Results of Archaeological Excavation

Season 2: Community Archaeological Excavation at Kilmocholmóg Field, Lurgan, County Armagh

Planning Ref:	Licence Number:	Author:
N/A	AE/23/057	Katy McMonagle & Stuart Alexander
Date: 18th January 2024	**Revision:** 1	

Northern Archaeological Consultancy Ltd
Unit 33, Farset Enterprise Park, 638 Springfield Road, Belfast, B

T12 7DY

(+44) 028 90 314 875 info@northarc.co.uk www.northarc.co.uk

NAC Ltd Archaeology www.northarc.co.uk	Quality Management System FIELDWORK REPORT RESULT OF ARCHAEOLOGICAL WATCHING BRIEF	Reference:	7.04
		Issue:	02
		Date:	22/10/2019
		Authorised:	QMS Manager

Site Name:	Kilmocholmóg Field, Lurgan, County Armagh
Project Type:	Results of Archaeological Excavation
Planning Reference:	N/A
Licence Number:	AE/23/057
Commissioned by:	Craigavon Historical Society
Author:	Stuart Alexander and Katy McMonagle
NAC reference:	23052

DEPARTMENT FOR COMMUNITIES; HISTORIC ENVIRONMENT DIVISION (DFC; HED) PERSONNEL WITH RESPONSIBILITY FOR THIS PROJECT:

Historic Monuments Planning Response Team HEDPlanning.General@communities-ni.gov.uk
Historic Monuments Licensing Team ExcavationsandReports@communities-ni.gov.uk

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Rev	Date	Details	Reason	Prepared by	Checked by	Approved by	Doc No.
1	18.01.2024	Results of Archaeological Excavation Kilmocholmóg Field, Lurgan, County Armagh	Community Outreach	K. McMonagle & S. Alexander	J. Barkley	J. Barkley	180124a

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It should be noted that much of the information used in this report draws on the existing records of public sector institutions and, although reasonable effort will be made to avoid inaccuracy, NAC are not responsible for accidental perpetuation of inaccuracies or omissions in these records and any consequent effect on the conclusions of this report. This report represents a good faith attempt at executing the stated aims, but it must be understood that the assessment and recommendations are based purely on the data and resources noted in the text as having been consulted. NAC are not responsible for any effect on the assessment and its recommendations that may be caused by not considering resources beyond the parameters indicated below.

Executive Summary

County:	Armagh
Site name:	Kilmocholmóg Field, Lurgan
Sites and Monuments Record No:	ARM006:016
Licence Number:	AE/23/057
Site type:	Prehistoric and Early Medieval
ITM:	7109898, 860504
Irish Grid Reference:	E309966, N360507
Planning Reference:	N/A
Date of Excavation:	19th June 2023 – 7th July 2023

This report presents the results of the archaeological excavation at a site known as Kilmocholmóg Field, northwest of the Kilmore Road, Lurgan, County Armagh. The excavation took place between 19th June 2023 and 7th July 2023. The excavation was commissioned by the Craigavon Historical Society and was led and supervised by professional archaeologists from Northern Archaeological Consultancy Ltd, with most of the excavation work and recording being carried out by local volunteers and school groups. As well as aiming to gain a better understanding of the sites nature and use in antiquity, the project was a community engagement initiative that aspired to help the local community become involved with the heritage of their area though an enjoyable 'hands-on' archaeological experience. The excavation was funded by The National Lottery Heritage Fund, as part of the Craigavon Historical Society's 'Rediscovering Our Sacred Landscapes' project.; with additional support provided by the Armagh City, Banbridge and Craigavon Borough Council through the Lurgan Townscape Heritage Scheme.

This season of excavation intended to build upon the geophysical survey results and small-scale archaeological investigation of the site undertaken in 2022. The initial archaeological investigation in August 2022 (AE/22/89) uncovered a range of archaeological material. The earliest dated finds on site were sixteen pieces of struck flint that were assigned to the general prehistoric period. Early Medieval archaeology at the site was evidenced by the remains of a possible collapsed souterrain, the recovery of twenty sherds of Souterrain Ware pottery, fifteen pieces of iron slag, a potential collapsed stone bank, and a single subsoil cut feature. The full results of the first season of excavation are detailed in NAC report 261022a. This document recommended further excavation at the site in order to better clarify the nature of the remains uncovered. Based on the results of the August 2022 excavation a larger, more extensive, excavation was undertaken in June – July 2023. This season of investigation consisted of the hand excavation of nine test trenches targeted on features identified in the August 2022 excavation, further anomalies detected during previous geophysical surveys, and topographically promising locations.

This second season of work uncovered the remains of a possible ditch 2.5m wide and 1.2m deep, burnt animal bone recovered from the charcoal rich middle fill of this feature was radiocarbon dated to AD 378 to 537 (UBA-51612). This potential ditch may be part of an enclosure demarcating a small settlement, located in the north-western corner of Kilmocholmóg field. Subsoil cut features uncovered to the north and west could be evidence of structures. Charcoal recovered from one of these features (a potential posthole) was radiocarbon dated to

AD 595 – AD 656 (UBA-51611). Three trenches located to the east of the possible enclosure contained a large spread of stones, previously identified during the first season of excavation, these may be indicative of collapsed field boundaries, low walls, or banks radiating out from the potential enclosure.
Seven hundred and fifty-two artefacts were recovered during the excavation. Some of these indicate that localised metalworking was being undertaking at the site. This was evidenced by copious amounts of iron slag and, most significantly, an ingot mould. Other artefacts recovered include a large assemble of Souterrain Ware pottery, a hone stone, a blue glass bead fragment and a small piece of a lignite/shale bracelet, all typical of the Early Medieval Period.

Prehistoric activity at the site was evidenced by the recovery of a lithic assemblage that contained three convex end scrapers, one thumbnail scraper, and a broken and partially reworked polished stone axe. In addition, the recovery of flint chips, flakes, and shatter suggest that knapping and production of tools was taking place in the immediate vicinity of the excavation area. Specialist analysis suggests that the lithic assemblage dates to the Neolithic/Bronze Age.

At this stage it is impossible to determine if the Early Medieval activity uncovered at the site is of a secular or ecclesiastical nature. Nevertheless, it is hoped that the results of this excavation will inform another season of works at Kilmocholmóg.

ACKNOWLEDGEMENTS

Authors	Stuart Alexander and Katy McMonagle
Quality Control and Text Editor	Jonathan Barkley
GIS mapping	Ross Bailey
Radiocarbon Dates (Appendix 2)	Chrono14, Queens University Belfast
Assessment of Prehistoric Pottery (Appendix 3)	Jonathan Barkley
Assessment of Early Medieval Pottery (Appendix 4)	Jonathan Barkley
Assessment of Post Medieval Ceramics (Appendix 5)	Jonathan Barkley
Assessment of Lithics (Appendix 6)	Ross Bailey
Assessment of Metalworking Reside (Appendix 7)	Mario Fusco
Craigavon Historical Society Project Co-Ordinator	David Weir
Lurgan Townscape Heritage Project Officers	Tony Morgan
Landowners	Finola Mulholland
Archaeological Excavation Directors	Stuart Alexander and Katy McMonagle
Archaeological Excavation Crew	Mario Fusco Marese Curtin Sydnie Spurling
Drone Imagery	Ryan Montgomery

A special thank you is required for all the community volunteers who participated. It was due to their help, enthusiasm and hard work that the project a resounding success. Furthermore, all those who visited the site and took an interest in project. Finally funding for the project was generously provided by The National Lottery Heritage Fund through the Craigavon Historical Society's 'Rediscovering Our Sacred Landscapes' project; with additional support provided by the Armagh City, Banbridge and Craigavon Borough Council through the Lurgan Townscape Heritage Scheme.

NOTES ON RADIOCARBON DATES

The radiocarbon dates in this report have been produced by Queens University Belfast (UBA)). These have been noted throughout the text along with the laboratories sample number.

All radiocarbon dates have been calibrated to BC/AD 95.4% C.I. @ 2 Sigma Calibration.

The calibrations have been performed using OxCal 4.4 and IntCal20 (Reimer, p. et al 2020 'The IntCal20 Northern Hemisphere radiocarbon age calibration curve (0–55 cal kBP)', Radiocarbon, **62**.).

For the full list of radiocarbon dates returned see Appendix 2.

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1 INTRODUCTION

1.1 This report presents the results of the archaeological excavation at a site known as Kilmocholmóg Field, northwest of the Kilmore Road, Lurgan, County Armagh. The excavation took place between 19th June 2023 and 7th July 2023. Site works were commissioned by the Craigavon Historical Society and were led and supervised by professional archaeologists from Northern Archaeological Consultancy Ltd with most of the excavation work and recording being carried out by local volunteers and school groups. As well as aiming to gain a better understanding of the sites nature and use in antiquity, the project was a community engagement initiative that aspired to help the local community become involved with the heritage of their area through an enjoyable 'hands-on' archaeological experience.

1.2 This season of excavation built upon the geophysical survey results and small-scale archaeological investigation of the site undertaken in 2022. The initial archaeological investigation in August 2022 (AE/22/89) uncovered a range of archaeological material. The earliest dated finds on site were sixteen pieces of struck flint that were assigned to the general prehistoric period. Early Medieval archaeology at the site was evidenced by the remains of a possible collapsed souterrain, the recovery of twenty sherds of Souterrain Ware pottery, fifteen pieces of iron slag, stone collapse, and a single subsoil cut feature. The full results of the first season of excavation are detailed in NAC report 261022a. This document recommended a further season of excavation at the site in order to better clarity the nature of the remains uncovered. Based on the results of the August 2022 excavation, a larger more extensive excavation was undertaken in June – July 2023. This season of investigation consisted of the hand excavation of nine test trenches targeted on features identified the August 2022 excavation, anomalies detected during previous geophysical surveys or topographically promising locations.

1.3 This second season of work uncovered the remains of a possible ditch 2.5m wide and 1.2m deep, burnt animal bone recovered from the charcoal rich middle fill of this feature was radiocarbon dated to AD 378 to 537 (UBA-51612). This potential ditch is believed to be part of an enclosure demarcating a small settlement, located in the north-western corner of Kilmocholmóg field. Subsoil cut features uncovered to the north and west could be evidence of structures both internal and external. Charcoal recovered from one of these features (a posthole) was radiocarbon dated to AD 595 – AD 656 (UBA-51611). Three trenches located to the east of the possible enclosure all contained a large spread of stones, these may be indicative of collapsed field boundaries, either low walls or banks radiating out from the enclosure.

1.4 Seven hundred and fifty-two artefacts were recovered during the excavation. Some of these indicate that localised metalworking was being undertaking at the site. This was evidenced by copious amounts of iron slag and most significantly an ingot mould. Other artefacts recovered include a large assemble of Souterrain Ware pottery, a hone stone, a blue glass bead fragment and a small piece of a lignite/shale bracelet, all typical of the Early Medieval Period. Prehistoric activity at the site was further evidenced by the recovery of a lithic assemblage that contained three convex end scrapers, one thumbnail scraper and a broken and partially reworked polished stone axe. In addition, the recovery of flint chips, flakes,

shatter, suggest that knapping and production of tools was taking place in the immediate vicinity of the excavation area. Specialist analysis suggests that the lithic assemblage dates to the Neolithic/Bronze Age.

1.5 At this stage it is impossible to determine if the Early Medieval activity uncovered at the site is of a secular of ecclesiastical nature. Nevertheless, it is hoped that the results of this excavation will inform another season of works at Kilmocholmóg.

2 LOCATION AND PHYSICAL SETTING

LOCATION

2.1 The site lies approximately 1.5km to the northeast of Lurgan, 500m to the northwest of the Kilmore Road, on the south-eastern side of the main rail line to Portadown. The site lies in the townland of Donagreagh (***Dún na Greagha*** 'fort of the stud') in the parish of Magheralin, the barony of Oneilland East, and the county of Armagh (Figure 1).

2.2 The field which is the subject of the investigations is approximately 130m by 160m, and lies on bedrock of the Lower Basalt Formation, overlaid by subsoil of diamicton till with a localised northwest to southeast area of alluvium running along the northeastern boundary. The site lies between the 30m and 40m OD contours, with a low ridge running southeast to northwest through the site, with lower waterlogged ground to the northeast.

3 PREVIOUS ARCHAEOLOGICAL REPORTS, SURVEYS AND EXCAVATIONS

3.1 A 2022 report on the proposed investigation site detailed the results of geophysical analysis and accompanying drone survey. This highlighted several anomalies shown by ground-penetrating radar (Ruffell, 2021). These investigated the field in general but focused in the area around the NISMR point ARM006:016. Analysis of the orthographic imagery from the drone flights indicated a potential right angled anomaly in the northwest of the area, which was then subjected to two phases of GPR survey. This survey showed that the bulk of the ground was without significant anomalies, though a significant anomaly stretching NE to SW was noted. Five possibilities were laid out for this:

- An igneous dyke,
- A NE-SW oriented fault,
- A land drain,
- A remnant of railway construction (the feature is parallel to the railway),
- Another linear feature.

3.2 The right-angled arm of the anomaly to the west of the linear anomaly was confirmed by the Phase 2 survey (Figure 2), and considered to be potentially:

- The convergence of two land drains, although it is noted that these drains are not in the wetter areas of the site and are in a currently well-drained position.
- The footprint of a more recent building rather than any earlier structure.

3.3 The Geophysics report concludes with the recommendation that the archaeological excavation of two or three trenches intersecting these anomalies would have the advantages of establishing the makeup of these and recovering any associated artefacts and samples which may aid with further identification and dating.

