depth of 0.3m from the modern ground surface. In the south-eastern corner of the trench, a patch of smaller rounded stones (Context No. 103; Plate 2) was observed sitting directly on the natural subsoil (Context No. 105). No stratigraphic relationship could be established between the rounded stones (Context No. 103) and the larger boulders (Context No. 104) and the interpretation of these deposits as being of an archaeological nature is tentative at best.



Plate 2: Possible deposit of rounded stones (Context No. 103) in the south-western corner of Trench 1.

3.3.5 The natural subsoil in this trench consisted, on the whole, of the limestone bedrock, with pockets/patches of reddish sandy clay (Context No. 104). Nothing of archaeological significance was encountered during the excavation of this trench apart from the varied artefact assemblage. It is assumed that the anomaly observed in the resistance survey is the spread of limestone boulders rather than anything of archaeological significance. Following the recording of the trench it was mechanically backfilled and the area reinstated.



Plate 3: Trench 1 following removal of the topsoil (Context No. 102)

3.4 *Trench 2*

3.4.1 Trench 2 was located to the north-west of the fort (Figure 10) and was positioned to investigate two linear anomalies observed during the resistivity survey (Figures 8 and 12). Initial interpretation of these features suggested that they may represent an old route-way, possible that shown on Bartlett's map dating to 1602 (McHugh and McAllister 2013; Figure 3). The trench measured 20m in length by 1m in width and was roughly aligned east/west. The trench was manually excavated to the surface of the subsoil which consisted of a reddish orange clay with protrusions of limestone. Nothing of archaeological significance was encountered during the excavation of this trench and a simple stratigraphic sequence of sod and topsoil directly overlying subsoil was observed. Following recording the trench was manually backfilled and the area reinstated.

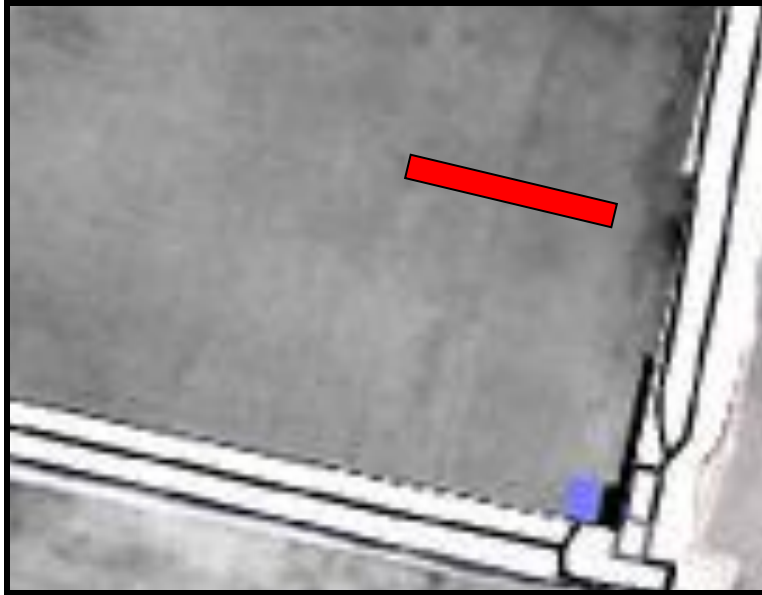


Figure 12: Excerpt of the resistivity survey showing the approximate location of Trench 2 (in red) over an apparent low resistance linear anomaly. North is to the top of the picture.

- 3.4.2 The sod in Trench 2 (Context No. 201) consisted of active grass roots and small angular stones within a light brown sandy clay matrix. The sod layer (Context No. 201) was on average 0.05m thick although increased in thickness to 0.1m towards the western edge of the trench. The sod (Context No. 201) was manually removed to reveal a deposit of mid brown sandy clay topsoil (Context No. 202).
- 3.4.3 The topsoil in this trench (Context No. 202) varied in thickness from 0.1m – 0.22m and had frequent inclusions of small to medium rounded and subangular stones (ranging in length from 50mm to 100mm) as well as the occasional charcoal fleck. A small, varied artefact assemblage was recovered during the excavation of the topsoil deposit (Context No. 202) which included post-medieval pottery sherds, fragments of bottle glass, a flint scraper and flint core.

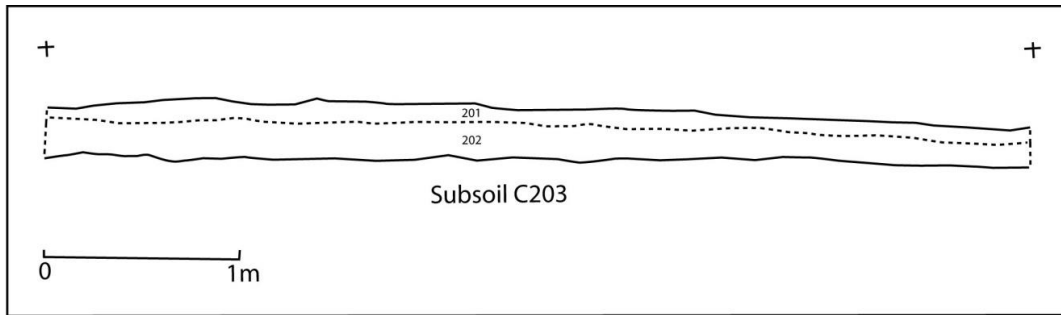


Figure 13: 5m portion of the north-facing section of Trench 2 illustrating the stratigraphic sequence encountered.

3.4.4 The topsoil in Trench 2 was removed to reveal the subsoil which consisted of a reddish sandy clay (Context No.203) with the occasional protrusion of limestone (Plate 4). Nothing of archaeological significance was encountered cutting the subsoil (Context No. 203), and the geophysical anomaly (Figure 12) was not encountered. Following excavation and recording the trench was manually backfilled and the area reinstated.



Plate 4: Trench 2 following excavation to the surface of the subsoil (Context No. 203), looking west.

3.5 **Trench 3**

3.5.1 Trench 3 was located within the scheduled area to the south of the fort. The trench measured 2m x 2m and was positioned to investigate a large boulder (Stone A) that is located to the south-east of the monument. The stone is a large rounded boulder measuring 1.28m wide (east/west) and ranges between 0.4m and 0.68m thick. The stone currently lies directly on the sod (Context No. 301) and a distinct hollow exists around the stone, probably related to cattle using the stone for rubbing (patches of polish on the edges of the stones testifies to this also). The trench was positioned on the south-eastern side of the stone and was excavated to the surface of the natural subsoil which was encountered at an average depth of 0.18m from the modern ground surface. A simple stratigraphic sequence was encountered during the excavation of this trench with little of archaeological significance being observed.



Plate 5: Location of Trench 3 showing the possible inauguration stone (Stone A) with Tullaghoge Fort in the background, looking north-west.

3.5.2 The sod layer in this trench (Context No. 301) consisted of active grass roots and small angular stones within a light brown sandy clay matrix (Context No. 301). The sod layer

(Context No. 301) was on average 0.05m thick and directly overlay a mid brown silty loam topsoil (Context No.302). This deposit contained numerous inclusions of small rounded and subangular stones and varied in thickness from 0.05m – 0.1m. Removal of the silty loam topsoil (Context No. 302) revealed a discreet deposit of small rounded stones (Context No. 303). The deposit of small rounded stones is curious as it does not sit within a cut, rather occupies a slight depression in the subsoil (Context No. 304) (Plates 6 and 7).

3.5.3 The deposit of small rounded stones (Context No. 303) sat in a shallow (maximum 50mm deep) sub-circular depression in the natural subsoil (Context No. 304). The deposit (Context No. 303) measured 1.45m (east/west) by 1.28m (north/south) and consisted of small (average size 40mm) rounded pebbles. Fragments of glass and possible brick were recovered from amongst the pebbles although it is thought that these originated in the topsoil deposit (Context No. 302). Removal of the pebbles (Context No. 303) revealed the full extent of the subsoil (Context No. 304).



Plate 6: Deposit of rounded pebbles (Context No. 304) in Trench 3, looking south (NB scale is 0.5m in length).

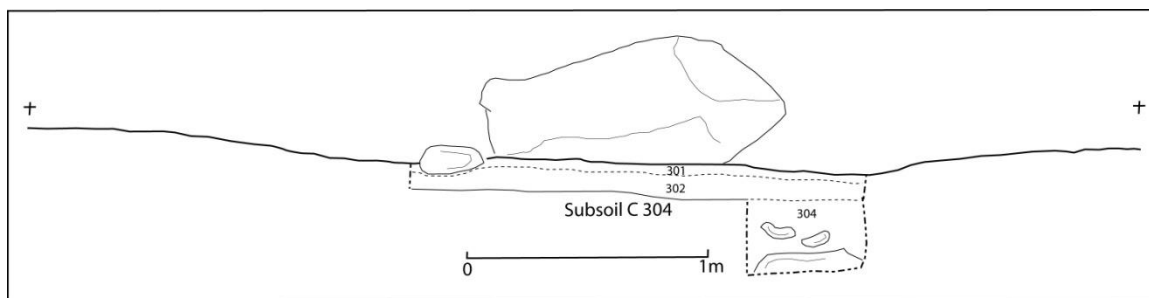


Figure 14: South-east facing section of Trench 3.

3.5.4 The subsoil in Trench 3 consisted of a reddish brown sandy clay with numerous protrusions of angular stone (Context No. 304). A small cutting was made into the subsoil (Context No. 304) in the north-eastern corner of the trench to test its identification, and the clay (Context No. 304) was found to be 0.38m thick and directly overlying the limestone bedrock. Nothing of archaeological significance was encountered during the excavation of this trench, and following recording it was backfilled and the area reinstated.



**Plate 7: Trench 3 following excavation to the surface of the subsoil (Context No. 303),
looking north-west**

3.6 **Trench 4**

3.6.1 Trench 4 was located within the scheduled area to the immediate north of the fort. The trench was positioned to investigate a possible curvilinear anomaly that was observed in the resistivity survey undertaken in this area in 2008 (Figures 8 and 15) (McHugh and Mussen 2008), although the magnetic gradiometry survey carried out in 2014 failed to detect any feature in this area (Siobhan McDermott *pers comm.*). The trench measured 3m in length (north-west/south-east) by 1m in width (south-west/north-east) and was manually excavated to the surface of the natural subsoil (Plate 8). Nothing of archaeological significance was encountered during the excavation of this trench with a simple stratigraphic sequence being encountered.



Figure 15: Approximate location of Trench 4 illustrating the curvilinear anomaly the trench was intended to investigate. North is to the top of the picture.

3.6.2 The sod in this trench (Context No. 401) consisted of active grass roots within a matrix of reddish brown sandy clay. Frequent inclusions of small angular stones (average size: 40mm x 50mm) were observed throughout the sod layer (Context No. 401) which was on average 0.07m thick. Removal of the sod layer (Context No. 401) revealed a compact topsoil deposit (Context No. 402).