3.4 In 2022 archaeological investigation (AE/22/89) of the NE/SW arm of the right-angled anomaly determined it to be the remains of a collapsed souterrain dating to the Early Medieval period. Other material uncovered during this season of work included a subsoil cut feature, an area of collapsed stone, Souterrain Ware pottery, a small amount of iron slag, and struck flint. At this stage it was impossible to determine the exact nature of the site, and therefore a second season of fieldwork was recommended. This was to expand upon the material uncovered and hopefully provide a better understanding of the sites use and function in antiquity.

3.5 A further stage of geophysical survey in early 2023 in a field to the southwest produced results which showing a possible ditch running under the modern field boundary on the south-western side of the field (Appendix 10). This the interpretation by Dr A Ruffell that the anomaly represents a ditch with the removed rocks thrown westwards that may have formed a small platform by the current hedgeline. It was also noted that if it was not a ditch, it runs under the hedgeline, so it was at least older than the current hedgeline.

4 AIMS AND OBJECTIVES

4.1 The Written Scheme of Investigation produced by Northern Archaeological Consultancy Ltd for Craigavon Historical Society recommended the excavation of a small number of hand excavated test trenches, to help clarify the extent and nature of the archaeological remains uncovered during the 2022 investigations, and to clarity the nature of any further potential archaeological remains indicated by the geophysical surveys. The previous work at the site resulted in a number of questions regarding the nature of the site. The aims of the excavation were to selectively test some of the previously uncovered archaeology, features identified during geophysics, and other topographically promising areas in order to:

1) To try and determine the nature of the archaeological remains uncovered during the 2022 investigations.
2) Determine the nature of the remaining anomalies on the geophysics results.

3) Test the field in question for other evidence related to the nature and history of the site.
4) Determine which areas may or may not prove suitable for future community excavations or other community projects.
5) Provide a continuing level of engagement with the community by allowing them to assist with the excavation of the trenching under full archaeological supervision.

5 RESULTS OF ARCHAEOLOGICAL EXCAVATION

5.1 The site works were led and supervised by professional archaeologists from Northern Archaeological Consultancy Ltd with most of the excavation work and recording being carried out by local volunteers. Nine test trenches were opened across the investigation area (Plate 1 and Figure 3). To avoid duplication or confusion with the previous 2022 season of work the numbering of these trenches was contiguous with, and so these trenches were labelled as 7 to 15.

5.2 Prior to excavation both the LIDAR and drone survey were re-examined, and both showed the presence of 'lazy beds' crossing the site on a northwest to southeast orientation, indicating post-medieval agriculture within the field (Figure 4 – 5). All of the trenches produced sherds of 17th to early 20th century glass and pottery. This included Blackware, Creamware, Pearlware, Ironstoneware, Glazed Red Earthenwares, and Willow Pattern pottery to name a few (Appendix 5). All of these small fragments were found within the trenches topsoil horizon and are the result of middening and fertilization of the 'lazy beds'.

5.3 Clay pipe stems and bowl fragments were also recovered from Trenches 7, 9, 13, and 14 within the topsoil horizon. The presence of these gives a terminus post quem of c.1580. The consumption of tobacco in Europe began in the late 16th century with shipments arriving from newly established colonies in the Americas. During the 17th century local manufacturing of pipes began (Gojak & Stuart 1999, 38). Over time as tobacco became more readily available and pipes became cheaper pipe bowls changed shape and generally got bigger. Pipe fragments were frequently discarded during the smoking process as the end of the pipe heated in the user's mouth during inhalation. This heat caused the pipe steam to crack then fracture, the user then spat or threw away the broken fragment. This was repeated until the steam was gone and the bowl was discarded. The pipe fragments recovered from site likely originated from individuals who were smoking whilst cultivating the 'lazy beds' that cross Kilmocholmóg field.

TRENCH 7

5.4 Trench 7 was the largest trench excavated on site, measuring 7m by 3m. This trench aimed to expand upon a subsoil cut feature identified in Trench 6 during the 2022 season of works. Below the topsoil horizon [702] a possible ditch 2.50m wide by 1.20m deep was uncovered (Plate 2). Coincidentally, Trench 7 appeared to have been placed across a terminus. The ditch [703] contained three fills, [704], [705] and [706] (Figure 6 and Plate 3). The uppermost fill of the ditch [704] was a grey, brown silty

clay; within this fill and on the surface of it, 250 fragments of Souterrain ware pottery were recovered (Appendix 3). Other finds from this fill included two fragments of Neolithic pottery, a fragment of Bronze Age pottery, and two sherds that could only be assigned to the general prehistoric (Appendix 4). A hone stone, worked flint (Appendix 6), two heavily corroded squared headed iron nails, an ingot mould (Appendix 6), iron slag and vitrified furnace fragments were also recovered from this fill (Appendix 7). In addition, a small fragment of a blue glass bead was also recovered from this trench, however this was found within the soil heap and was therefore unstratified.

5.5 Below [704] was middle fill [705], a dark blackish brown silty clay. This contained large amounts of charcoal and frequent small fragments of burnt bone. This bone all appeared to be cooked and discarded food waste from expected common domesticates (cattle, sheep, and pig) (*pers comm Marese Curtin*). A small fragment of this burnt bone was submitted for radiocarbon dating and this returned a result of AD 378 – 481 (UBA-51612), placing the deposition of this fill within the Late Iron Age to Early Medieval period. A large furnace base associated with iron smelting was also recovered from fill [705] (Appendix 7). The basal fill [706] was a loose gravelly brown clay, that likely represents silting within the base of the ditch, however no finds were recovered. If this feature [703] is indeed a ditch it is believed to demarcate an enclosure sitting on a low rise located in the north-western corner of Kilmocholmóg field (Figure 7).

TRENCH 8

5.6 Trench 8 measured 3m by 1m and was positioned on a possible anomaly detected in the 2021 geophysical survey. A simple stratigraphic sequence was encountered (Plate 4). The topsoil [802], a light brown silty clay loam around 0.40m deep, was removed onto the natural glacial subsoil, a firm yellowish orange stoney clay. Three pieces of post-medieval pottery (Appendix 5) and two pieces of struck flint (Appendix 6) were recovered from this trench; no subsoil cut features were uncovered.

TRENCH 9

5.7 Trench 9 was located across the corner of the right-angled anomaly detected during the 2021 geophysical survey. The northeast to southwest arm was determined to be the remains of a collapsed souterrain and it was hoped that this trench would uncover the turn of the feature. The trench measured 4m by 2m and a simple stratigraphic sequence was encountered (Plate 5). The topsoil [901] was removed on to a layer of sub rounded and subangular stones [902], these stones ranged in size with the largest measuring 0.58m in size. The most significant find from this trench a fragment of a lignite/shale/jet bracelet found amongst stone deposit [902] (Appendix 6). Due to time constraints this trench was not fully excavated. The stone deposit [902] was cleaned for recording and a small portion was removed in the northeast corner to examine the underlying strata. Here the natural glacial subsoil was encountered. It is believed that these stones may be collapse from a low wall or bank that perhaps demarcated an ancient field boundary.

TRENCH 10

5.8 Trench 10 was located at the end of the northwest to southeast arm of the right-angled anomaly detected during the 2021 geophysical survey. The trench measured 4m by 2m and a simple stratigraphic sequence was encountered (Plate 6). The topsoil [1001], a light brown silty clay loam, was removed onto a layer sub rounded and subangular stones [1002]. These stones were concentrated within the middle of the trench and ranged in size with the largest measuring 0.65m in size. The most significant finds from this trench found between the stones were two pieces of Souterrain Ware pottery (Appendix 3). Due to time constraints this trench was not fully excavated. The stone deposit was cleaned for recording and a small portion at the east and west end of the trench was removed to examine the underlying strata. Here the natural glacial subsoil was encountered. It is believed that these stones may be collapse from a low wall or bank that perhaps demarcated an ancient field boundary.

TRENCH 11

5.9 Trench 11 measured 4m by 1m and was positioned on a possible anomaly detected in the 2021 geophysical survey. A simple stratigraphic sequence was encountered (Plate 7). The topsoil [1101] a light brown silty clay loam around 0.40m deep was removed onto the natural glacial subsoil a firm yellowish orange stoney clay. No subsoil cut features were uncovered in this trench, the only thing of note found were fourteen pieces of post-medieval pottery (Appendix 5), two pieces of Souterrain Ware pottery (Appendix 3), some pieces of struck flint (Appendix 6), and a single squared headed iron nail.

TRENCH 12

5.10 Trench 12 was located across the western end of Trench 3 that was excavated in 2022. It was positioned to investigate the collapsed stone in this area. The trench measured 4m by 2m and a simple stratigraphic sequence was encountered. The topsoil [1201], a light brown silty clay, was removed onto a spread of subrounded and subangular stones [1202]. The stones were noted across the entire trench with the largest measuring up to 0.68m in size (Plate 8). Following cleaning and recording the stones were removed in order to examine the underlying strata. Several of the larger stones were found to be large boulders, set within the subsoil and were therefore natural. However, many of the other stones were surrounded by a grey, brown silty soil matrix and therefore not glacial. No subsoil cut features were uncovered in this trench, however, during the removal of the stones a fragment of broken and retouched polished stone axe (Appendix 6) was uncovered, along with two pieces of Souterrain Ware pottery (Appendix 3). It is believed that these stones may be collapse from a low wall or bank that perhaps demarcated an ancient field boundary.

TRENCH 13

5.11 Test Trench 13 was located to the north of Trench 7 in a topographically promising location. It measured 3m by 1m (Figure 8 and Plates 9 and 10). Within the topsoil [1301] eleven pieces of Souterrain Ware pottery were uncovered (Appendix 3). Removal of the topsoil uncovered a small gully [1303] crossing the trench on an east to west orientation and extending beyond the eastern baulk. The gully measured 0.80m by 0.40m and was 0.18m deep. It was filled by a firm light grey, brown silty clay [1304]. A single sherd of Souterrain Ware pottery (Appendix 3) was recovered from the gully indicating that it had a

probable Early Medieval date. It is possible that this feature is part of a drip gully, or wall slot associated with a structure.

TRENCH 14

5.12 Test Trench 14 was located on the southwest side of Trench 7, its aim was to detect a potential gully extrapolated in this area, based on the 2022 excavations. Excavation of the topsoil, a light brown silty clay loam, [1401] uncovered four features (Figure 9 and Plate 11). The decision was taken to investigate only one of these features and preserve the other three in situ. The shallow base of a posthole [1403] in the southeast corner of the trench with noticeable charcoal flecking was excavated and sampled. This feature measured 0.50m by 0.40m and was 0.16m deep (Plate 12). Some of the charcoal recovered from this feature was utilised for radiocarbon dating and this returned a result of AD 595 – AD 656 (UBA-51611).

TRENCH 15

5.13 Trench 15 measured 3m by 2m and was targeted on a possible anomaly detected by geophysics in early 2023 by Dr Alistair Ruffell of Queens University Belfast. A simple stratigraphic sequence was encountered. The topsoil [1501] was a light brown silty clay loam containing several large natural boulders and flecks of redeposited subsoil (Plate 13). The bounders and subsoil had originated from the adjacent sheugh located to the immediate west of the trench and were therefore modern in nature. Three pieces of post-medieval pottery (Appendix 5) and three pieces of struck flint (Appendix 6) were recovered from this trench. No subsoil cut features, in particular the supposed ditch, were identified.

SIGNIFICANT FINDS

End Scrapers and Thumbnail Scraper

5.14 Three convex end scarpers, and one thumbnail scarper were recovered from Trench 7 (Plate 14). Scrapers are generally believed to have been used for hide working and woodworking during the prehistoric period.

Fragment of Polished Stone Axe

5.15 A fragment of a broken partially reworked polished stone axe was found within Trench 12 (Plate 15). Polished stone axes first appear in the archaeological record during the Neolithic, and continued in use during the Early Bronze Age, before being replaced by copper and then bronze flat axes. The move away from simple chipped flake axes to polished stone axes occurred during the Neolithic period. It is thought that polished stone axes were more durable and efficient for cutting. Nevertheless, it is believed that some polished stone axes served ritual and/or decorative purpose for their owners.

Prehistoric Pottery

5.16 Pottery is first introduced into Ireland during the Neolithic by the island's first farmers. Pottery was used for a wide variety of purposes including, cooking, storage, water carrying, and also for the purposes of burial. Before the advent of wheel thrown ceramics, the pots of the prehistoric periods were constructed using the coil method. During the Early Neolithic fine, plain, round bottomed, bowl forms dominate, with

decoration becoming dominant during the Middle and Late Neolithic. During the Bronze Age there was a move towards highly decorated larger flat-bottomed vessels, with decoration declining and vessels becoming plainer during the Bronze Age. Within Trench 7 five fragments of prehistoric pottery were recovered (Plate 16). Two sherds could be assigned to the Neolithic. One of these was a rim sherd from an Early to Middle Neolithic bowl, whist the other was a body sherd from a Middle to Late Neolithic Bowl. This fragment had simple decoration in the form of incised lines along the exterior surface. A single rim sherd of a Bronze Age vessel was also uncovered. Two other pieces could only be assigned to the general prehistoric based on their fabric, inclusions, and abrasion.

Souterrain Ware

5.17 Two hundred and ninety sherds of Souterrain Ware pottery were recovered from across the site (Plate 17). This type of pottery first appears in the archaeological record in the northeast of Ulster during the 7th – 8th centuries AD and continued in use until the 12th century AD. Vessels were predominantly bucket shaped, with slightly flared or vertical sides, flat bases, and rounded rims. Decoration was applied to vessels later in the development of the ware, from around the 9th century onwards. However, not all later vessels were decorated, and the use of plain, undecorated vessels continued. Where decoration was applied this took the form of a simple strip applied just below the rim on the exterior surface, sometimes this was pinched giving the decoration a 'pie-crust' appearance. All the sherds recovered from Kilmocholmóg, bar one found during the 2022 season of excavation, was undecorated. Therefore, it could be tentatively suggested that all the pottery recovered was discarded prior to 9th – 10th century.

Possible Crucible Fragment

5.18 Within Trench 7 a single sherd of pottery unlike any other ceramic material on the site was recovered. The fabric bore little or no inclusions and was a very pale grey colour. The exterior surface was black and glassy, appearing to be partially vitrified. It is difficult to draw firm conclusions from a single small sherd, however, this piece came from a secure context Early Medieval context [704] with no evidence for later disturbance and is clearly not prehistoric in nature. Therefore, it can only be dated to the Early Medieval period. Given the evidence for metal working at the site during this time it is possible that the sherd originated from a small crucible type vessel. This would certainly account for clearly high temperatures that the sherd, and ergo the vessel it originated from, were subjected too.

Hone Stone

5.19 The hone or whet stone found within Trench 7 (Plate 18) would have been used for sharpening blades however, it does not have any of the distinctive deep linear grooves typically associated with the sharpening of pins. Hone stones have been found all over Ireland on Early Medieval excavations such as Deer Park Farms County Antrim and the Drumclay Crannog County Fermanagh.

Ingot Mould

5.20 The ingot mound found in Trench 7 (Plate 19) is an important find, its presence is clear evidence of metalworking taking place at the site during the Early Medieval period. The piece was subject to an XRF scan at Queen's University Belfast to see if any trace elements of metal could be detected however, the

scan proved unsuccessful (*pers comm Dr Patrick Glesson*). Nevertheless, it is believed the Kilmocholmóg mould was manufactured for the purpose of casting of copper, bronze, or potentially even precious metal ingots at the site. It is unclear if the mould recovered is a standalone piece or if it once belonged to a larger stone with multiple casting grooves. An example of such and with similar shaped casting seams is a double mould recovered during excavations at the monastic site of Clonmacnoise on the River Shannon. Here a broken ingot mould 190mm in length, by 140mm width and 50mm in depth was uncovered (Figure 10). This find was found in association with other metalworking debris such as copper alloy wire, scrap metal and crucibles (King 2009, 343). This is again interesting considering that one small fragment of pottery recovered from [704] is thought to have originated from a crucible or a similar type vessel that had been subjected to an extremely high firing temperature.

Iron Slag and Furnace Material

5.21 Around 5.40kg of iron slag and furnace material was recovered across Trenches 7, 9, 13, and 14 (Plate 20). From around 700 BC iron was being worked on the island of Ireland. Over the next thousand years this more durable metal gradually replaced everyday bronze implements (tools, utensils, weapons, etc). Its robustness meant that it continued to be used widely in its raw form until the industrial revolution when new technologies brought about the widespread production of steel. Evidence of iron working has been found at over 200 Early Medieval sites in Ireland, both secular and ecclesiastical in nature. One of these being the monastic site of Clonmacnoise on the River Shannon where vast quantities of iron slag, along with furnace bases and furnace material have also been found (King 2009, 341). Iron working is the most frequently encountered craft found on Early Medieval archaeological excavations thereby reflecting a common rudimentary skill of iron smelting and smithing during this period (O'Sullivan et al 2014, 217).

Iron Nails

5.22 Fifteen squared headed iron nails were found across four trenches (7, 9, 11, and 12). These were all squared headed. These forms of nails are typical of the medieval to early post-medieval period. The lack of a tip to any of the nails would indicate that they had been used, with the tip being left in the piece of wood into which they had been hammered.

Blue Glass Bead Fragment

5.23 Blue glass beads are typical of the Early Medieval period. The unstratified fragment recovered from Trench 7 (Plate 21) though small, can be thought to have come from the plain blue glass type that dates to between the 7th and 10th centuries. AD (Lynn & McDowell 2011, 334). It is unknown if the bead to which it originally belonged was manufactured at the site, but given the industrial material recovered in the excavated trenches it is possible.

Fragment of Lignite/Shale/Jet Bracelet

5.24 Within Trench 9 a broken fragment of a bracelet was uncovered (Plate 22). Many bracelets, rings, armlets, and fragments of the aforementioned have been uncovered at Early Medieval sites. Typically, these have been archived as lignite, however studies (Gormley 2017), have indicated that the material

is more likely to be polished shale or jet. Lignite/shale/jet items are not unknown from earlier periods, but the size and style of the D sectioned portion from Kilmocholmóg is entirely in keeping with the Early Medieval bracelets found on a range of other sites. Production methods for bracelets, rings and armlets are relatively well-established with manufacture tending to be carried out at higher status sites (ibid). However, with only one small fragment of a finished bracelet arising from the site thus far we cannot say more than a bracelet was present, likely worn, broken, and lost/discarded at the site.

5.25 In a study attempting to identify the poorer individuals in Irish Early Medieval Society, Boyle identified a trend in the most 'impoverished' sites in his study (50 excavations): of those sites with fewer than 50 artefacts in total, the most common artefactual 'common ground' was the presence of items of personal adornment, including lignite/shale/jet bracelets (Boyle, 2004). The presence of these items on 'impoverished' sites shows that artefacts relating to personal adornment were ubiquitous, forming a 'lowest common denominator' across all levels of Early Medieval society.

6 DISCUSSION

General Archaeological Background

6.1 The archaeology of Ireland can be divided into eight broad epochs:

Period	Date Range	Description
Mesolithic	8000 BC – 6000 BC	The First Colonists, the Hunter Gathers.
Neolithic	4000 BC – 2500 BC	The Arrival and Establishment of Farming.
Bronze Age	2500 BC – 700 BC	The Introduction and Working of Bronze.
Iron Age	700 BC – AD 400	Iron Smelting and Smithing Appears on the Island.
Early Medieval	AD 400 – AD 1150	The Arrival of Christianity, the First Monasteries and Vikings.
Medieval	AD 1150 – AD 1550	The Anglo Normans and the Gaelic Lordships.
Post Medieval	AD 1550 – AD 1914	The Plantation to the Industrial Revolution to WW1.
Modern	AD 1914 – present	First World War to the present day.

6.2 Before the introduction of metallurgy to Ireland, flint was the primary source material used for tools and fire starting. This is because when struck with a hammer stone of differing geology flint sparks and splits into thin, sharp splinters, known as blades or flakes. These can be shaped and worked into a variety of tools such as scrapers, arrowheads, axes, knives, etc. This process is known as knapping and the discarded waste material is termed debitage. Flint tools are primarily used during the Irish Mesolithic, Neolithic and Early Bronze Age, before falling out of common use and being gradually replaced with more durable metallic forms during the Mid to Late Bronze Age / Early Iron Age.

The Neolithic

6.3 The Neolithic, in any country or region, is characterised by the arrival and development of farming which supported and later replaced the hunter-gatherer way of life. Farming was first established in southwest Asia in what was known as the Fertile Crescent, where communities domesticate wild animals and started

to cultivate cereals more than 10,000 years ago. The cultivation of cereals and keeping livestock meant that people were not solely dependent on what they could catch or gather. This led to a much more stable way of life whereby larger number of the population could subsist in the same geographical area. Individuals and groups no longer needed to move around the landscape with the changing of the seasons, following fish runs, migrating animals and growing patterns of wild food. People could stay in one place, surplus harvests could be stored for the winter months, and animals could be bred. Over thousands of years this new way of life gradually spread west, and it was around 4000 BC that the concept arrived in Ireland.

6.4 At the crossover of the Mesolithic and Neolithic periods, there was a change in the population of Ireland with a new wave of settlers coming into the island. While the new arrivals still hunted and gathered to supplement their farming, they also cleared vegetation and forests to create fields for growing crops and to feed livestock bringing new technology to Ireland. It was these new people that introduced the making of pottery to Ireland which was used for storage, cooking and burial. Quern stones were introduced and used to grind harvested cereals into flour and advances in knapping meant that more complex scrapers and arrowheads became common place. As metallurgy had still not been developed it was the polished stone axe that was one of the most essential pieces of equipment to these early farmers. Polished axes are thought to be more durable and efficient compared to earlier chipped and flaked counterparts. This would be necessary to clear forests and vegetation to create new fields for growing crops.

6.5 It was during the Neolithic that the beginnings of religion and society along with complex burial rites were adopted. Large numbers of people allowed for the construction of stone and earth burial tombs known as megaliths were built - many of which still stand in the landscape today. Ritual sites such as henges and timber circles also appear during this era. The sustained communal effort that would have been required to construct some of the larger of these structures such as Newgrange on the Boyne and the Giants Ring outside Belfast, as well as clear the forests to enable crop growing, indicates that the Neolithic peoples may have operated within an organized and even stratified society. Though it is uncertain what the population levels in Ireland were during the Neolithic, the presence of these large monuments, as well as thousands of tombs across Ireland, does suggest a significant increase in people from that of the Mesolithic.

6.6 The Neolithic period in Ireland can be subdivided into the Early, Middle and Late Neolithic. The Early Neolithic covers the period from around 4000 BC to 3600 BC and is characterised by rectangular houses and very fine round-based undecorated pottery. The Middle Neolithic dates from 3600 BC to 3000 BC and is characterised by hollow scrapers and round-based decorated pottery. The Late Neolithic is from 3000 BC to 2500 BC and is characterised by a flat-bottomed grooved ware.

THE BRONZE AGE

6.7 The Bronze Age in Ireland is named as a result of the introduction and working of Bronze on the island. Bronze is a metallic alloy a mixture of copper and tin. The Bronze Age is divided into three main periods

Early (2500 BC – 1600 BC), Middle (1600 BC – 1200 BC) and Late (1200 BC – 700 BC), each defined by advancements in technology and cultural aspects.

6.8 During the Early Bronze Age as metallurgy on the island was only in its infancy stone tools such as flint scrapers, knives and polished stone axes, continued to be used. The evolution in flint tools saw the introduction of different forms, such as the barbed and tanged arrowhead. As moulding and metalworking techniques developed gradually stone tools were replaced with more durable metallic forms. Polished stone axes gave way first with flat, then flanged and finally socketed axes. It should be remembered that copper and tin were not the only metals being worked and during the Early Bronze Age gold working emerges with high-status items such as jewellery noted within archaeological records. Items such as golden dress fasteners, bracelets, and rings, etc would have signified an individual's wealth and status. Depositions of jewellery, tools and weapons have been uncovered and whilst some of these may have been votive in nature demonstrating rituals and rites of the period others could have been caches that were deliberately hidden.

6.9 It is during the Early Bronze Age that a highly decorated pottery type known as 'Beaker' vessels appear on the island of Ireland. Over the course of the age pottery styles changed, with larger, flat-bottomed urns marking a change from the smaller round bottomed bowl forms of the Neolithic.

6.10 With a growing population, more land was cleared and managed, with large areas deforested for farming. Domestic sites changed to, with larger circular houses dominating the landscape and the proliferation of fulacht fiadh or burnt mounds. With an increasing population and the accumulation of wealth, inevitability society became more competitive. It is during this time that defended hilltop settlements such as Knockdhu County Antrim and Haughey Fort County Antrim emerge. Socketed spearheads and various styles of sword appear in archaeological records and are further indicators of strife during the Bronze Age. Some of this conflict may have been influenced by a changing climate as wetter conditions from the Middle Bronze Age onwards resulted in the expansion of the islands bogs. It is unclear how the increased rainfall affected the population; however, it can be imagined that such bad weather had a direct affect on the agricultural economy of the time possibly resulting in communities competing and fighting over resources.

6.11 During the Bronze Age funerary practices changed, with a move away from megalithic portal, passage and court tombs. During the Early Bronze Age a new type of megalithic monument known as a wedge tomb appears within the landscape. In addition, stone circles and standing stones are erected around the same time reflecting the emergence of new customs. Nevertheless, as time progressed there was a move away from inhumation burials, towards cremations with interment (complete or token) in pits, cists, barrows or even focused on earlier megalithic monuments, thereby suggesting their significance as continued sacred sites to some.

NEOLITHIC AND BRONZE AGE ARCHAEOLOGY AT KILMOCHOLMÓG FIELD

6.12 Prehistoric activity at Kilmocholmóg was evidenced by the recovery of 16 stray pieces of struck flint (no tool forms) during the first season of excavation at the site. During this second season of excavation further worked lithics were uncovered (Appendix 6). This included five tool forms: three convex end scrapers, one thumbnail scraper and broken and partially reworked fragment of a polished stone axe. In addition, several more roughly retouched tools showing only minimal abrupt working suggest that ad-hoc and expedient production of tools was necessary at the site. In addition, several of the lithics recovered were fine flakes struck from high quality flint, with dorsal scars from previous removals suggesting the use of multiplatform and dual platform cores, some with facetted platform. This combination of good quality flint, careful platform preparation, and careful prolonged working of the core through rotation, tends to be more common amongst Neolithic assemblages. Nevertheless, the overall assemblage (although small) can best be described as background mixture of Neolithic and likely Bronze Age material, that has been displaced by Early Medieval activity.

6.13 In addition to flint recovered a small assemblage of prehistoric pottery was recovered at the site (Appendix 4). The fragments recovered had been displaced from their original deposited location, by the Early Medieval activity. The pieces recovered included one small water rolled rim sherd from a Neolithic bowl and two small pieces of coarse Bronze Age pottery.