3.6.3 The topsoil deposit consisted of a gritty reddish brown sandy clay (Context No. 402) and varied in thickness between 0.12m and 0.18m. Small rounded stones (average size

50mm - 90mm) as well as charcoal flecks were occasional inclusions throughout this deposit, with two sherds of white glazed ceramics of nineteenth-century date (Ruairi O'Baoill *pers comm.*) as well as natural flint pebbles being recovered. The topsoil deposit (Context No. 402) directly overlay the subsoil which consisted of a reddish orange clay (Context No. 403) with nothing of archaeological significance being encountered during the excavation of this trench. Following recording of the trench it was manually backfilled and the area re-instated.

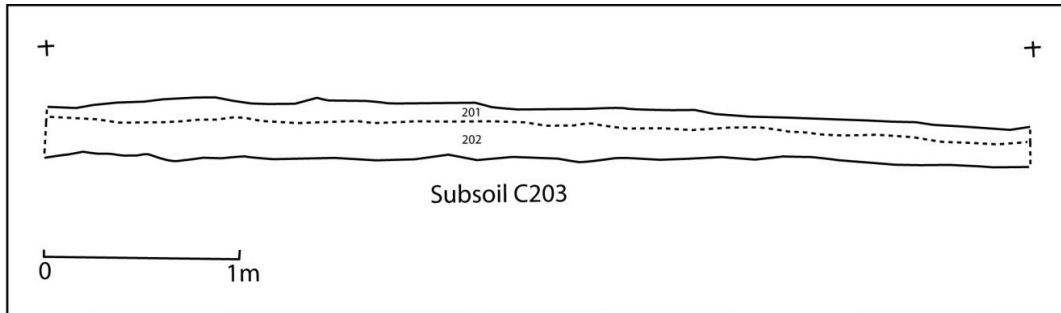


Figure 16: North-west facing section of Trench 4.



Plate 8: Trench 4 following excavation to the surface of the subsoil (Context No. 403), looking south-west.

3.7 **Trench 5**

3.7.1 Trench 5 was located within the scheduled area to the south of the fort. The trench measured 3m x 2m and was positioned to investigate a large boulder (Stone B) that is located to the south-east of the monument (Plate 9). The stone is a large limestone boulder measuring 0.58m wide (east/west) and approximately 0.4m thick. The stone is imbedded in the sod layer (Context No. 501) and a distinct hollow exists around the stone, probably related to cattle using the stone for rubbing (patches of polish on the edges of the stones testifies to this also). The trench was positioned on the south-eastern side of the stone and was excavated to the surface of the natural subsoil which was encountered at an average depth of 0.35m from the modern ground surface. Following discussions with the NIEA, the trench was extended to the north-west by 1m to assess the stratigraphic relationship between the stone and the deposits encountered in the trench. A simple stratigraphic sequence was encountered during the excavation of this trench with little of archaeological significance being observed.



Plate 9: Location of Trench 5 showing the possible inauguration stone (Stone B) with Tullaghoge Fort in the background, looking north-west.

3.7.2 The sod layer in Trench 5 (Context No. 501) consisted of active grass roots within a matrix of reddish brown sandy clay. Frequent inclusions of small angular stones (average

size: 40mm x 50mm) were observed within the sod layer (Context No. 501), which was on average 0.07m thick. Removal of the sod (Context No. 501) revealed a firm deposit of gravelly clay, which was initially assigned two context numbers (Contexts 502 and 503), although is now considered to be a single deposit (Context No. 502/503).

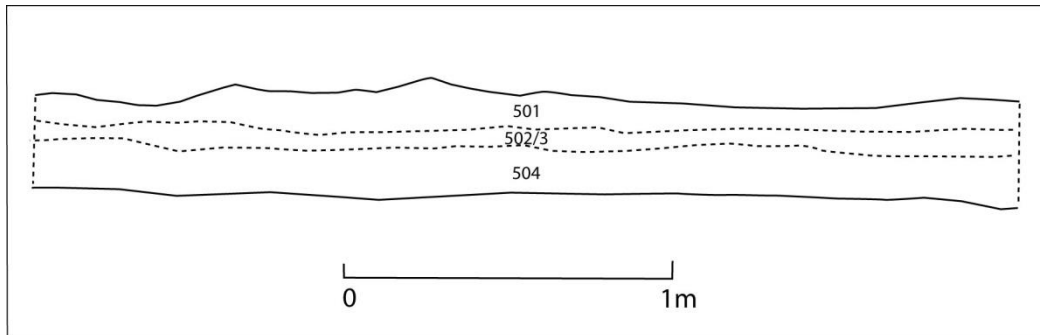


Figure 17: South-east facing section of Trench 5.

3.7.3 The gravelly clay deposit (Context No. 502/503) was on average 0.08m thick with frequent inclusions of small angular stones (average size 40mm x 30mm). Sherds of glass as well as fragments of glazed earthenware dating to the eighteenth or nineteenth century (Ruairi O'Baoill *pers comm.*) were recovered from the gravelly clay (Context No. 502/503). The excavation of this deposit showed it to directly overlay a relatively thick layer (average 0.25m thick) of reddish sandy clay (Context No. 504) which appeared very like the subsoil (Context No. 505) although with frequent flecks of charcoal throughout was deemed not to be a naturally occurring glacial deposit. The sandy clay (Context No. 504) lay directly over the natural subsoil which consisted of a tenacious orange clay (Context No. 505). No archaeological features were observed cutting the natural subsoil (Context No. 505).

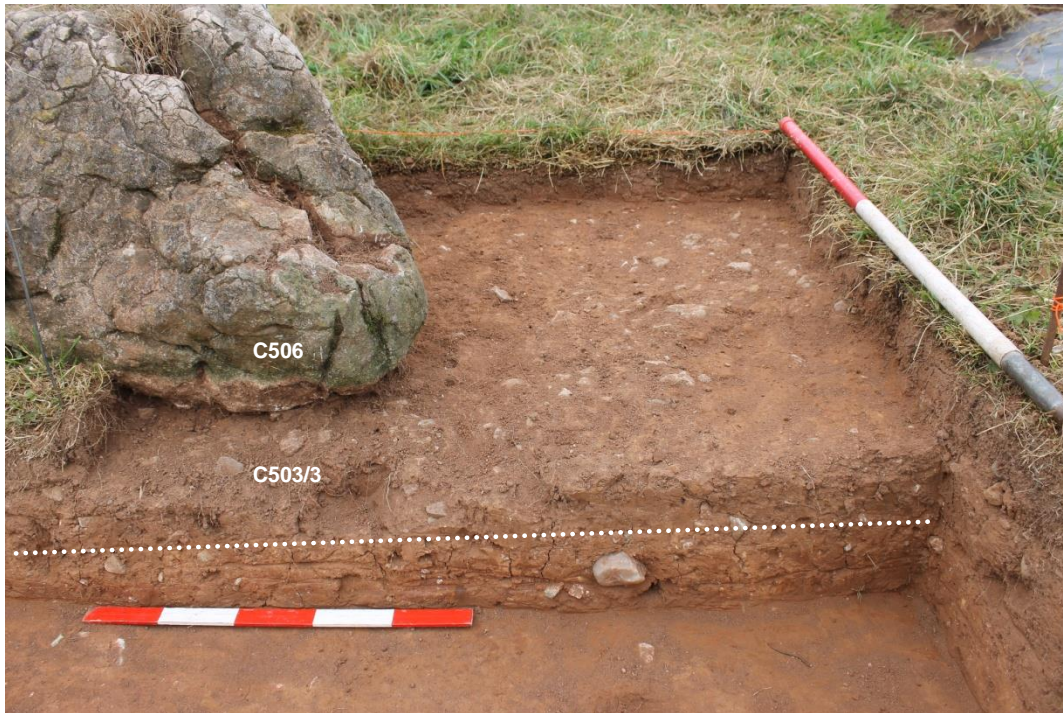


Plate 10: Extension to Trench 5 demonstrating the stratigraphic relationship between the large stone and the gravelly clay deposit (Context No. 502/503), looking north-west.

3.7.4 Following a visit from the NIEA, the decision was made to extend the trench by 1m to the north-west in an attempt to establish the relationship between the stone (Context No. 506) and the deposits encountered during the excavation of this trench. The excavation of this extension demonstrated that the stone (Context No. 506) lay directly on top of the gravelly clay deposit (Context No. 502/3). As sherds of glass and eighteenth/nineteenth century ceramics have been recovered from this deposit, it provides a crude *terminus post quem* for the stone being in its current position. As such it is unlikely that this stone (Context No. 506) represents the remains of the inauguration chair.



Plate 11: Mid-excavation shot of Trench 5 showing the surface of the gravelly clay deposit (Context No. 502/503; left portion of the trench) as well as the exposed surface of the subsoil (Context No. 505; right portion of the trench) looking north-west. Tullaghoge Fort is in the background of the picture.

3.8 Trench 6

3.8.1 Trench 6 was located within the scheduled area to the south of the fort and positioned to investigate an anomaly shown on the magnetic gradiometry survey undertaken in August 2014 (Figures 9 and 18). The trench originally measured 4m x 2m, although was extended to incorporate the full extent of the feature following approval from the NIEA, bringing the measurement of the trench to 6.5m (north-west/south-east) by 2.5m (south-west/north-east). The trench was manually excavated to the surface of the natural subsoil which consisted of reddish orange clay. The archaeological feature encountered the truncated remains of a cereal drying kiln, was excavated and recorded in full prior to the trench being backfilled and the area re-instated.

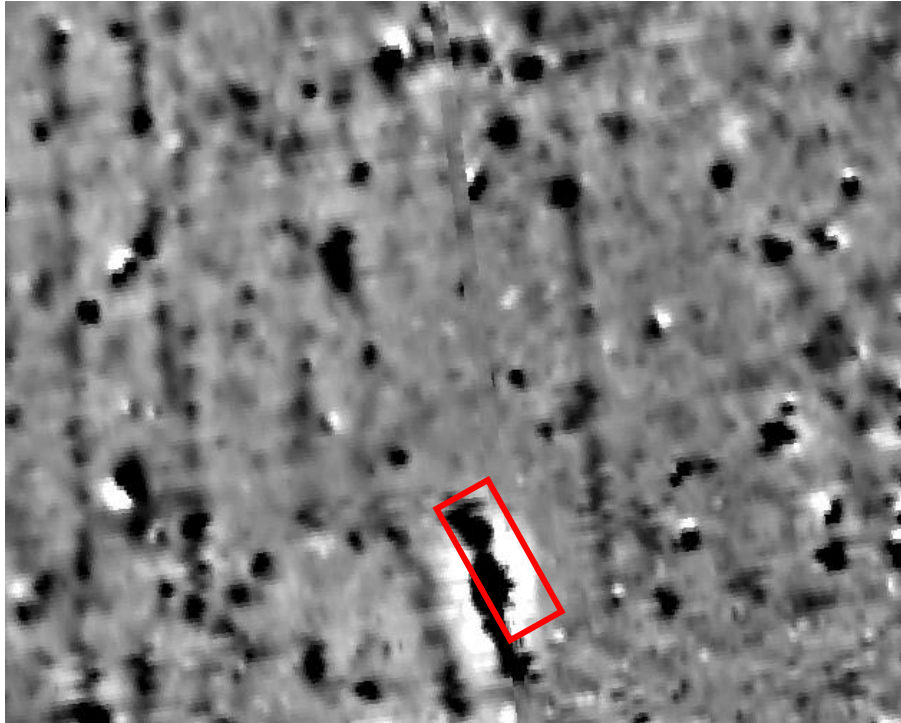


Figure 18: Excerpt of magnetic gradiometry survey (2nd survey higher resolution) showing the anomaly that prompted the excavation of Trench 6, as well as the approximate location of Trench 6 prior to its extension (north to top of image).

3.8.2 The sod in this trench consisted of active grass roots and frequent small angular stone within a light to mid-brown sandy loam matrix (Context No. 601). The sod layer (Context No. 601) varied in thickness between 0.05-0.1m and extended over the entirety of the trench. The sod (Context No. 601) directly overlay a firm deposit of reddish brown sandy clay topsoil (Context No. 602) which varied in thickness for 0.09m in the north-western end of the trench to 0.26m in the south-eastern end. This variation in thickness probably relates to agricultural processes that have been carried out in the area until relatively recently. Small angular and sub-angular stones (average size 40mm x 50mm) were frequent throughout the topsoil (Context No. 602) as well as the occasional fleck of charcoal. Removal of the topsoil deposit (Context No. 602) revealed a keyhole-shaped deposit of sticky light grey brown clay with numerous inclusions of charcoal (Context No. 603) (Plate 12). Excavation proved this deposit (Context No. 603) to be the uppermost fill of the cut for the cereal drying kiln (Context No. 606).



Plate 12: Trench 6 following removal of the topsoil (Context No. 602) showing the clay capping (Context No. 603) of the kiln structure (Context No. 606). Also visible is part of the stone lining (Context No. 607) along the western edge of the kiln. Following consultation with NIEA at this stage of the excavation, the trench was extended to the north-west and south-west to incorporate the full extent of the kiln (Context No. 606). (NB scales are 2m in length).

3.8.3 At this stage, following discussions with representatives of the NIEA, the trench was extended to measure 6.5m (north-west/south-east) by 2.5m (south-west/north-east). This allowed the entire chamber portion of the kiln to be exposed and investigated, as well as the majority of the flue section (it is postulated that the flue continues to the south of the trench).

3.8.4 The stratigraphically latest deposit associated with the kiln was sticky light grey brown clay with numerous inclusions of charcoal (Context No. 603). This deposit varied in thickness between 0.19m and 0.03m with the thicker end being the upslope portion of the chamber (towards the north-western end of the trench). Removal of the sticky grey clay (Context No. 603) revealed two deposits – a black, charcoal rich silty loam (Context No. 604) as well as a circular deposit of tenacious red clay (Context No. 605). The stratigraphically later deposit overlain by the sticky clay (Context No. 603) was the tenacious red clay (Context No. 605).



Plate 13: North-east facing section through the kiln structure (Context No. 606). Visible is the clay capping (Context No. 603), the deposited of possible redeposited subsoil (Context No. 605) and charcoal rich primary fill (Context No. 604). (NB scale is 0.5m in length).

3.8.5 The tenacious red clay (Context No. 605) was sub-oval in shape and measured 2.05m (south-east/north-west) by 0.96m (north-east/south-west) and tapered in thickness between 0.03m and 0.27m. The clay (Context No. 605) exhibited frequent inclusions of small angular stones and numerous charcoal flecking throughout. It is proposed that this deposit (Context No. 605) and the overlying grey clay (Context No. 603) might represent the truncated remains of the superstructure of the kiln, primarily due to the 'dished' appearance of the main fill of the kiln (Context No. 604), which lay directly underneath the tenacious red clay, although stratigraphically separated from it by an episode of tumble from the structure of the kiln (Context No. 609). The tumble consisted of small to medium rounded rocks (average size 0.4m x 0.3m) that sat directly on the charcoal rich fill of the kiln (Context No. 604) but did not exhibit any coherence or association with the *insitu* stone lining of the feature (Context No. 607; Plate 14).

3.8.6 The main fill of the chamber was a black, charcoal rich silty loam (Context No. 604). This deposit (Context No. 604) was extremely rich in carbonised organic matter and was sampled heavily for further analysis in the post-excavation stage of the project. The deposit occupied the entire length of the exposed portion of the kiln (6.5m south-east/north-west) and varied in thickness from 0.02m to 0.3m at its thickest at the south-eastern end of the kiln. The excavation of this deposit produced carbonised twigs and larger sticks, as well as what are discernible as macrofossils to the naked eye. It is hoped that the processing of the samples from this deposit (Context No. 604) will yield a sizeable assemblage of charred seeds and grains that will be forwarded for specialist analysis.



Plate 14: Surviving stone lining (Context No. 607) along the eastern edge of the kiln (Context No. 606), looking east. (NB scale is 0.5m in length).

3.8.7 The charcoal rich silty loam (Context No. 604) overlay both the *in situ* stone lining of the kiln (Context No. 607; Plate 14) as well as a discreet isolated deposit of charcoal rich sandy loam (Context No. 608) which was present only at the extreme south-eastern end of the flue (Figures 19 and 20). A percentage of the sandy loam (Context No. 608) appeared to be comprised of ash, and so it is interpreted that this is close to the fire pit that was used with the kiln. The deposit measured 0.82m in length (south-east/north-west) and was on average 0.06m thick. The *in situ* stone lining (Context No. 607) was comprised of large rounded boulders averaging in size 0.4m in length by 0.3m in width, and pressed directly against the cut of the kiln (Context No. 606). The boulders (Context No. 607) were usually set in a single course; although where smaller stones were employed they were set in a double course so that the lining was roughly the same height around the kiln (Plate 14).



Plate 15: Post excavation view of Trench 6 looking south-east. (NB scales are 2m in length).

- 3.8.8 The cut for the kiln (Context No. 606) encompasses both the flue and chamber of the structure. For the purposes of describing the physical appearance of both these elements of the structure they will be discussed separately, but both are designated Context No. 606. The flue of the kiln was at the south-eastern end of the trench and is recorded on the section drawing suggesting that it may carry on beyond the limits of the trench (Figure 20). The cut of the flue had very steep to vertical sides and a slightly concave base. The flue measured 2.7m (south-east/north-west) and ranged in length from 0.52m – 0.24m. The flue extended 0.74m into the chamber of the kiln.
- 3.8.9 The chamber of the kiln was 'figure-of-eight' shaped in plan (Figure 21; Plate 15). The sides of the chamber ranged from relatively gentle sloping (in the eastern portion) to near vertical (north and western portion). The base of the kiln was concave with a distinct slope coming down from the north-western end where the kiln was shallowest towards

the south-east where the kiln was deepest. The chamber of the kiln measured 4.18m in length (south-east/north-west) and ranged in width from a maximum of 1.78m to 0.82m.

3.8.10 The trench was excavated to the surface of the natural subsoil (Context No. 610) which consisted of a reddish orange sandy clay. Occasional angular stones were observed protruding from the surface of the subsoil (Context No. 610) which was encountered at an average depth of 0.22m from the modern ground surface. No other features of archaeological significance were encountered in the immediate vicinity of the kiln (Context No. 606). Following the recording of the feature, the kiln was backfilled and the area reinstated.

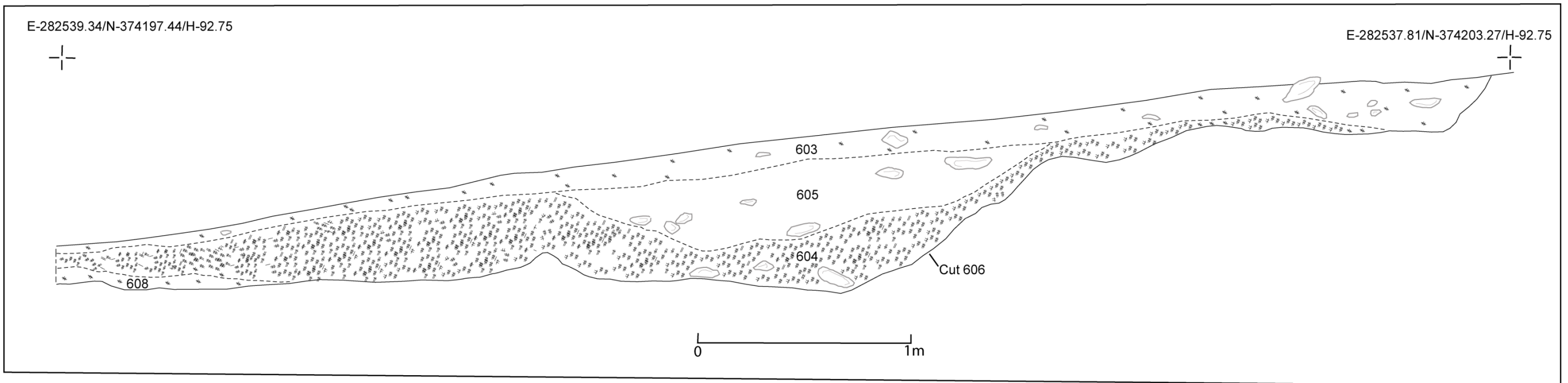


Figure 19: North-east facing section through the cereal drying kiln (Context No. 606).

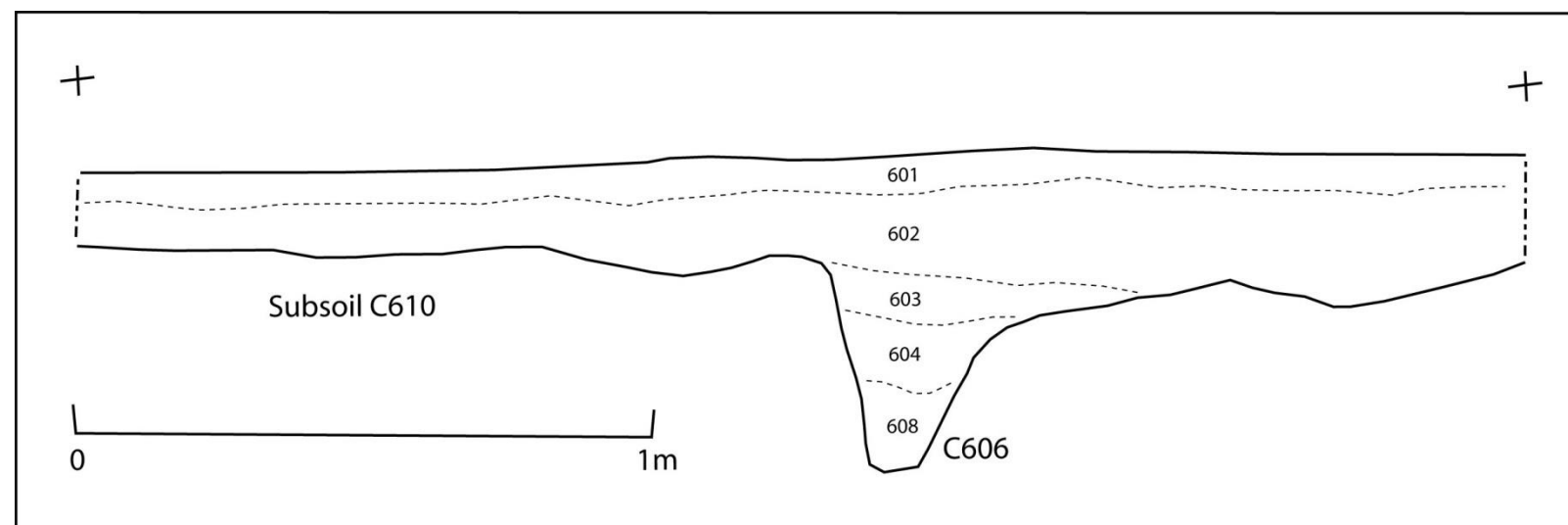


Figure 20: North-west facing section of Trench 6.