EARLY MEDIEVAL PERIOD

6.14 The Early Medieval period in Ireland began with the arrival of Christianity in approximately AD 400 and ended with the arrival of the Anglo-Normans in the mid-12th century. Settlement across the island of Ireland was still not nucleated in townships as in Britain, the lifestyle being very much a rural agricultural one. The arrival of Christianity in Ireland, saw the establishment of the first monasteries on the island during the 5th and 6th centuries AD. In the north notable ecclesiastical centres were founded at places such as Armagh, Bangor and Derry but numerous less well-known monastic sites were also established throughout the island. In many instances the founders of these monastic communities became regarded as saints. The monks that lived in these places demarcated their holdings usually in a circular configuration and constructed places of worship, work, and lodgings. Generally, the buildings of early Irish monasteries were constructed using timber, however in some instances stone was used for the central place of worship (Manning 1995, 6). Gradually over time these religious settlements became the focus of human activity and the areas surrounding them became more urbanised.

6.15 As previously stated, the everyday lifestyle of the Early Medieval period was a rural agricultural one. Records of the time indicate that wealth was determined by the amount of cattle an individual owned and it is during this period that raths, the predominant archaeological monument found on the island, appears in the Irish landscape. Raths are banked and ditched enclosures that acted as defended farmsteads, their appearance and use within the Irish landscape has been dated to approximately AD 600 – 1000 (O'Sullivan et al. 2014,64). Around 40,000 have been recorded across the island (Lynn, 2005, 14) although most recorded examples typically have a single bank and ditch (univallate), double (bivallate) and triple (multivallate), monuments have been documented. Typically, they are located on high, well drained ground set back from the coast and floodplains. Rath ditches can enclose an area

between 15.5m and 75m and are on average between 4m – 7m wide and are typically between 1m to 2m deep, though ditches up to 3m deep are not unheard of. Most upstanding and excavated examples measure between 28m and 35m diameter (Stout 2000, 15). Several reasons for the sudden appearance of these defended farmsteads in the Irish landscape has been put forward. These range from assumptions about societal change associated with the arrival of Christianity, to the development of ideas about the need for a defined social space and the representation of status. Other theories include the sudden emergence of plague and protection from warfare and raiding (O'Sullivan et al. 2014, 74–77).

6.16 During this time raths are not the only defended homesteads to emerge, cashels and crannogs also appear within the archaeological record. Cashel's likes raths are circular enclosures, however rather than being demarcated by a bank and ditch the perimeter of the property is marked by a stone wall. Crannogs on the other hand are circular manmade islands, that would have housed one or two roundhouses. These artificial islands would have been accessed by a man-made causeway, bridge or by boat. In addition to the above, souterrains begin to appear within the landscape; these are underground chambers constructed for the purposes of storage, defence, and refuge. They are earth cut trenches that were lined and capped with wood, stone, or a combination of both. They range in both shape and size; with some being a simple linear compartments whilst others have several chambers interconnected by a series of 'creepways'. Some recorded examples have been known to extend for upwards of 40m in one direction. Souterrains are typically linked with raths; however, they are also known to be associated with unenclosed open settlement and ecclesiastical sites.

6.17 The Early Medieval period is also the time of the Viking Age typically set between the 8th and 11th centuries. The start of the Viking Age is traditionally seen as AD 793 with the sack of Lindisfarne in Northumbria by Northmen. The earliest documented raid in Ireland occurred in AD 795 where the Annals of Ulster record "The burning of Rechru by the heathens…." (MacAirt and MacNiocaill 1983) and this is believed to be Rathlin Island. During the Viking Age, raiders attacked secular and ecclesiastical settlements throughout the British Isles. However, they also established their own settlements at places such as Cork, Dublin, Limerick, Waterford, and Wexford. To date no Viking settlements have been found in the North of Ireland, however, place names such as Strangford translated as Strong Fyord and Ulfreksfjord the original name of Larne Lough are evidence of Viking influence in the region. Viking longphort's, fleets and armies are also recorded in the Annals operating in the North of Ireland at times in conflict with the *Ulaid* kingdoms in Down and Antrim and the northern *Uí Néill* in the west of the county. Viking silver hoards have been found all over Ireland and the discovery of Insular Irish metalwork in Scandinavia is testament to the trading and raiding that took place during the Early Medieval period. The end of the Viking Age is typically marked by the defeat of a large Scandinavian force under the command of Harald Hardrada at the Battle of Stanford Bridge, three weeks before the renowned Norman victory at the Battle of Hastings in October 1066.

THE TERRITORIAL CONTEXT OF KILMOCHOLMÓG FIELD

6.18 It must be noted that prior to the fifth century before the written records of the Irish monks, the historiography of Ireland (names of territories, landmarks, battles, etc) is nebulous. What can be pieced

together is reliant on archaeology and references from classical sources, namely the works of Claudius Ptolemy in the 2nd century AD and later Roman writers.

6.19 During the Late Iron Age (1 BC/AD – AD 400), Kilmoholmóg is purportedly located within the ancient overkingdom of *Ulaid* that is believed to have encompassed most of modern-day Ulster. The Irish Iron Age has been epitomized in the mythology of the Ulster Cycle, a series of sagas and heroic legends; with one of the principal heroes being Cú Chulainn (the 'Hound of Ulster'), a semi divine warrior of great skill and renown. Others prominent figures of this time include Queen Medb of Connaught and Kings of Ulster Fergus mac Róich and Conchobar mac Nessa. *Emain Macha* (Navan Fort) a large circular hilltop enclosure in Armagh (located around 30 southwest of Kilmocholmóg) is purported to have been the royal seat of the kings of *Ulaid* during this time. However according to legend in the early 4th century AD, the last *Ulaid* king of *Emain Macha* Fergus Foga is said to have fallen in battle at *Achad Leithderg* in Monaghan. *Emain Macha* was burnt, and the Ulstermen were driven eastwards across the River Bann, into counties Down and Antrim (Mallory and McNeill, 1995, 167). Following their retreat, the kingdom of *Ulaid* is recorded as a confederation consisting of the *Dál Fiatach* (Lecale, the Mournes area, the Ards Peninsula and North County Louth), *Dál Riata* (North Antrim), *Dál nAraide* (Mid and South Antrim and North Down), *Uí Echach Cobo* (West Down), and *Conaille Muirthemne* (Louth). Kilmocholmóg was located within the *Ulaid* sub-kingdom of the *Uí Echach Cobo*, a territory of which encompasses the modern baronies of Upper and Lower Iveagh (Figure 11). It is important to note that all the kings of these territories could claim over-kingship of *Ulaid*, however, surviving records from the 6th to 12th century indicate that the *Dál Fiatach* were the predominant holders of this title (McErlean et al. 2002, 57).

6.20 West of the Upper Bann the victors of the purported battle of Achad Leithderg known as The Three Collas in later sources established the confederate kingdom of Airgialla (translated as 'hostage givers') in central Ulster. The eastern most tribe that bordered the reduced *Ulaid* lands were the *Airthir* (translated as 'easterners'). The border between the *Airgialla* and the *Ulaid* is believed to be the natural boundary of the Upper Bann in the north and Dane's Cast in the south that is thought to have been constructed by the *Ulaid* following their retreat (Dunlop 2015, 103). The expansion of the northern *Uí Néill* dynasties (*Cenél nEógain* and *Cenél Conaill*) during 6th century was at the expense Airgialla with all nine branches of the *Airgialla* confederation said to be vassals by the first half of the 9th century (Byrne 2001, 114-27). In the centuries following the *Ulaid* retreat conflict between them the *Airgialla* and the *Uí Néill* continued with many battles and skirmishes recorded in the Annals of Ulster. One of the most famous of these was the battle of *Mag Roth* in AD 637 located near the modern village of Moria around 1 mile from the investigation area. The arrival and settlement of the Vikings in the late 8th century, brough a new power dynamic to the region. In the year AD 832 the Annals record that the ecclesiastical settlement of Armagh was raided three times by Northmen in one month and in AD 839 a Norse fleet used Lough Neagh as a centre from which to raid secular and ecclesiastical targets throughout the north of the island (Neill 2009, 218).

6.21 The territorial implications of all this are that the site at Kilmocholmóg found itself within a liminal area of shifting boundaries. Initially the site is located within the overkingdom of the *Uliad* before finding itself on the border (around 5 miles east of the Upper Bann) between the *Ulaid* and the *Airgialla* confederations, specifically the subkingdoms of the *Airthir* and the *Uí Echach Cobo.* Those residing at the site would have been witness to or may have taken part in the strife between the factions. If the site survived until the 9th century is seems unlikely that it would not have gone unnoticed by Vikings.

THE DATE

6.22 Based on the radiocarbon dates obtained and the Souterrain Ware uncovered it is apparent that the site at Kilmocholmóg was occupied for several centuries during the Early Medieval period and its origins may even lie in the Late Iron Age. Burnt animal bone recovered from the charcoal rich fill of the possible ditch in Trench 7 yielded a radiocarbon date of AD 378 – 481 (UBA-51612). As the date was returned from the middle fill this demonstrates that the feature was cut even earlier. If the early date of AD 378 is accurate this could indicate that the feature was initially cut during the mid or even early 4th century AD. This is interesting considering that the retreat of the *Ulaid* east is believed to have occurred in the mid-4th century. It could be suggested that a settlement a Kilmocholmóg was a result of the displacement of *Ulaid* subjects who were forced to retreat east of the Upper Bann.

6.23 The second radiocarbon date returned from a possible posthole in Trench 14 returned a result of AD 595 – AD 656 (UBA-51611). This posthole must be associated with a structure extending beyond the limits of the current excavation. This could be some sort of domestic building or even a working area given the large quantities of iron slag recovered at the site. The date also corresponds with the recorded battle of *Mag Roth* in AD 637 close to Moira. It is therefore not improbable to suggest that those living or working at Kilmocholmóg were not aware, affected by or even took part in the conflict.

6.24 The vast quantities of Souterrain Ware pottery uncovered in the uppermost layer of the ditch close to the surface is important and might provide an indication about the date of the site's abandonment. Souterrain ware is a type of coarse ware pottery that first appeared in the northeast of Ulster in the 7th – 8th centuries AD and continued in use until the 12th century AD. The fact that the Souterrain Ware was found on surface of the infilled possible ditch suggests that some form of domestic activity was taking place at the site during at least the 7th century. It is unknown if the site was abandoned by the time of the Viking raids of the late 8th century. However, as Souterrain Ware is documented in use until the 12th century it is not impossible that someone was still living and occupying long after the possible ditch had infilled, until at least the Anglo-Norman invasion of Ulster in the late 12th century.

POST-MEDIEVAL ACTIVITY AT KILMOCHOLMÓG FIELD

6.25 Post-medieval activity within the investigation area was evidenced by 'lazy beds' also known as 'potato rigs'. These are visible on both by the drone and LIDAR surveys of the field (Figure 4 and 5). This type of arable spade cultivation was common across Ireland during the post medieval period and was in widespread use up until mechanization in the late 19th century. Although no subsoil cut features from the 'beds/rigs' were uncovered it was evidenced by the recovery post-medieval ceramics, clay pipe and

glass fragments all found with the topsoil layers of every trench. These artefacts likely originated from midden heaps that were spread across the cultivated field to fertilize the growing crops. During the post-medieval period it is believed that broken crockery was discarded onto midden heaps that were then spread across fields to fertilize the planted crops.

7 CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER WORK

7.1 The second season of excavation at Kilmoholmóg field was a success in both its archaeological research objectives and community engagement aims. The presence of a possible ditch, potentially evidencing an enclosure is a significant discovery; the recovery of iron slag and an ingot mould is clear evidence of metalworking taking place at the site during the Late Iron Age / Early Medieval Period. Subsoil cut features in two of the trenches may be the trace remains of buildings, whilst collapsed stone in three trenches to the east of the site may be evidence of low walls or banks that might be related to ancient field boundaries. Despite these discoveries there is scope for further work in relation to this site. This would be in the form of more geophysical analysis and excavation. A resistivity survey of the field could help show up the circumference of a possible ditch uncovered in Trench 7 and better define the souterrain uncovered during the 2022 season of works at the site. A magnetometry survey might also show up any areas of intense burning associated with features such as kilns, or if fortunate the outline of buildings themselves. The results of any additional geophysical analysis would have to undergo ground truthing. It is still unclear if the site at Kilmocholmóg is of an ecclesiastical or secular nature, therefore excavation could help to uncover more artefacts and features that would help to better characterize the site. From what has been uncovered so far it would appear that the site discovered may be of a higher status rather than a simple domestic farmstead. If the feature uncovered in Trench 7 is an enclosing ditch, this would suggest that the occupants had sufficient time and revenue to construct an earthwork around their place of habitation.

7.2 The prehistoric nature of the site is still elusive with only stray lithics, and pottery uncovered with no in-situ Neolithic or Bronze Age features uncovered. Therefore, further excavation might provide a better insight into the sites use during prehistory as the finds recovered suggest some form of prehistoric settlement and knapping area within the confines of the investigation area.

7.3 In relation to public engagement the second season of excavation was again above and beyond the expectations of the organisers. Over the course of the three-week excavation dozens of members of the public and volunteers visited and participated in the excavation. During the course of the three-week excavation over 450 members of the public and volunteers visited and participated in the excavation, with 140 visiting on the open day alone. 2 primary school groups totalling 60 children were able to experience hands on excavation along with other practical archaeological tasks organised; while 30 students from local branches of People 1st, a vocational training centre, also took part in the dig over three days. Daily updates were posted on both the Northern Archaeological Consultancy Ltd and

Craigavon Historical Society Facebook pages, and this garnered a lot of interest, resulting in the excavation being reported on by BBC Newsline for a second time.