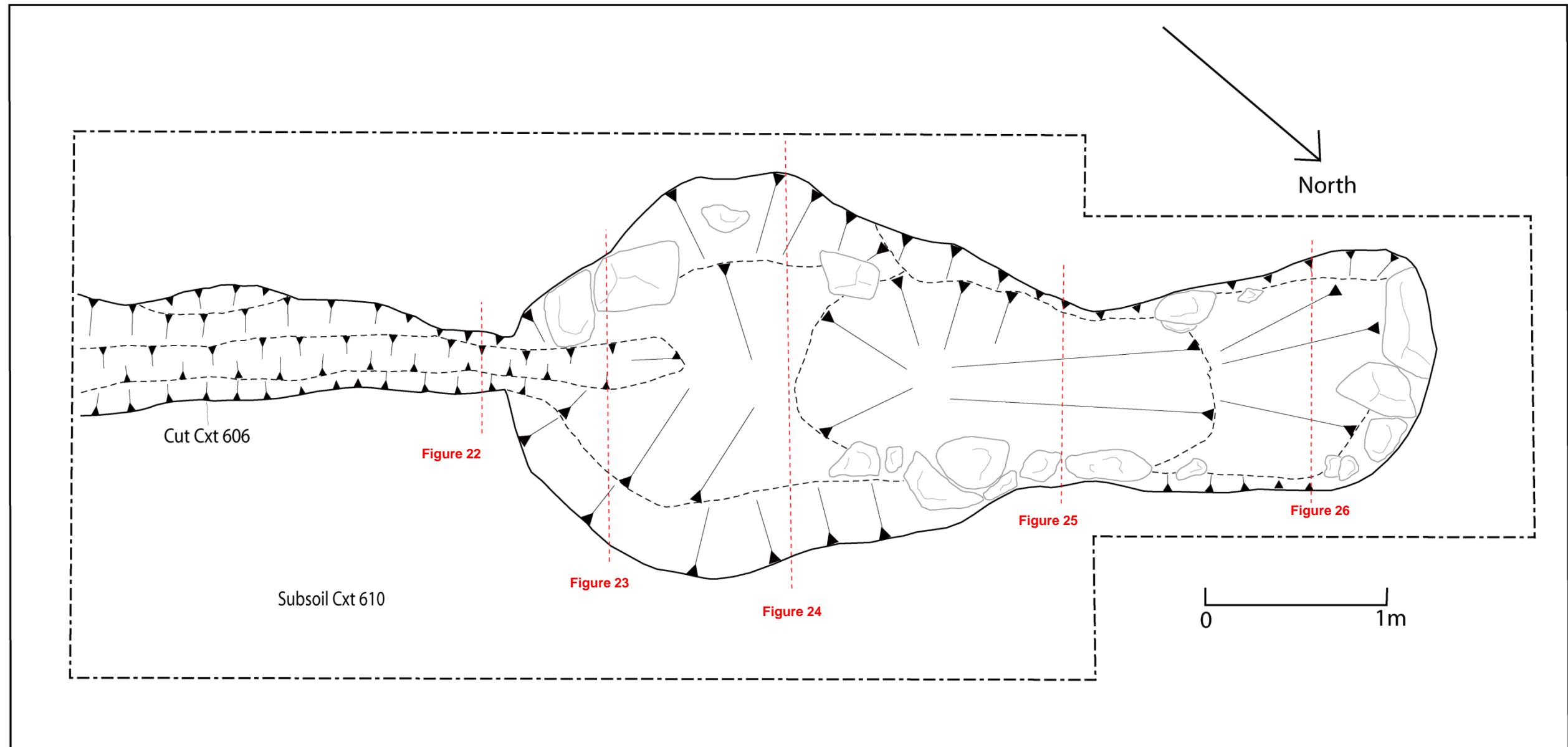


Figure 21: Post-excavation plan of the kiln (Context No. 606). (red dashed lines depict locations of the profiles shown in Figure ?).

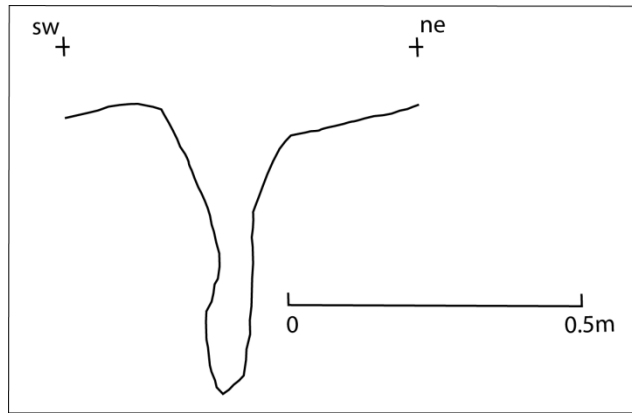


Figure 22: North-west facing profile through flue.

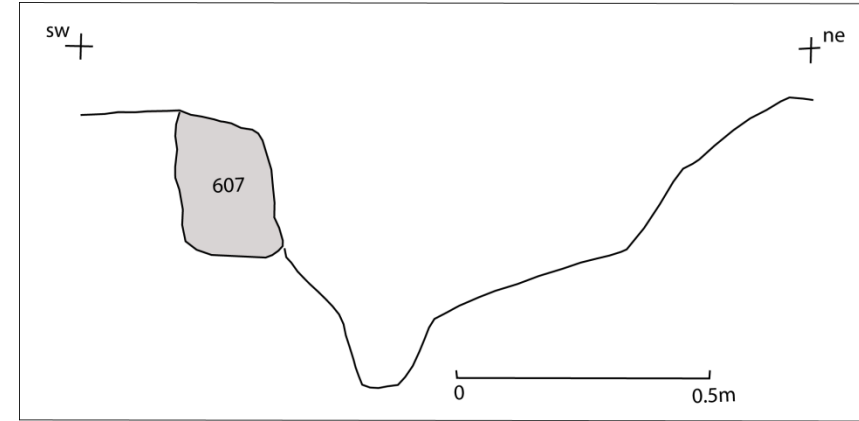


Figure 23: North-west facing profile through chamber and flue.

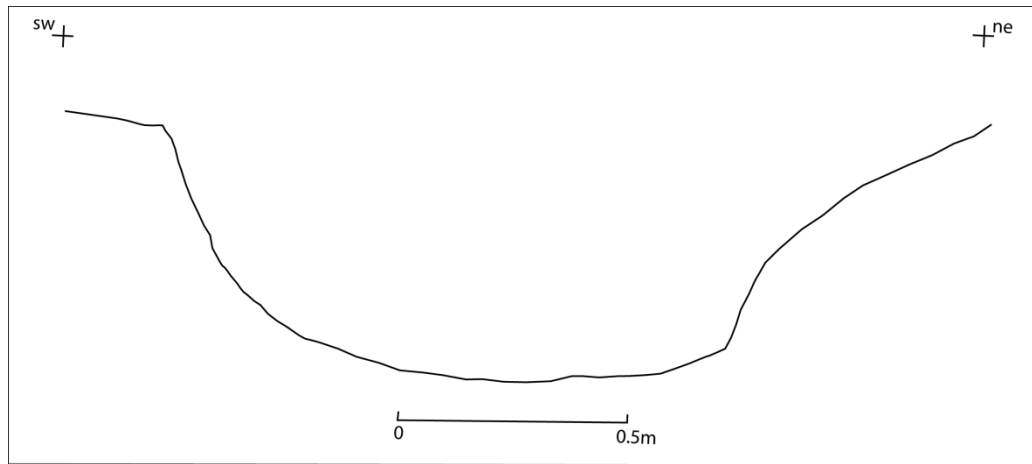


Figure 24: North-west facing profile through chamber.

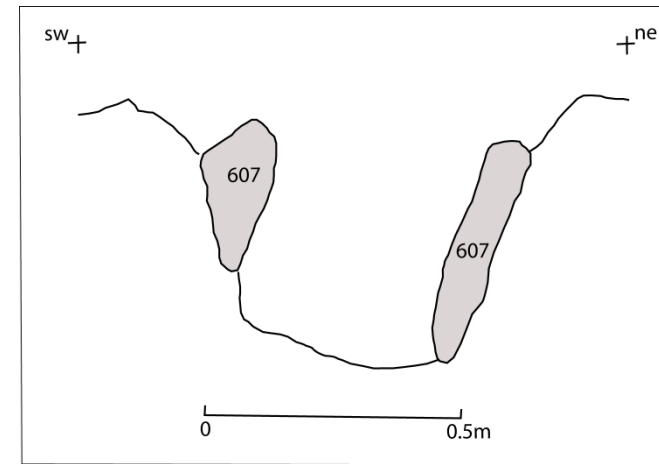


Figure 25: North-west facing profile through chamber.

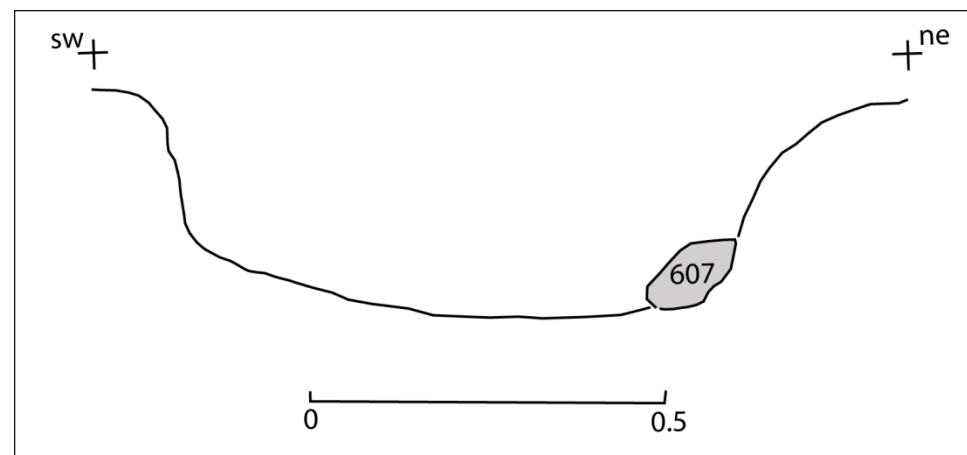


Figure 26: North-west facing profile through chamber.

4. Discussion

4.1 Introduction

4.1.1 The September investigation at Tullaghoge was a success in that the understanding of the area around the fort has been increased. The community involvement aspect of this project was successful with over 400 school children as well as 30 adult volunteers participating in the project.

4.1.2 The archaeological investigation into the possible inauguration stones proved somewhat inconclusive in that it could not be proven archaeologically whether stone A nor Stone B were the remains of the inauguration chair. However, the presence of these two boulders in the field to the south of the fort is interesting, coupled with the archaeological evidence gathered from the excavation of Trench 5.