7.4 The results and conclusions of this season of excavation will be presented to the local community during the first half of 2023. It is also the authors intention to prepare an article for publication in Archaeology Ireland, presenting the results to the wider public and archaeological community. Furthermore, should a third season of excavation take place and based upon available funding a small standalone publication detailing all the geophysical, archaeological, and historical research relating to Kilmocholmóg field could be produced. This publication could also detail volunteer experiences of working on the project.

7.5 When the entire project has been completed it would be worthwhile submitting the excavation to the Archaeological Achievement Awards. Even nomination in the awards would heighten visibility of future projects that the local community would wish to undertake.

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9 FIGURES

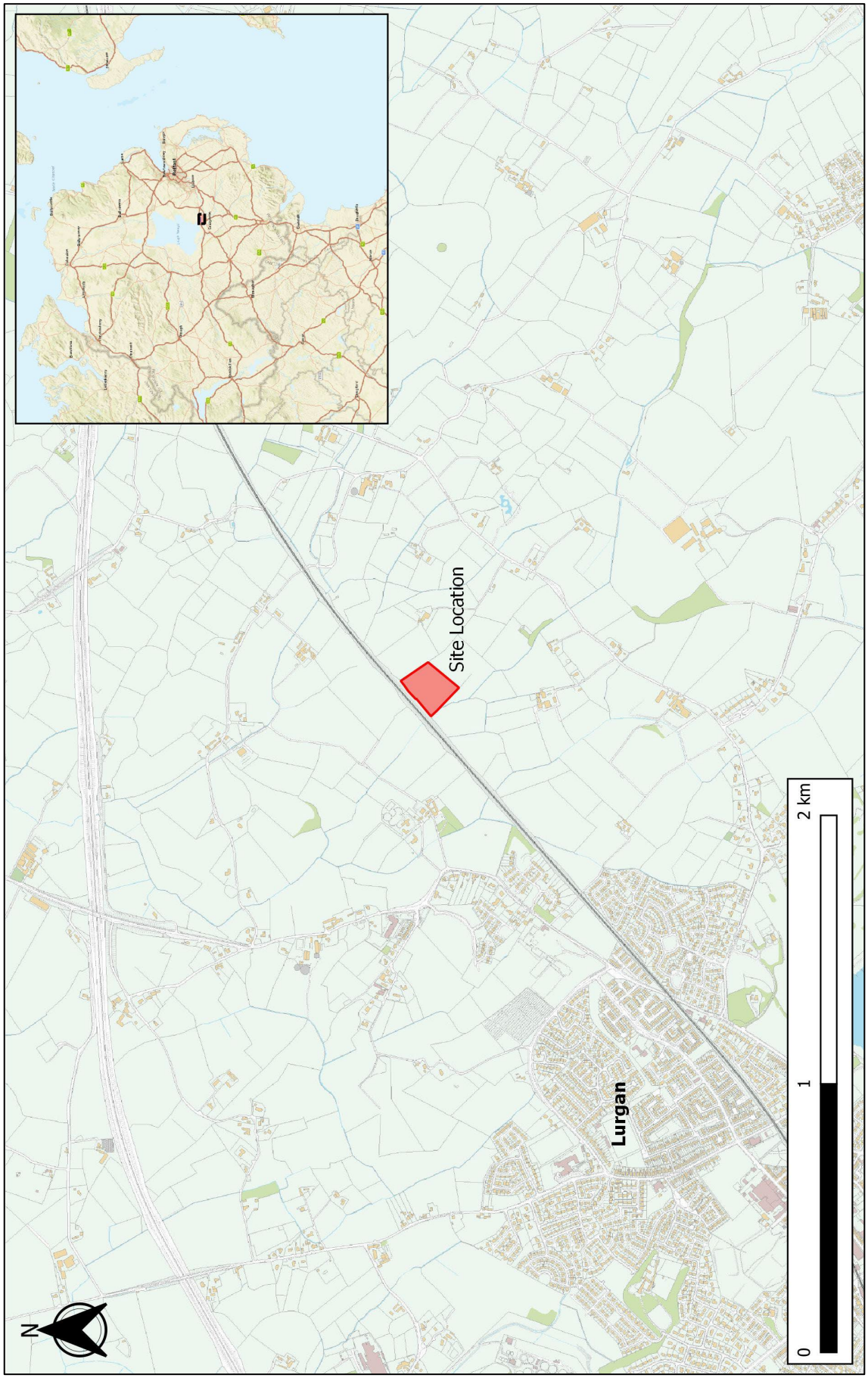

Figure 1: General Location Map.

Figure 2: GPR Survey data showing 'Right angled anomaly'.

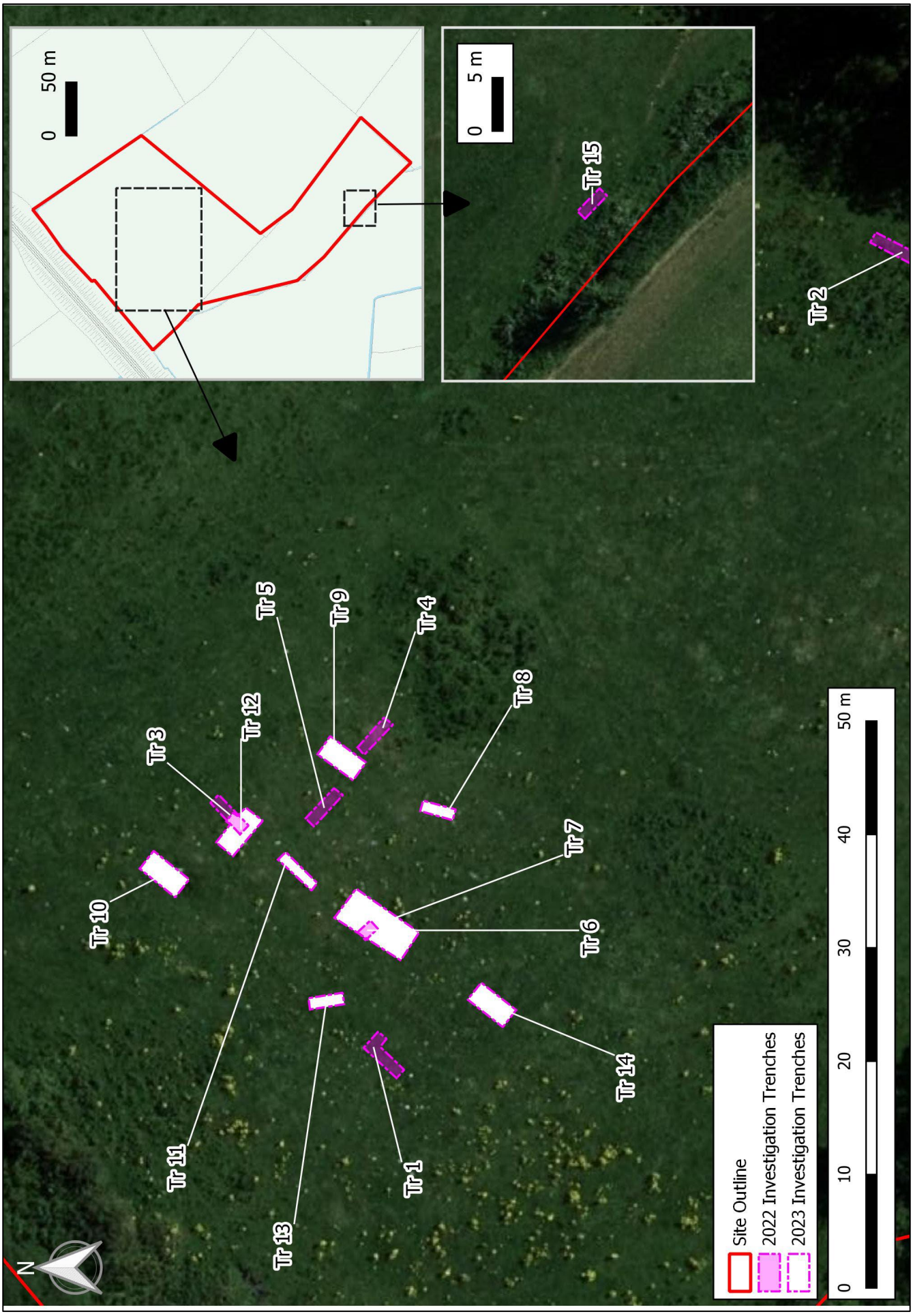

Figure 3: Location of excavated trenches.

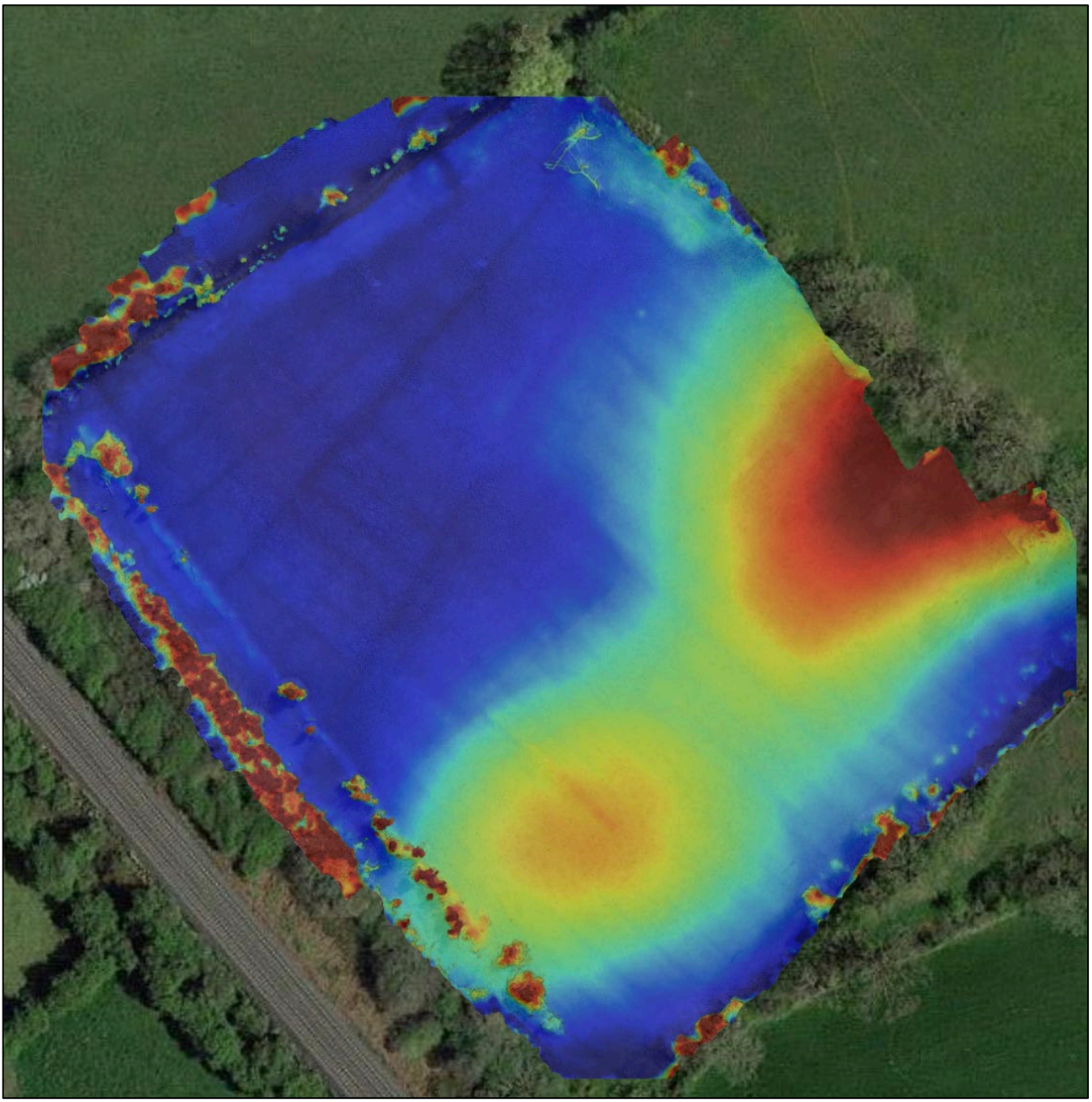

Figure 4: Topographical imagery from drone survey, note 'lazy beds'.

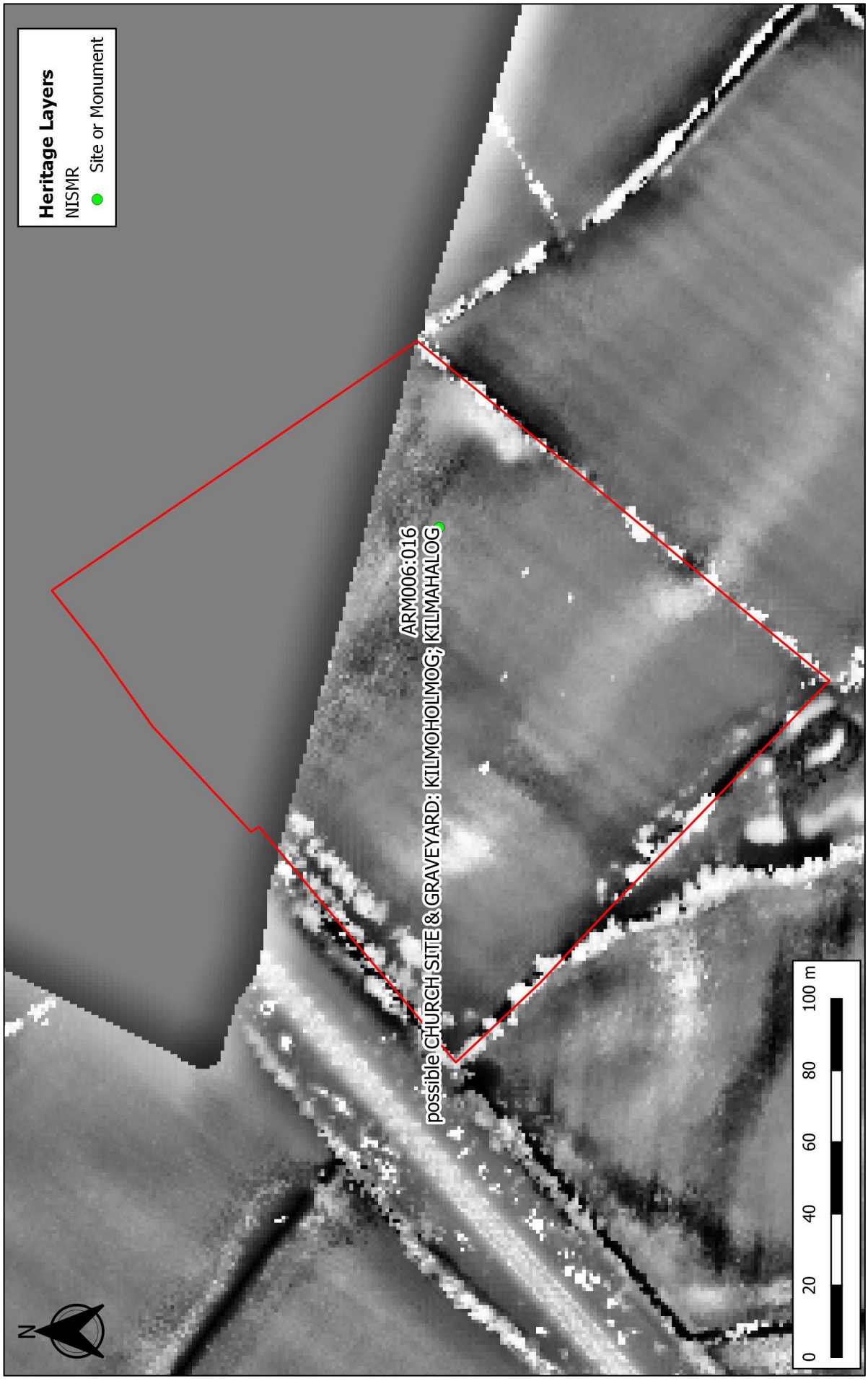

Figure 5: Site on LIDAR Data (local dominance filtered) showing 'lazy beds'.

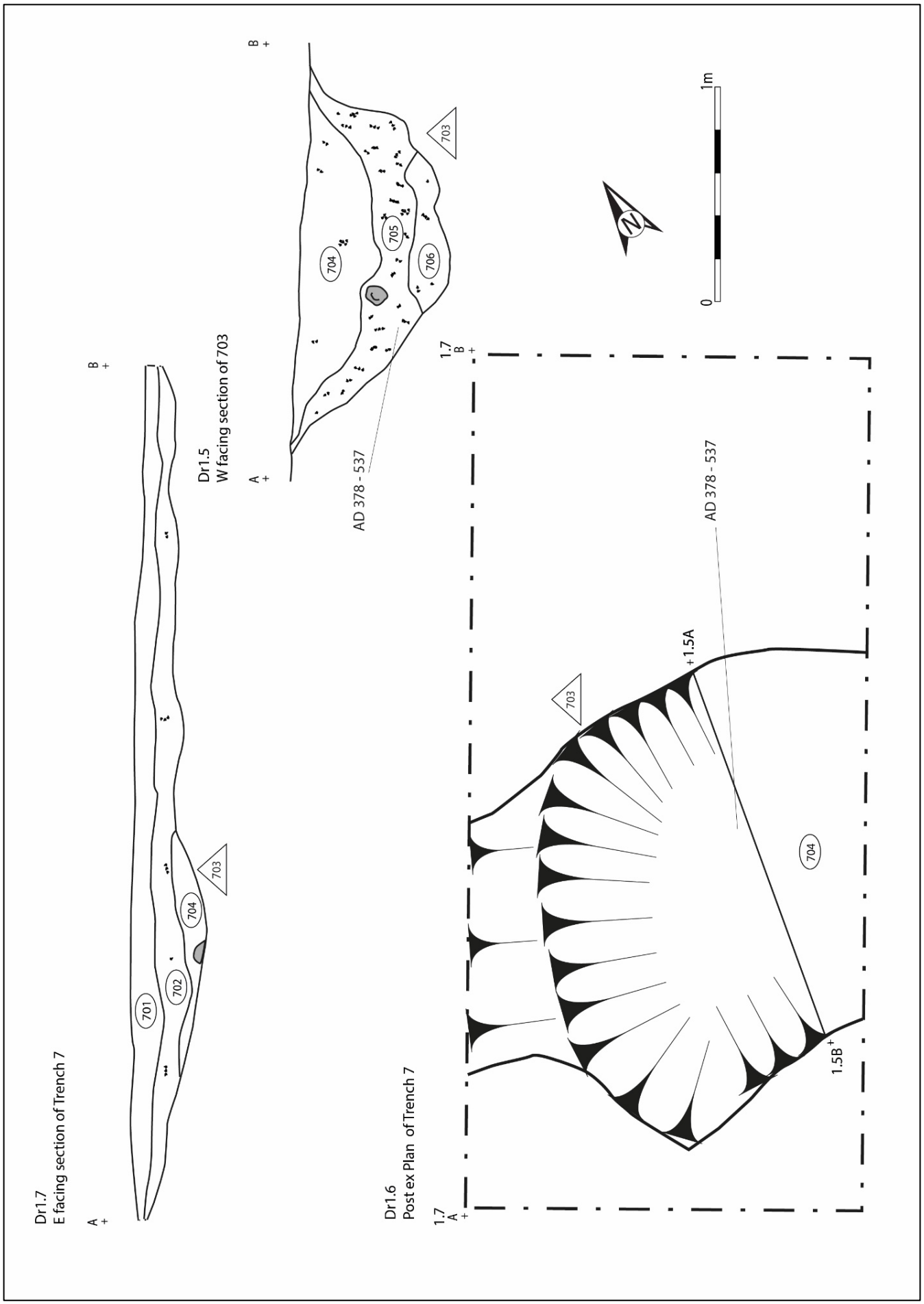

Figure 6: Post excavation plan and sections of Trench 7.

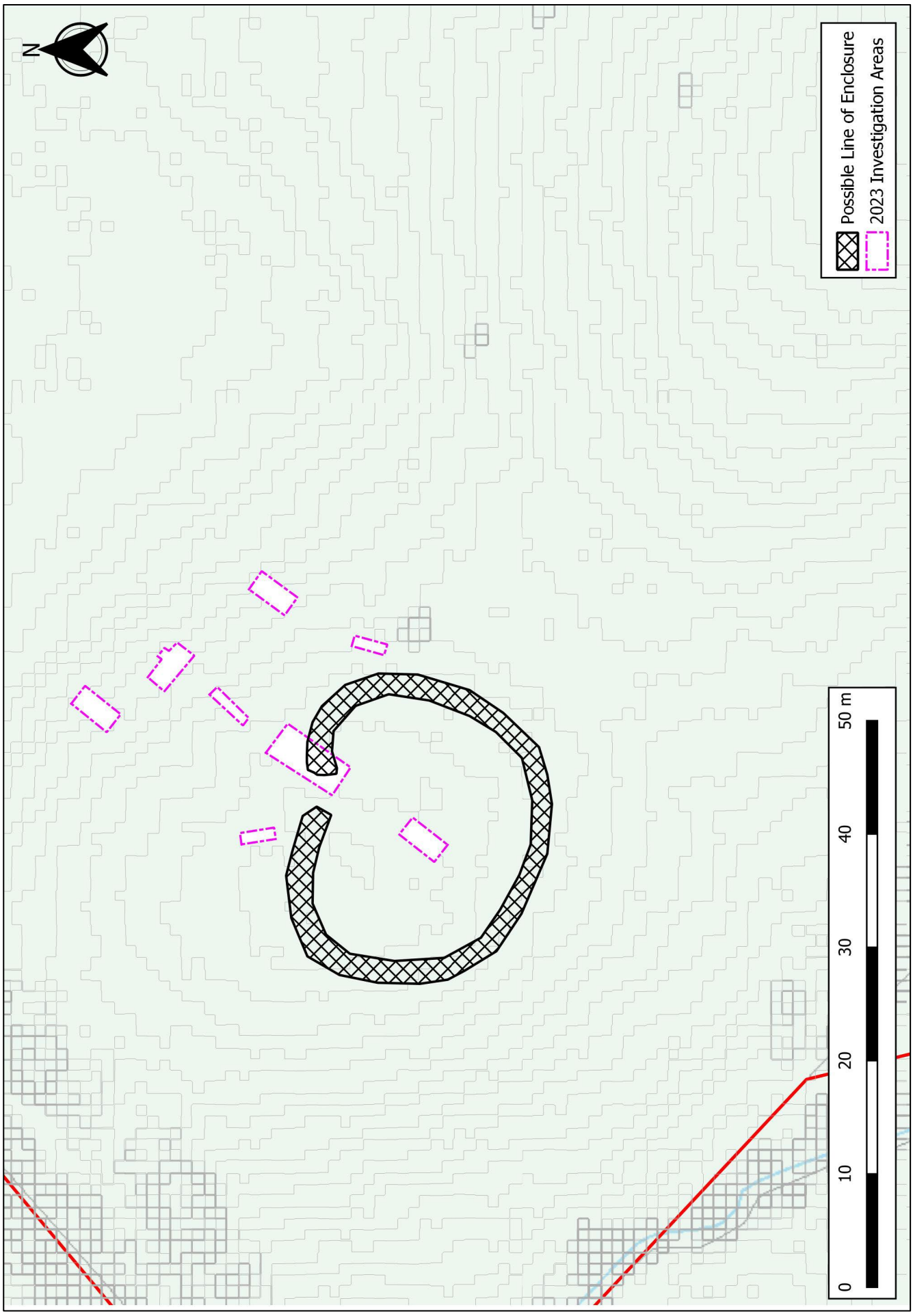

Figure 7: Projected Line of possible enclosure in northwestern corner of Kilmocholmóg field.

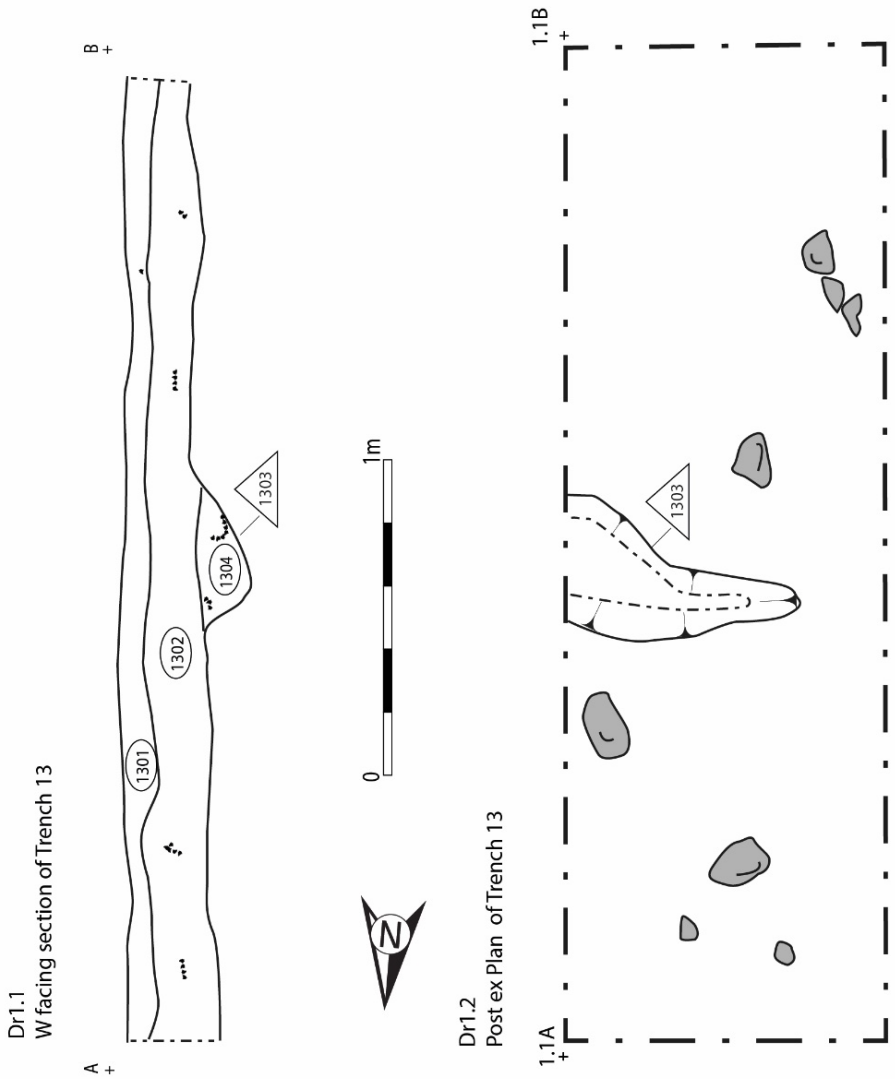

Figure 8: Post excavation plan and sections of Trench 13.