4.2 Problems with positively identifying the location of the 'Leach na Ri'

4.2.1 Developing a methodology for archaeologically investigating inauguration sites is problematic, as outlined by Macdonald in his study of the *Ulaid* inauguration site at Crew Hill Co. Antrim (Macdonald 2008, 86). Inauguration sites, as well as Kingship as a whole (including the rites associated with inauguration) do not follow a set pattern, with many regional variations being observed (for a fuller discussion see Simms 1987).

4.2.2 The inauguration chair at Tullaghoge has been traditionally named 'Leach na Ri', translated as 'stone of the king' (Fitzpatrick 2004, 139). The Crown forces, under the command of Mountjoy, made an excursion into Tyrone in September 1602 and reportedly destroyed the inauguration seat, although it is not clear if the complete inauguration site was destroyed or just what would have been recognisable as a 'chair'. For this reason it is possible that the 'Leach' element of the site remains, which would have been the integral component of the inauguration site for many years prior to the seventeenth century. Bartlett's map of south-east Ulster (Figure 27) was presumably drawn following Mountjoys excursion into Tyrone in September 1602. The map depicts Tullaghoge with the description of the destruction of the chair (*4 stones in the manner of a chair....now taken away by his liege*).

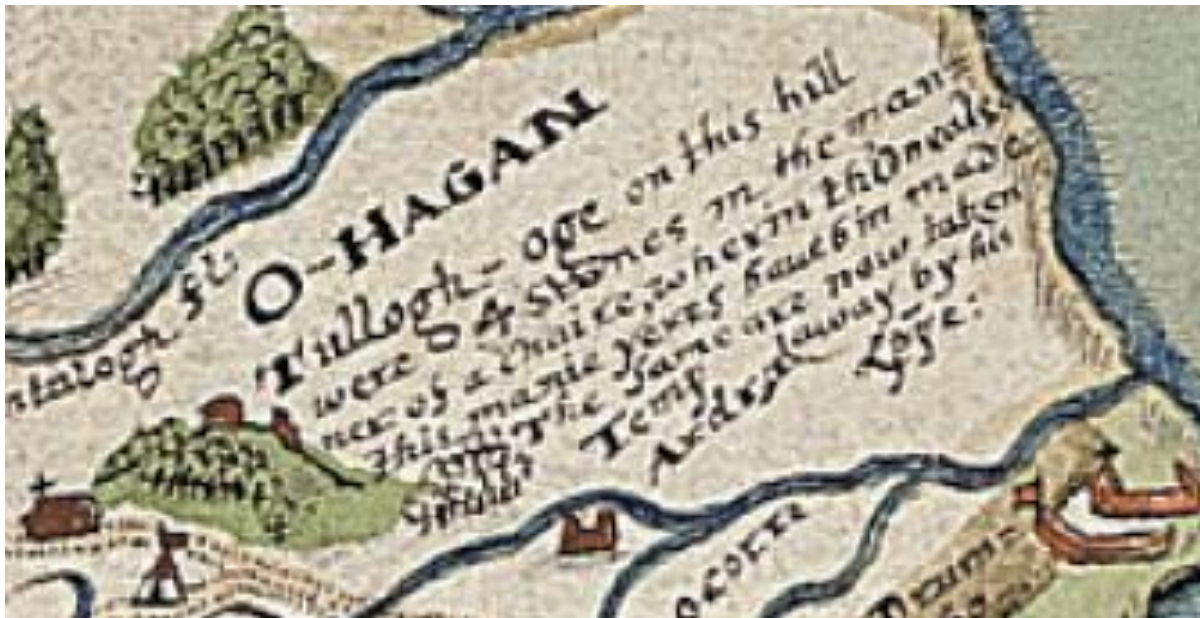


Figure 27: Extract from Bartlett map of south-east Ulster

- 4.2.3 Both potential 'stone chairs' (Stone A and B) were subject to archaeological investigation (Trenches 3 and 5 respectively). Neither proved definitely that they are the remains of the inauguration seat, although this is hardly surprising given the type of activity that would have taken place during such a ceremony. It is unlikely that material culture would have been dropped or deposited at such sites.
- 4.2.4 The excavation of Trench 3 (Stone A) produced little of archaeological significance. A deposit of smooth rolled pebbles was present directly above the subsoil, and it is possible that these were associated with the stone if or when it was erect. However, the stone as it exists today is lying directly on the ground surface indicating that it may have been pushed over in the relatively recent past (taking into account the lack of a build up of topsoil around the base of the stone).
- 4.2.5 The excavation of Trench 5 (Stone B) revealed a little more regarding the stratigraphic sequence associated with the stone. Excavation proved this stone to be sitting directly on a rough gravelly deposit (Context No. 503) immediately below which was recovered sherds of bottle glass and eighteenth and nineteenth-century pottery (Ruairi O'Baoill *pers comm.*). This demonstrates that the stone has been in this position since at least the eighteenth century and cannot, in its *current* location, represent the remains of the inauguration chair.

4.3 *Other possible interpretations of the stones...*

- 4.3.1 Excavation showed little of archaeological significance at the two potential inauguration sites in the scheduled area to the south of the fort. However, the magnetic gradiometry survey of the area shows a potential anomaly located between the two stones (Figures 9 and 28). The presence of a large boulder residually deposited in the corner of the field is curious as it is directly down slope from the approximate location of this potential anomaly. It is possible that this stone was originally located in between both Stone A and B, in effect originally making a row of three stones. It is possible that this was originally a prehistoric monument, possibly a stone row dating to the Bronze Age.
- 4.3.2 Fitzpatrick has argued how inauguration sites were often carefully chosen and exploited in order to bolster the authority of royal candidates by frequently appropriating or referencing ancient sites associated with an illustrious dynastic ancestor or legendary figure (Macdonald 2008, 86). Doherty has used early Patrician texts to explore the process by which inauguration stones may have become Christianised (2005, 9-11; Macdonald 2008, 86). Despite Tullaghoge not being specifically referenced as a place of inauguration until 1432 AD (O'Donovan 1851), the fact that it is mentioned in 914AD as a place of importance is suggestive of its royal status in the tenth century (Mac Niocaill 1983).
- 4.3.3 The excavation proved little of archaeological significance at either Stone A or B, so any interpretation of the stones' date or function remains tentative at best. Further excavation, perhaps concentrated on the geophysical anomaly (circled in green in Figure 28) could clarify the relationship between the Fort and the landscape in the immediate vicinity.

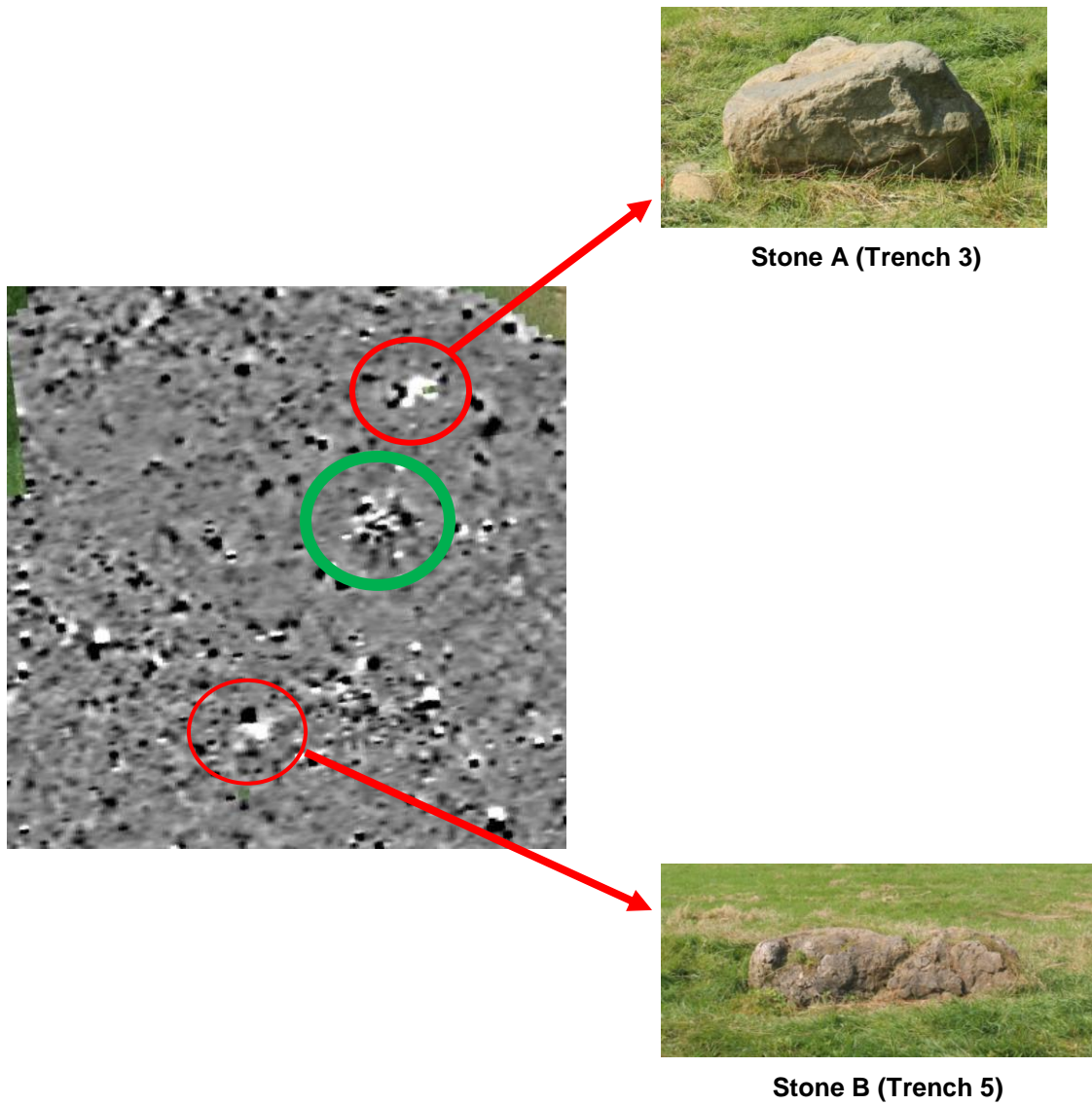


Figure 28: Excerpt of the magnetic gradiometry survey showing the responses of both Stone A and Stone B (circled in red). Circled in green is a magnetic response which could correspond with the stone that now rests at the bottom of the slope adjacent to the modern field boundary to the south-west of the fort.

4.4 *Magnetic gradiometry survey*

4.4.1 The geophysical investigation undertaken in August 2014 (McDermott 2014) involved the magnetic gradiometry survey of a portion of the Scheduled Area to the south and north of the fort. The results of this survey dictated the location of Trench 6, positioned to investigate a strong anomaly and which proved to be the truncated remains of a cereal drying kiln (Figures 9, 18 and 29).

4.4.2 The results from the area of the kiln merited the immediate vicinity of the feature to be re-surveyed at a higher resolution (for further details see McDermott 2014). This provided a greater definition to possible archaeological features in the vicinity, which include a possible broken curvilinear ditch or gully (marked red in Figure 29), potential pit features (shown in yellow in Figure 29) as well as north/south aligned linear anomalies that are likely to be associated with agricultural processes in relatively modern times (marked as blue in Figure 29; Siobhan McDermott *pers comm.*).