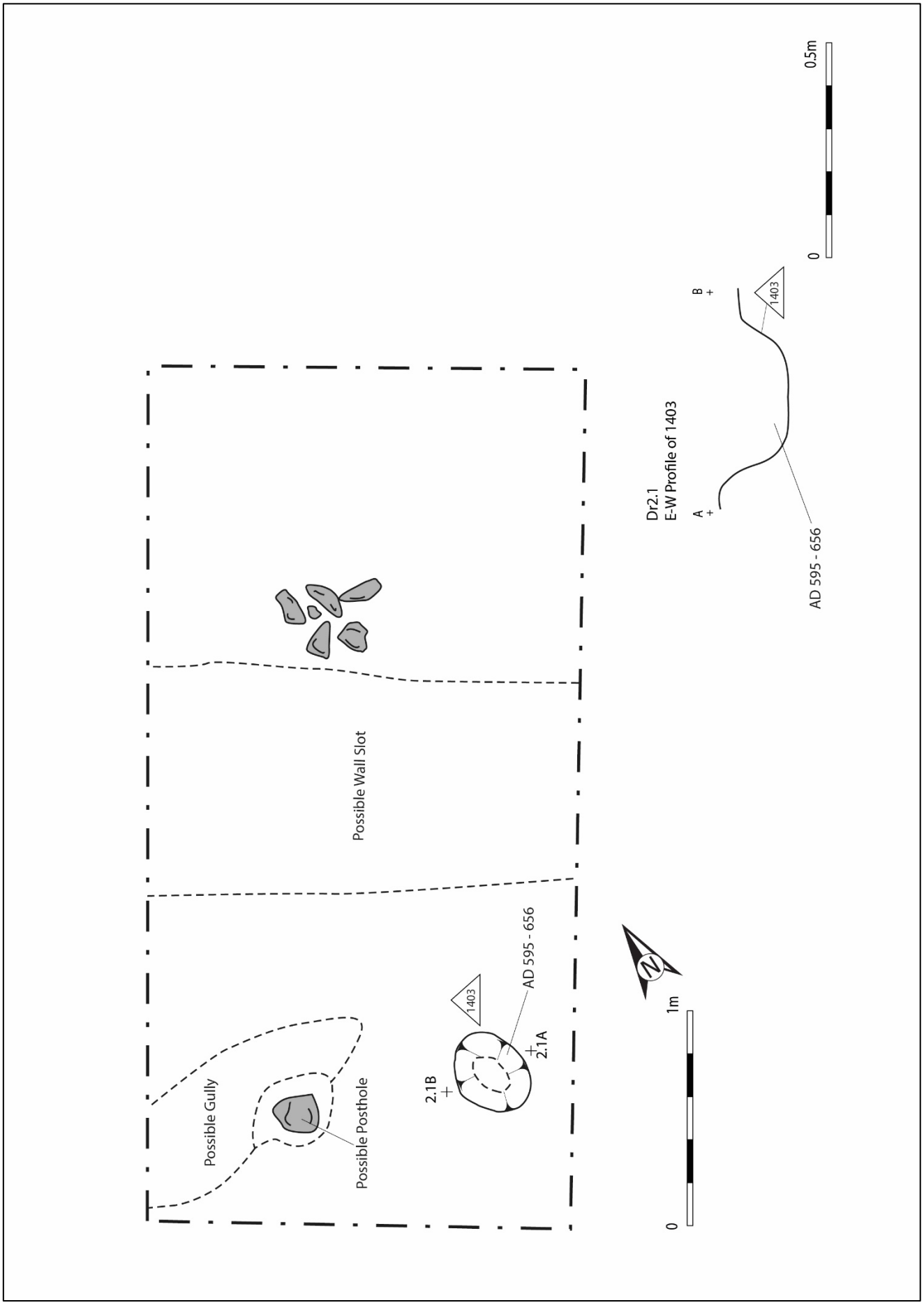

Figure 9: Post excavation pan and sections of Trench 14.

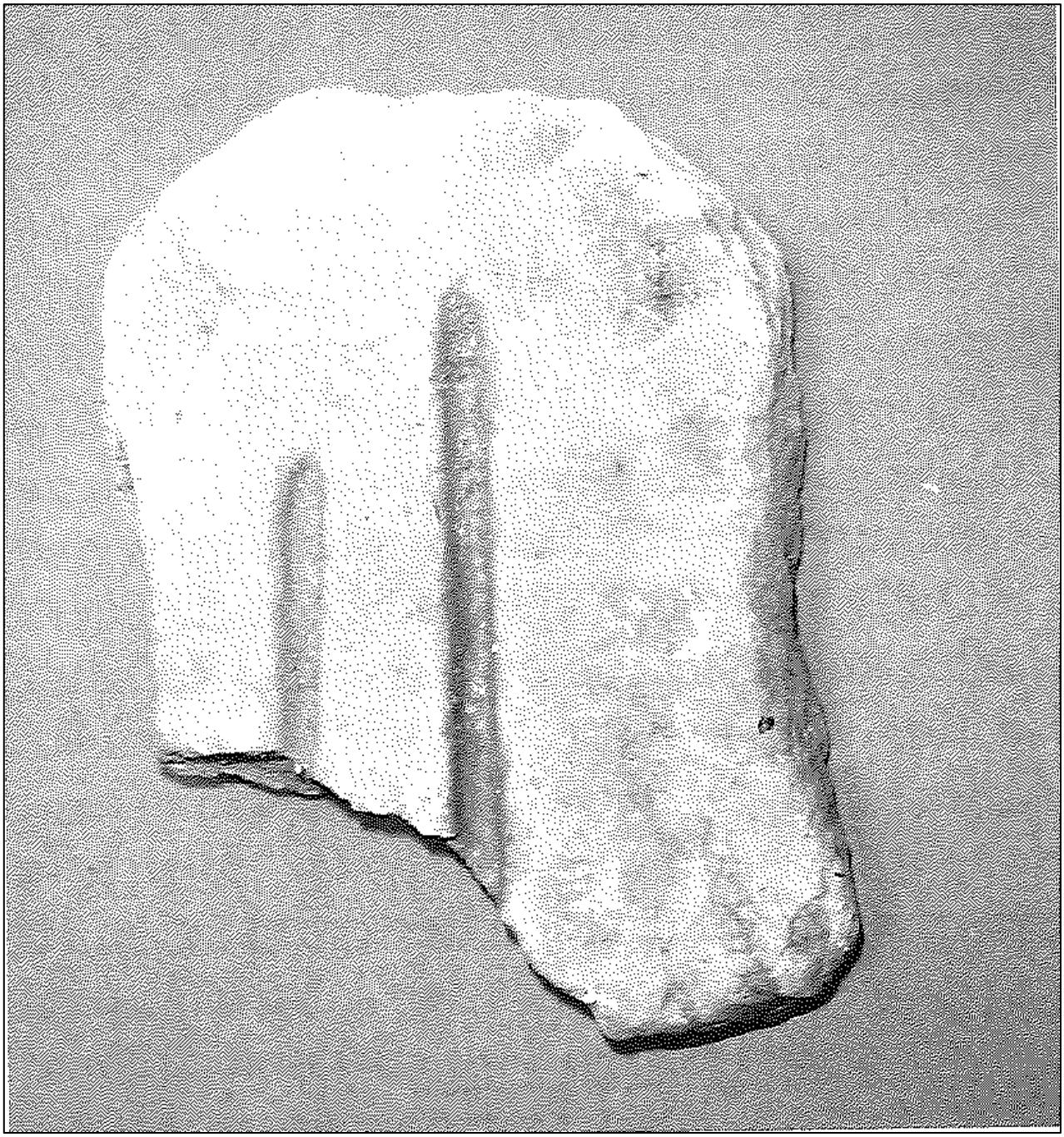

Figure 10: Double ingot mould recovered from Clonmacnoise (King 2009, 343).

Figure 11: Kingdoms and peoples of Ireland at the beginning of the Early Medieval Period c.5th – 7th century (Duffy et al 1997, 19).

10 PLATES

Plate 1: Overview of excavation area showing location of Trenches 7-14, looking northwest.

Plate 2: Possible ditch [703] post excavation, looking northeast.

Plate 3: West facing section of possible ditch [703] charcoal rich middle fill radiocarbon dated to AD 378 – 537 (UBA-51612), looking east.

Plate 4: Trench 8 post excavation looking south.

Plate 5: Trench 9 mid excavation showing stone collapse deposit [903], looking southwest.

Plate 6: Trench 10 mid excavation showing stone collapse deposit [1003], looking northeast.

Plate 7: Trench 11 post excavation, looking northwest.

Plate 8: Trench 12 mid excavation showing stone collapse [1203], looking southeast.

Plate 9: Trench 13 mid excavation showing gully [1303], prior to excavation, looking north.

Plate 10: West facing section though gully [1303], looking east.

Plate 11: Trench 14 mid excavation, looking northeast.

Plate 12: Possible posthole in Trench 14 radiocarbon dated to AD595 – 656 (UBA-51611), looking north.

Plate 13: Trench 15 mid excavation, looking northwest.

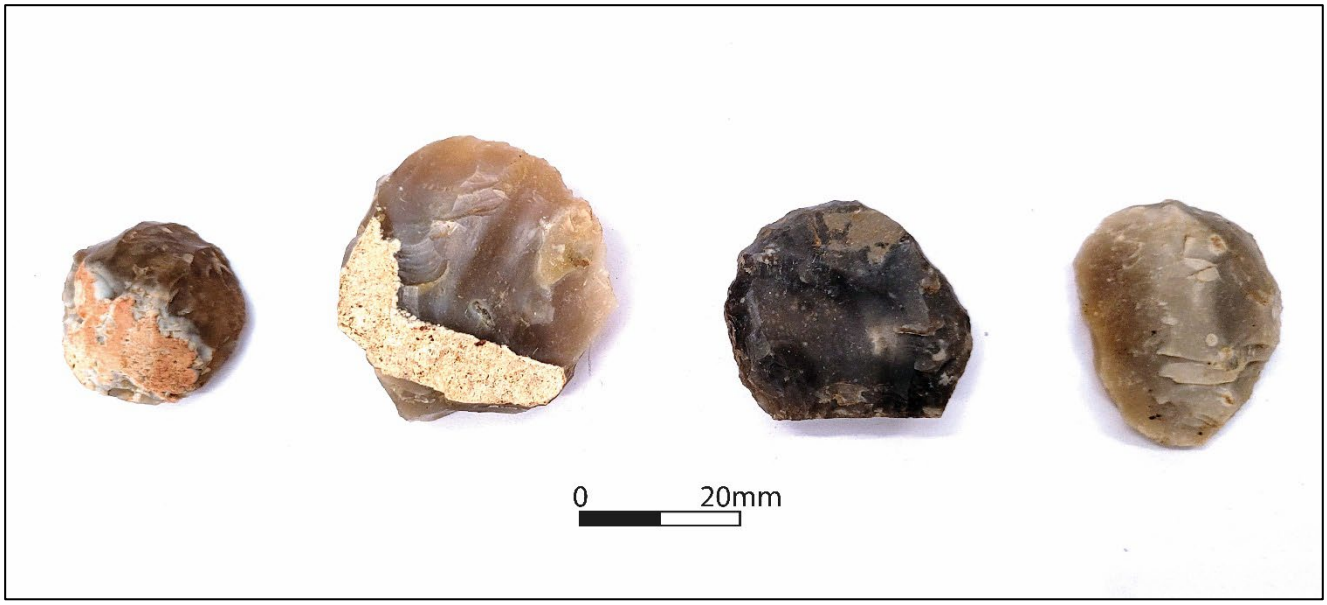

Plate 14: Thumbnail scraper (left) and three convex end scrapers (right) recovered from Trench 7.

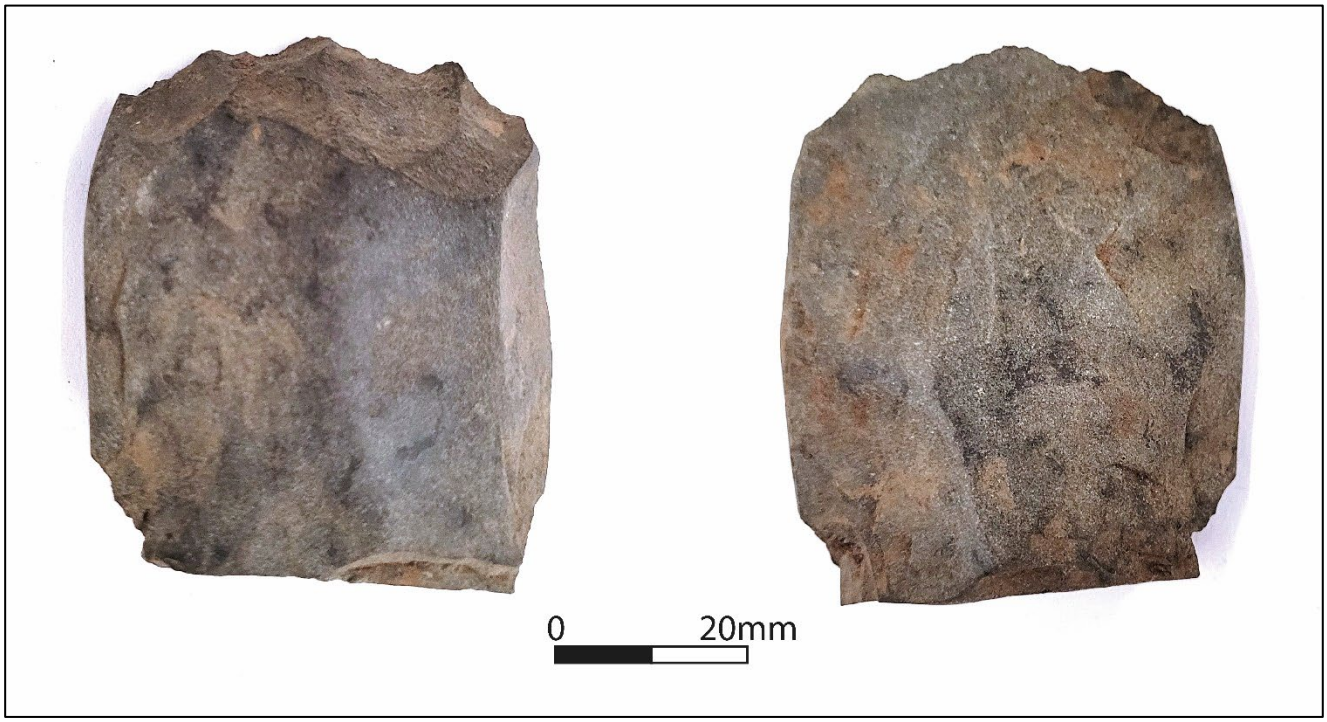

Plate 15: Polished stone axe fragment recovered from Trench 12.