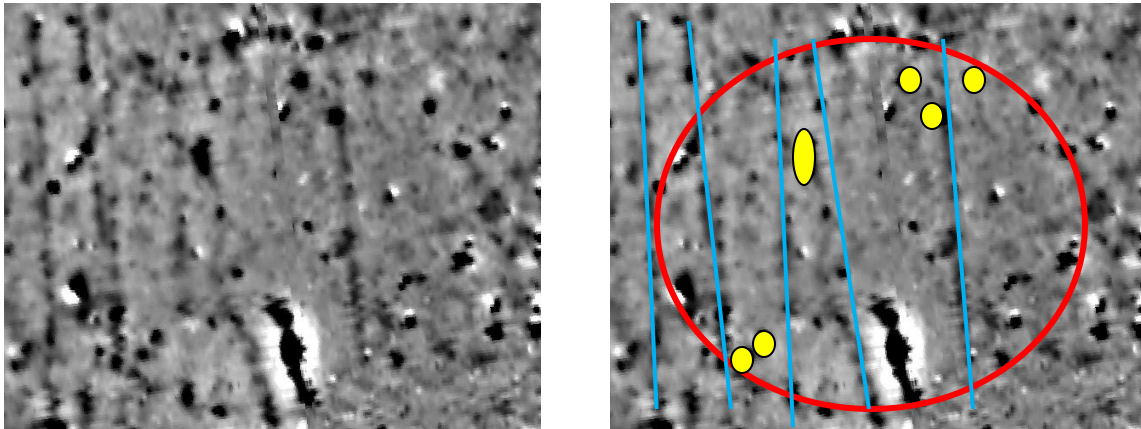


Figure 29: Excerpt from the magnetic gradiometry survey showing features of archaeological potential in the vicinity of the cereal drying kiln (black and white linear at the bottom of the image). Shown are north/south aligned linear anomalies (in blue), a probable circular enclosure c. 35m wide (in red) and possible pit features (in yellow).

4.4.3 The circular anomaly (depicted in red in Figure 29) is considered to be of archaeological potential. It does not appear to be a continuous cut feature, rather a series of pits or segments of a gully. The size of the anomaly, being approximately 35m in diameter fits well with the average size of Early Medieval Rathes which average 30-40m in diameter (Edwards 2006, 14). However, these features usually have a continuous ditch enclosing them (it is unlikely that the apparent truncation by the probable agricultural features highlighted in blue would have removed traces of an enclosing ditch), and the degree of the slope in this portion of the site might exclude the anomaly as representing the remains of a rath.

4.4.4 The circular features, (highlighted in yellow in Figure 29), although not forming a specific pattern, are of interest and may merit further investigation. At this stage it is not known if these features are associated with the truncated remains of the cereal drying kiln, or whether they represent a number of different periods of activity (if they are even

anthropogenic in the first instance). It is only with further excavation in this area will the date and function of these features be clarified.

4.5 *The layout of the monument*

4.5.1 A nineteenth century plan of the enclosure depicts the hexagonal plan of the inner bank placed slightly off-centre with the outer circular enclosure (Figure 30). A series of mounds dot the fosse giving the appearance of the remnants of a third intermediate bank between the two banks that survive today. FitzPatrick (2004, 147) has postulated whether the site underwent significant alteration sometime after the 1622 description, possibly during the 1641 rebellion or else as part of an eighteenth-century landscaping of the site as a tree-ring. The LIDAR image of the site shows little alteration to the monument from the mid nineteenth century, and so it must be assumed that any landscaping at the site must predate Quigley's drawing (Figure 30).

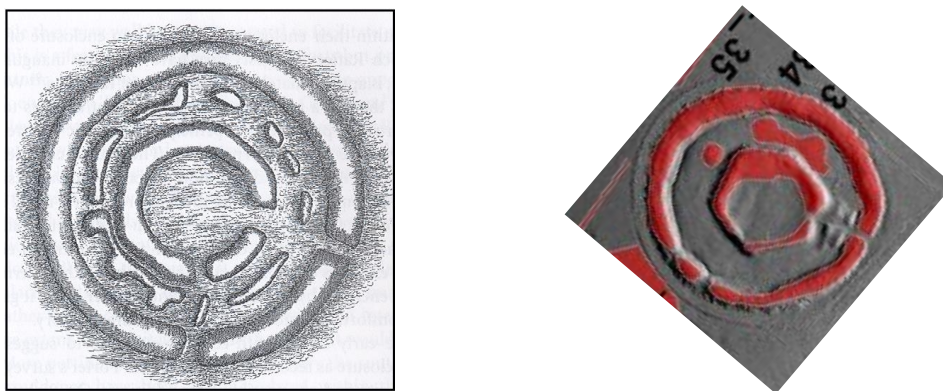


Figure 30: The first detailed plan of the enclosure was prepared in 1849 by Quigley (McDermott 2013, 11). The image on the right (orientated to match the nineteenth century drawing) is a portion of the LIDAR survey of the fort and its environs. This shows that the monument has been left relatively untouched since the 1840s indicating any landscaping had to occur prior to the mid nineteenth century.

4.5.2 Had the central platform been present at the time of the Bartlett depiction of the monument (1602) it can be assumed that Bartlett would have included it due to the high level of detail given about Tullaghoge and indeed other places drawn at the period. However, the form of Tullaghoge Fort is similar in ground plan to the henge site at Sheebeg Co. Fermanagh (FER 246:007) with an external circular bank, internal fosse and central raised platform (Figure 31), as well as a supposed association with

Cornashee Co. Fermanagh (FER 246:001) which is reputedly the inauguration site of the Maguires.

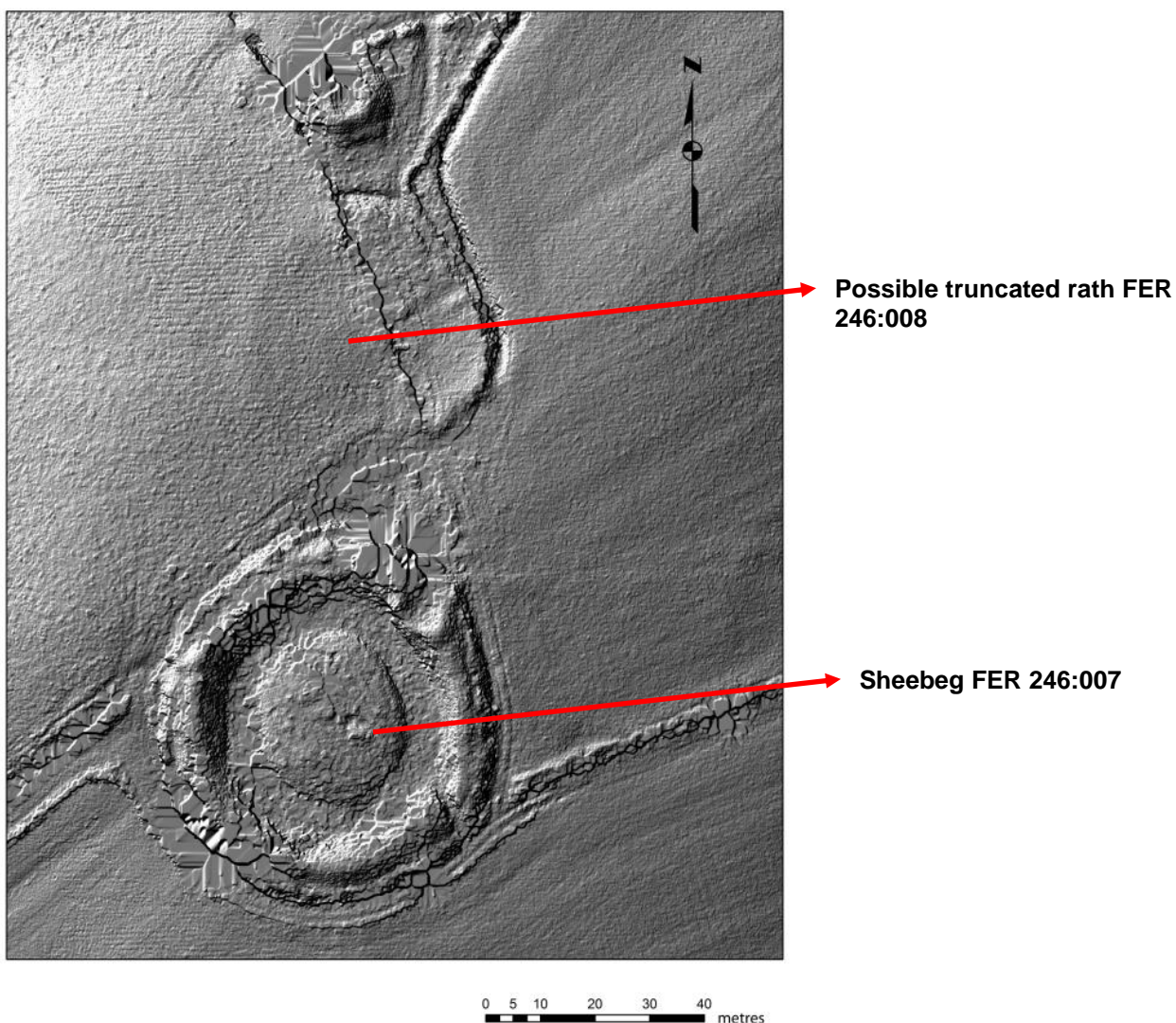


Figure 31: LIDAR image showing Sheebeg (FER 246:007) with the remains of a possible rath site to the immediate north (FER 246:008). This arrangement is similar to the landscape of Tullaghoge.

4.6 *Cereal-drying kiln*

4.6.1 The feature excavated in Trench 6 represented the truncated remains of a cereal drying kiln. The majority of the feature was excavated, although it is thought that some of the flue may extend beyond the trench to the south-east. Provisional post-excavation work has been undertaken on the samples retrieved during the excavation of the feature which

demonstrate the dominance of charred grains (in particular barley and oats – Gill Plunkett *pers comm.*). A sample of these grains was submitted for radiocarbon dating, giving a date range of AD722-985 (UB_27445). This date range is slightly later than the kiln investigated during the January evaluation in the area of the new car park (Sloan 2014) which yielded a calibrated date range of AD606-668. This demonstrates that there was a reasonable degree of Early Medieval activity, principally concerned with the processing of cereal, being carried out in the vicinity of Tullaghoge.

4.6.2 Cereal-drying kilns are a common feature in the archaeological landscape, with numerous being identified during excavations all over Ireland (Monk & Kelleher 2005, 79). The kilns were used for a number of purposes, mostly related to agricultural processes where they were used to dry and harden cereal grains prior to grinding (O' Sullivan & Downey 2005, 32). Kilns vary in size and shape, commonly being keyhole or dumb-bell shape in plan. The basic kiln structure comprises a bowl, a flue, a stoke-hole and a drying platform (*ibid*, 33).

4.6.3 Cereal drying kilns are generally associated with activity dating to the Early Medieval and Medieval, although their use is documented right up into relatively modern times (O' Sullivan & Downey 2005, 34). The date range obtained for the Tullaghoge example fits well within these parameters, yielding a date in the early to mid seventh century AD. Examples of prehistoric kiln structures have been noted however (e.g. at Knockgraffon Co. Tipperary – McQuaide et al 2009, 33) illustrating that this technology was exploited for millennia.

4.7 Conclusions

4.7.1 The September investigation into the area around Tullaghoge Fort proved the presence of archaeological features, primarily dating to the Early Medieval period. The presence of at least two cereal drying kilns dating to the Early Medieval period is interesting as they represent a previously little understood period of activity at Tullaghoge. The trenches located over the geophysical anomalies showed little of archaeological significance, although further survey and exploratory excavation would be an advantage, especially deploying magnetic gradiometry in the fields to the west of the fort.

4.7.2 A number of recommendations have been made in Section 5 of this report. It is proposed that a programme of post-excavation work is carried out to bring this project to completion through publication.

5. Recommendations for further work

5.1 Introduction

5.1.1 As with the January investigation, the site archive is comprised of artefactual material and soil samples. It is recommended that these are processed and catalogued, as well as radiocarbon determinations sought, to further our understanding of the date and function of the archaeological activity onsite.

5.1.2 The recommendations below detail the post-excavation requirements of the September excavation only. Post-excavation requirements for the January evaluation have been detailed in Sloan 2014.

5.2 Artefact assemblage

5.2.1 A total of 573 items of lithic artefacts have been recovered during the September investigation. Despite the vast majority of these being from topsoil and hill wash deposits, analysis of the assemblage would be favourable due to the early date of the artefacts. It is recommended that this analysis is carried out by Brian Sloan of the Centre for Archaeological Fieldwork, Queen's University Belfast.

5.2.2 An assemblage of pottery sherds (270 sherds in total) was recovered during the excavation, almost exclusively from the area at the base of the slope to the west of the fort. (Trench 1) It is thought that the sherds are dominated by post-medieval types and are related to either agricultural improvement (middening) or are associated with the nineteenth century structures depicted on the 1st edition map. A formal identification of the assemblage would be an advantage for the interpretation of the site as a whole. It is recommended that this analysis is carried out by Ruairi O'Baoill of the Centre for Archaeological Fieldwork, Queen's University Belfast.

5.2.3 A small assemblage of slag was recovered from the main fill (Context No. 604) of the cereal drying kiln (Context No. 606). It is recommended that this assemblage is passed on to the relevant specialist for analysis. The presence within the fill of the kiln is curious and may be related to a secondary use of the structure or may be an indicator of surrounding activity.

5.3 *Soil Sample processing*

5.3.1 A total of 38 soil samples were recovered during the September excavation. It is recommended that these are processed in their entirety for the extraction of artefacts and datable material. It is recommended that this processing is undertaken at Queen's University Belfast.

5.4 *Macro-fossil analysis*

5.4.1 Initial processing of the contents of the cereal-drying kiln has been carried out (to provide suitable samples for radiocarbon dating). This has proven the presence of a sizeable assemblage of charred grains which have been provisionally identified as being dominated by barley and oats (Gill Plunkett *pers comm.*). It is recommended that the samples from both the kiln excavated in January (Sloan 2014) as well as the kiln excavated in September are processed with a view to extracting the macro-fossil assemblage. The assemblage can then be passed to the relevant specialist for identification, analysis and comparison.

5.5 *Radiocarbon dating*

5.5.1 Due to a paucity of datable deposits, a single radiocarbon determination for the investigation has been sought. A sample from the lowermost deposit in the chamber of the kiln (Context No. 604) has been processed to provide material for radiocarbon dating. A quantity of charred grains (provisionally identified as representing barley and oats; Gill Plunkett *pers comm.*) were obtained and submitted for dating (UB_ 27445) with a calibrated date of AD722-985 being returned (95% probability; 2 sigma).

5.6 *Further archaeological investigation*

5.6.1 The magnetic gradiometry survey undertaken during 2014 showed that the methodology can prove effective in identifying potential archaeological features at Tullaghoge. It is recommended that the entire footprint of the property owned by the NIEA is subject to this form of survey, with a view to comparing the results with the resistivity surveys carried out since 2006. It is hoped that further geophysical survey will identify anomalies that can then be investigated through excavation to assess their archaeological potential.

5.7 *Publication*

- 5.7.1 It is thought that the results of the investigation merit publication in a peer reviewed journal. It is proposed that the results of the geophysical surveys, LIDAR survey and results of the excavation (both the January and September investigations) are amalgamated into a single account.

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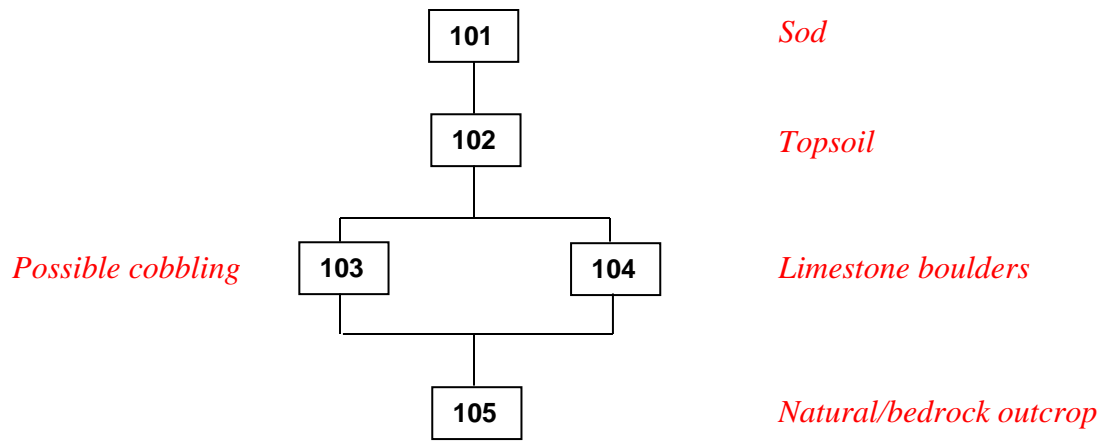
Appendix One: Context Register

Trench	Context No.	Description
1	101	Sod
1	102	Topsoil
1	103	Possible rough cobbling in south-western corner of trench
1	104	Rounded limestone boulders overlying natural
1	105	Natural subsoil
2	201	Sod
2	202	Topsoil
2	203	Natural subsoil
3	301	Sod
3	302	Topsoil
3	303	Deposit of rounded pebbles directly over subsoil
3	304	Natural subsoil
4	401	Sod
4	402	Topsoil
4	403	Natural subsoil
5	501	Sod
5	502	Gravelly clay same as 503
5	503	Gravelly clay same as 502
5	504	Clay layer
5	505	Natural subsoil
5	506	Stone
6	601	Sod
6	602	Topsoil
6	603	Clay capping/uppermost deposit of kiln
6	604	Main fill of the chamber and flue of the kiln
6	605	Possible redeposited subsoil
6	606	Cut of the kiln (both flue and chamber)

6	607	<i>In situ</i> stone lining of the kiln
6	608	Charcoal rich sandy basal deposit of flue
6	609	Stone collapse from lining (Cxt. 607) of the kiln
6	610	Natural subsoil

Appendix Two: Harris Matrices

Trench 1



Trench 2



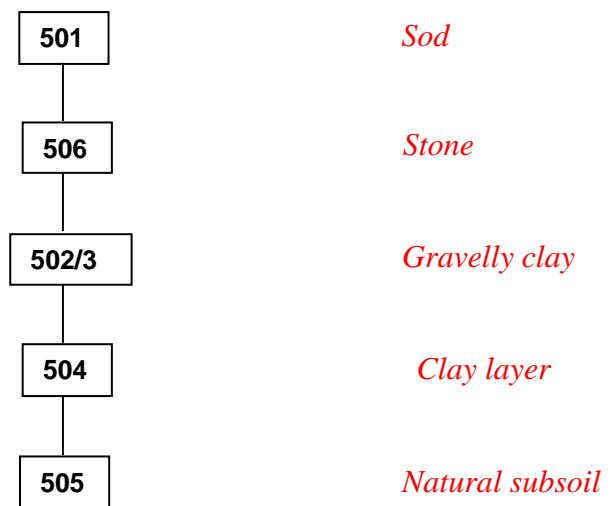
Trench 3



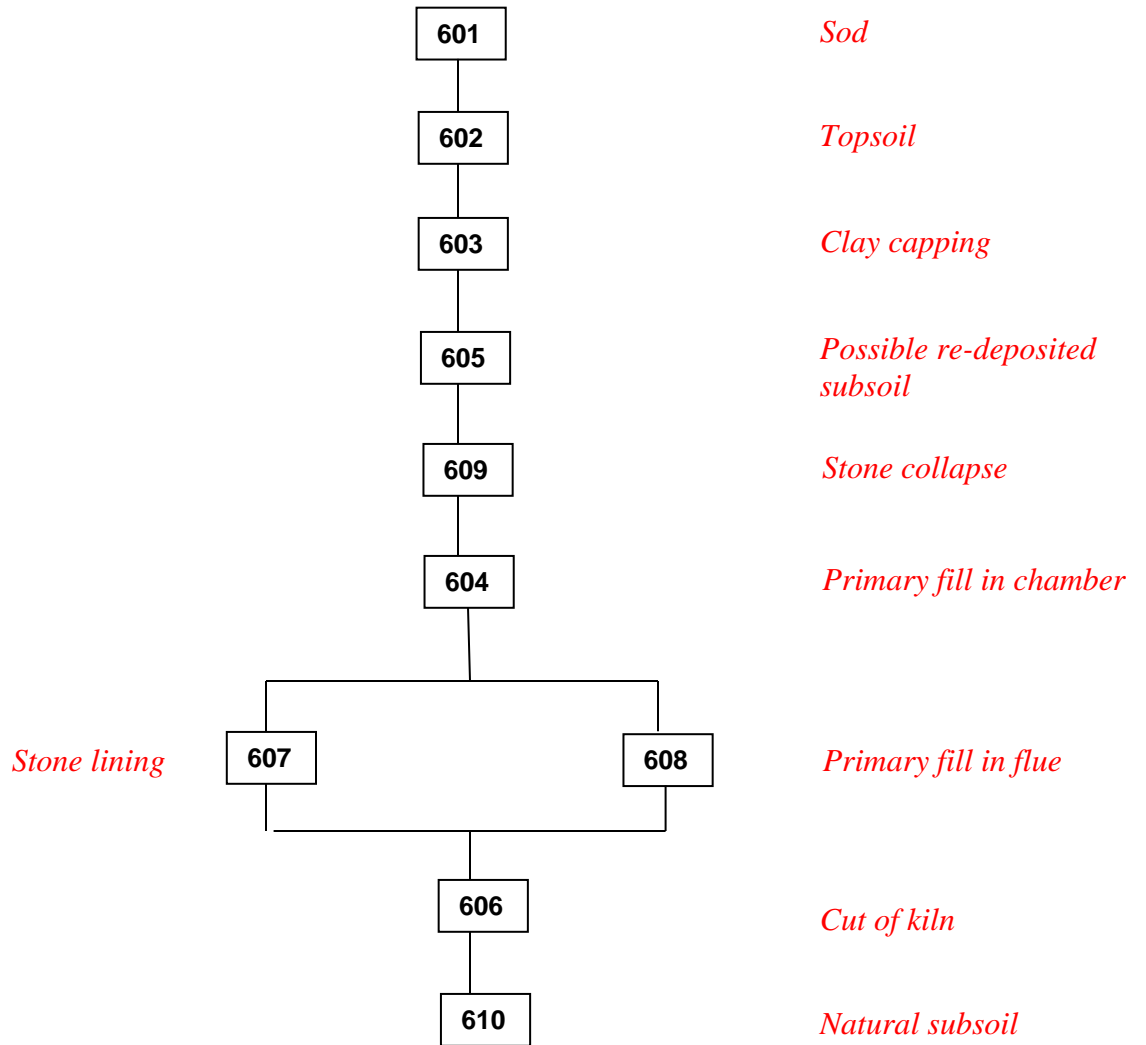
Trench 4



Trench 5



Trench 6



Appendix Three: Field drawing Register

Drawing #	Trench	Type	Scale	Detail	Date	Initials
1	3	Plan	1:20	C303 and Subsoil C304	16/09/14	RL
2	4	Section	1:10	East-facing section	19/09/14	ML
3	5	Plan	1:20	Rough stone surface C503 and clay C502	17/09/14	ROB
4	4	Section	1:10	North-facing section	19/09/14	ML
5	2	Section	1:20	North-facing section	22/09/14	FW
6	6	Plan	1:20	Following removal of C602 showing clay C603 and cut C606	22/09/14	SA
7	6	Plan	1:20	C604, 605, 606 and 607	23/09/14	DR
8	3	Section	1:20	South-facing section	23/09/14	RL
9	5	Section	1:20	South-facing section	25/09/14	ROB
10	5	Section	1:20	East-facing section	25/09/14	ROB
11	6	Plan	1:20	Post-excavation plan of kiln C606	29/09/14	BS
12	6	Profile	1:10	North-west facing profile	29/09/14	BS
13	6	Profile	1:10	North-west facing profile	29/09/14	BS
14	6	Profile	1:10	North-west facing profile	29/09/14	BS
15	6	Profile	1:10	North-west facing profile	29/09/14	BS
16	6	Profile	1:10	North-west facing profile	29/09/14	BS
17	6	Profile	1:10	North-west/South-east aligned profile through kiln C606	29/09/14	BS
18	6	Section	1:10	North-west facing	30/09/14	BS/SA

Appendix Four: Sample Register

Sample No.	Trench	Description	Quantity (# A4 bags)
1	3	Soil around rolled pebbles Cxt 303	X3
2	6	Clay capping of kiln Cxt. 603	X3
3	6	Possible redeposited subsoil Cxt. 605	X3
4	6	Charcoal rich strata from area of the flue Cxt. 604	X1
5	6	Charcoal rich strata from area of the flue Cxt. 604	X4
6	6	Lower deposit from area of the flue Cxt. 608	X1
7	6	Charcoal rich strata from main fill of the kiln chamber Cxt. 604	X17

Appendix Five: Finds Register

<i>Trench</i>	<i>Context</i>	<i>Description</i>	<i>Quantity</i>
1	102	Pottery	248
1	102	Glass	64
1	102	Clay Pipe Stem	3
1	102	Clay Pipe Bowl Fragment	1
1	102	Slate	31
1	102	Rubber Object	1
1	102	Slag	1
1	102	Brick	41
1	102	Metalwork	12
1	102	Animal Bone	2
1	102	Fossil	1
1	102	Flint	495
1	103	Pottery	3
1	103	Clay Pipe Stem	1
1	103	Brick	1
1	103	Stone	1
2	202	Pottery	13
2	202	Glass	6
2	202	Plastic Button	1
2	202	Slate	5
2	202	Brick	8
2	202	Metalwork	2
2	202	Flint	56
2	202	Flint Core	2
2	202	Flint Scraper	2

3	302	Pottery	3
3	302	Glass	1
3	302	Slate	2
3	302	Flint	5
3	303	Glass	1
3	303	Clay Bottle Stopper	1
3	303	Slate	1
3	303	Brick	3
3	303	Pebbles	73
3	303	Flint	5
4	402	Pottery	12
4	402	Brick	1
4	402	Flint	2
5	501	Pottery	1
5	501	Glass	3
5	501	Brick	4
5	502	Pottery	2
5	502	Glass	5
5	502	Brick	9
5	502	Clinker	1
5	502	Unidentified Object	1
5	502	Flint	7
5	503	Pottery	1
5	503	Glass	5
5	503	Brick	10
5	504	Glass	1
5	504	Slate	1
5	504	Brick	7

5	Unstrat	Glass	1
5	Unstrat	Slate	2
6	602	Clay Pipe Stem	1
6	602	Possible Hammer Stone	1
6	602	Flint	2
6	603	Slag	1
6	603	Flint	1
6	Unstrat	Flint	1

Appendix Six: Photographic Register

Photo No.	Description	Date
1075	School visit	8/9/14
1076	School visit	8/9/14
1077	School visit	8/9/14
1078	School visit	8/9/14
1079	Trench 2, pre-excavation shot, looking west	9/9/14
1080	Trench 2, pre-excavation shot, looking west	9/9/14
1081	Working shot	9/9/14
1082	Trench 2, pre-excavation shot, looking east	9/9/14
1083	Trench 2, pre-excavation shot, looking east	9/9/14
1084	Trench 3, pre-excavation shot, looking east	10/9/14
1085	Trench 3, pre-excavation shot, looking south	10/9/14
1086	Trench 3, pre-excavation shot, looking west	10/9/14
1087	Trench 3, pre-excavation shot, looking north	10/9/14
1088	Trench 3, pre-excavation shot, looking north	10/9/14
1089	Trench 3, working shot, looking north	10/9/14
1090	Trench 3, following removal of Cxt.301, looking north	10/9/14
1091	Trench 3, following removal of Cxt.301, looking north	10/9/14
1092	Trench 3, following removal of Cxt.302, looking north	10/9/14
1093	Trench 3, following removal of Cxt.302, looking north	10/9/14
1094	Trench 3, surface of Cxt.303, in plan	10/9/14
1095	Trench 3, surface of Cxt.303, in plan	10/9/14
1096	Trench 2, post-excavation shot showing surface of natural subsoil, looking east	10/9/14
1097	Trench 2, post-excavation shot showing surface of natural subsoil, looking east	10/9/14
1098	Trench 2, post-excavation shot showing surface of natural subsoil, looking west	10/9/14
1099	Trench 2, post-excavation shot showing surface of natural subsoil, looking west	10/9/14
1100	Trench 2, south facing section	10/9/14
1101	Trench 2, south facing section	10/9/14
1102	Trench 1, working shot	11/9/14
1103	Trench 1, working shot	11/9/14

1104	Trench 1, working shot	11/9/14
1105	Trench 5, pre-excavation shot, looking west	11/9/14
1106	Trench 5, pre-excavation shot, looking north	11/9/14
1107	Trench 5, pre-excavation shot, looking north	11/9/14
1108	Trench 5, pre-excavation shot, looking east	11/9/14
1109	Trench 5, pre-excavation shot, looking south	11/9/14
1110	Trench 5, pre-excavation shot, looking south	11/9/14
1111	Trench 3, working shot	11/9/14
1112	Trench 3, working shot	11/9/14
1113	Trench 3, working shot	11/9/14
1114	Trench 3, working shot	11/9/14
1115	Trench 3, working shot	11/9/14
1127	Trench 3, following half-section of metalled surface, looking west	15/9/14
1128	Trench 3, following half-section of metalled surface, in plan	15/9/14
1129	Trench 3, following half-section of metalled surface, looking north	15/9/14
1130	Trench 4, following removal of sod Cxt.401, looking north-west	15/9/14
1131	Trench 4, following removal of sod Cxt.401, looking north-west	15/9/14
1132	Trench 4, following removal of sod Cxt.401, looking south-east	15/9/14
1133	Trench 4, following removal of sod Cxt.401, looking south-east	15/9/14
1134	Trench 4, following removal of sod Cxt.401, looking south-east, showing the fort in the background	15/9/14
1135	Trench 4, following removal of sod Cxt.401, looking south-east, showing the fort in the background	15/9/14
1136	Trench 5, surface of Cxt.502, looking north	15/9/14
1137	Trench 5, surface of Cxt.502, looking south	15/9/14
1138	Trench 5, surface of Cxt.502, looking east	15/9/14
1139	Trench 5, surface of Cxt.502, looking west	15/9/14
1140	Trench 5, surface of Cxt.502, looking north	15/9/14
1141	Trench 5, surface of Cxt.502, looking north	15/9/14
1142	Trench 5, surface of Cxt.502, looking south	15/9/14
1143	Trench 5, surface of Cxt.502, looking south	15/9/14
1144	Trench 5, surface of Cxt.502, looking west	15/9/14
1145	Trench 5, surface of Cxt.502, looking east	15/9/14
1146	Trench 5, surface of Cxt.502, looking east	15/9/14
1147	Trench 5, surface of Cxt.502, looking north	15/9/14
1148	Trench 5, surface of Cxt.502, looking north	15/9/14

1149	Trench 3, surface of the natural subsoil, following removal of the metalled surface, looking north	15/9/14
1150	Trench 3, surface of the natural subsoil, following removal of the metalled surface, looking north	15/9/14
1151	Trench 4, following removal of topsoil Cxt.402, looking north- west	16/9/14
1152	Trench 4, following removal of topsoil Cxt.402, looking north- west	16/9/14
1153	Trench 6, following removal of the sod Cxt.601, looking south	16/9/14
1154	Trench 4, following removal of topsoil Cxt.402, showing possible natural subsoil Cxt.403, looking north-west	16/9/14
1155	Trench 4, following removal of topsoil Cxt.402, showing possible natural subsoil Cxt.403, looking north-west	16/9/14
1156	Trench 4, following removal of topsoil Cxt.402, showing possible natural subsoil Cxt.403, looking south-east	16/9/14
1157	Trench 4, following removal of topsoil Cxt.402, showing possible natural subsoil Cxt.403, looking south-east	16/9/14
1158	Trench 4, following removal of topsoil Cxt.402, showing possible natural subsoil Cxt.403, looking south-east	16/9/14
1159	Trench 4, following removal of topsoil Cxt.402, showing possible natural subsoil Cxt.403, looking south-east	16/9/14
1161	Trench 3, box section in north-west corner of trench, looking north	17/9/14
1162	Trench 3, box section in north-west corner of trench, looking west	17/9/14
1163	Trench 4, east facing section	17/9/14
1164	Trench 4, east facing section	17/9/14
1165	Trench 4, north facing section	17/9/14
1166	Trench 4, south facing section	17/9/14
1167	Trench 4, west facing section	17/9/14
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1204	Trench 2, post-excavation shot, looking west	22/9/14
1205	Trench 2, post-excavation shot, looking west	22/9/14
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1262	Trench 5 extension, metalled surface, looking west	24/9/14
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1326	Trench 5, post-excavation shot, looking south	26/9/14
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1328	Trench 5, post-excavation shot, looking east	26/9/14
1329	Trench 5, post-excavation shot, looking north	26/9/14
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