Plate 16: Prehistoric pottery

Plate 17: Sample of Souterrain Ware pottery recovered from site.

Plate 18: Hone stone recovered from Trench 7.

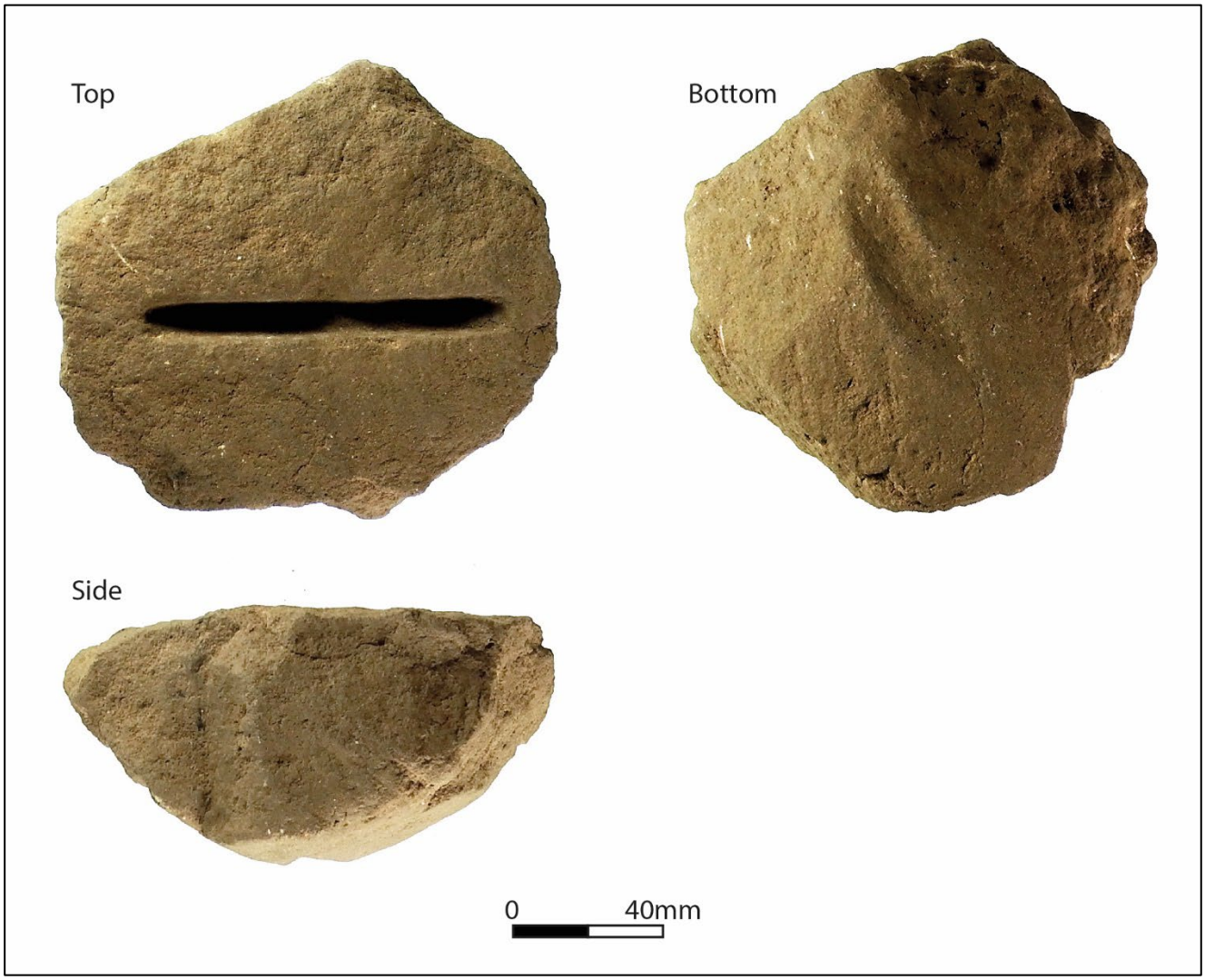

Plate 19: Ingot Mould recovered from Trench 7.

Plate 20: Furnace base, immediately following excavation, looking south.

Plate 21: Blue glass bead fragment recovered from Trench 7.

Plate 22: Fragment of Lignite/shale bracelet recovered from Trench 9.

APPENDIX 1: COPY OF ARCHAEOLOGICAL LICENCE

DfC Department for Communities www.communities-ni.gov.uk

Licence for Archaeological Excavation

Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995

The Department for Communities Northern Ireland (hereinafter referred to as "the Department"), in exercise of its power under Article 41 of the above-mentioned Order (hereinafter referred to as "the Order"), hereby licenses

Katy McMonagle & Stuart Alexander

and

Northern Archaeological Consultancy Ltd

(hereinafter [jointly] referred to as "the Licensee[s]") to excavate for purposes of archaeological investigation in or under part of the Townlands (towns) of

Donagreagh

in the County of Armagh (being the archaeological site or reputed site known as))

Kilmoholmóg field, Lurgan, 2023 Season

(hereinafter referred to as "the lands") during the period of six months, commencing on 12/06/2023 and ceasing 11/12/2023 , subject to the following conditions:

1. This Licence is granted on condition that, except in the case of an excavation referred to in Article 32 (1) (b) of the Order, the Licensees have obtained from the owner and occupier of the lands their consent to the excavation on, in or under the said lands, and the Department, if the Licensees are not Officials of the Department, shall not be under any responsibility for the consequences of any failure on the part of the Licensees to obtain such consent.

2. Should any part of the excavation involve disturbance of an area designated as a Scheduled Monument under Article 3 of the Order, the Licensees must ensure that Scheduled Monument Consent has been obtained from the Department before any such disturbance is undertaken. It is an offence to disturb a scheduled monument without prior Scheduled Monument Consent. The Licensees shall, on request, produce this Licence to the owner and occupier of the lands.

2

3. In advance of commencement of the excavation, the Licensees must inform the Department of the start date of the excavation and likely duration. If the anticipated completion date changes during the course of the excavation, the Licensees must inform the Department of the revised completion date as soon as possible.

4. The Licensees shall ensure that adequate resources are in place to carry out all excavation, post-excavation analysis, reporting, archiving and publication requirements that arise from the excavation carried out under this licence.

5. The Licensees shall carry out all excavation and associated works under this licence pursuant to the Programme of Works submitted to Heritage Advice and Regulation Branch on (Date: 09 / 06 / 2023 HED REf Number CO1 - 23 - 348757). Should circumstances arise during the excavation which necessitate an amendment to the Programme of Works, the Licensees must inform the Department immediately and any amendment must be agreed in writing in advance of further works being carried out. Such agreed amendments shall be deemed to be incorporated into the Programme of Works. All works carried out on foot of this licence shall comply in all respects with recognised archaeological standards.

6. The Licensees shall inform the Department of the first discovery of archaeological remains, objects or material under this licence as soon as practicable after such discovery.

7. The Licensees shall report the finding of any treasure or potential treasure items to the Coroner. This must be done within 14 days from the day following the finding of the item(s) or 14 days after the realisation that the item(s) might be treasure.

8. The Department may, at its discretion, choose to inspect the excavation and the Licensees shall permit any person or persons nominated by the Department to be present on the lands at any stage during the course of the excavation.

9. The Licensees shall, during the progress of the excavation, take adequate steps to safeguard any monuments or other structures upon or adjoining the lands.

10. The Licensees shall, immediately on completion of the excavation, restore the lands and their surroundings as far as possible to their original condition unless otherwise agreed with the landowner and occupier.

Licence to Excavate for Archaeological Purposes

11. The Licensees shall furnish to the Department:
    (a) A summary report on the excavation within four weeks of the end of the excavation or its temporary cessation, unless an alternative date for the summary report has been agreed in writing with the Department

    (b) A comprehensive report on the excavation and its significance within six months of the end of the excavation unless an alternative date for the comprehensive report has been agreed in writing with the Department. The final comprehensive report will be made available to the public through the National Monuments and Buildings Record and to facilitate this, the Licensees will supply the following:
        - Final comprehensive report in digital and hardcopy forms. Acceptable digital formats include Microsoft Word (.doc/.docx), OpenDocument Text (.odt) or PDF/A (.pdf)
        - The excavation reporting form, and any associated site reporting forms, as prescribed by the Department at **www.communities-ni.gov.uk/archaeological-excavation-licence**
        - A GIS dataset showing the extent of the investigation, supplied in an open or industry standard georeferenced vector format (e.g. ESRI shapefile or CAD DXF), including all appropriate metadata
        - Confirmation that all necessary copyrights and permissions for the public dissemination of both the comprehensive report, including all of its contents, and the GIS data have been obtained

12. The Department may review the duration of the licence, and grant such extensions that it deems appropriate, where the Licensees apply, in writing, for such a review prior to the date of cessation shown on the face of the licence.

13. The Department reserves the right to suspend or revoke this Licence in the event of failure by the Licensees to comply with these conditions or any part thereof.

Authorised Officer:	Dated this:
[redacted]	12/06/2023
Serial number of excavation:	**AE/** AE/2023/057

DfC
Department for Communities
www.communities-ni.gov.uk

APPENDIX 2: RADIOCARBON DATES

All dates are calibrated to:

BC/AD 95.4% C.I. @ 2 Sigma Calibration

Calibrations performed using OxCal 4.3 and IntCal20 (Reimer, p. et al 2020 'The IntCal20 Northern Hemisphere radiocarbon age calibration curve (0–55 cal kBP)', Radiocarbon, **62**.)

Laboratory ID:

UBA = ^{14}CHRONO Centre, Queen's University Belfast

LATE IRON AGE (BC/AD 0 – AD 400) TO EARLY MEDIEVAL PERIOD (AD 400 –1150)

Context Description	**Lab ID Code**	**Date BP**	**SD**	**δ^{13}C**	**Material**	**Calibrated Sample date BC/AD 95% C.I.***		**Probability**
						Lower	*Upper*	
Possible Ditch Cut [703], Fill [705]	UBA-51612	1639	24	-	Unidentified Burnt Animal Bone	AD 378 AD 491	AD 481 AD 537	0.728 0.272
Posthole: Cut [1403], Fill [1404]	UBA-51611	1425	26	-	Unidentified Charcoal	AD 595	AD 656	1.000

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APPENDIX 3: ANALYSIS OF EARLY MEDIEVAL POTTERY

INTRODUCTION

3.1 A total of 290 sherds of Early Medieval coarseware pottery were recovered from five different trenches during excavations at Kilmocholmóg Field, Lurgan, Co. Armagh (Table 1). As is common with assemblages of coarseware pottery, the sherds were fragmented and with the edges worn and abraded.

Trench	Cut.	Fill	No. of Sherds
7	-	701	17
7	703	704	250
10	-	1001	2
11	-	1102	2
12	-	1201	5
12	-	1202	2
13	-	1302	11
13	-	1304	1
Total			290

Table 1: Trenches containing Early Medieval pottery

EARLY MEDIEVAL SOUTERRAIN WARE

3.2 Two hundred and eighty-nine of the 290 sherds originated from Souterrain Ware vessels. There were two different fabric types present within the assemblage:

FABRIC A

3.3 Sherds of Fabric A type originated from hard bodied, well fired vessels. Small pieces of quartz & burnt flint had been added as inclusions within the clay, and the fabrics were generally dark greyish-brown in colour. The wall of these sherds were typically thin, approximately 6mm wide. Where body to base sherds were present, it was evident that the bases were thicker, up to c.11mm, or nearly twice the thickness of the body.

FABRIC B

3.4 Sherds of Fabric B type originated from well fired vessels, but with a softer & grittier fabric. Small pieces of quartz & burnt flint had been added as inclusions within the clay, as with Fabric A, but it was clear that sand had also been added to the paste. There was some variegation within the colour of the sherds, usually an orange inner and outer surface with a grey core, though variegating through to brown on some sherds. The bodies were thicker than sherds from Fabric A, typically being 14mm thick, but the vessels were more uniform, with little difference between base and body thickness.

3.5 Sherds from both fabric types displayed sooting and charring on their external surfaces, an indication that the vessels had been suspended over or placed in fires, and had probably been used for cooking.

BASES

3.6 Twenty-six base sherds were present within the assemblage. As was to be expected all of the sherds indicated that the vessels had flat bases, and all showed evidence of grass-marking, where the vessels had been set on a bed of dried grass for drying prior to firing.

RIMS

3.7 Twenty-four rim sherds were present within the assemblage, all originated from Fabric A type vessels (Table 2).

Find#	Trench	Cut	Fill	Sherd	Diam.
626	7	703	704	Rim - Flattened	8cm
633	7	703	704	Rim - Flattened	8cm
646	7	703	704	Rim - Flattened	10 cm
632	7	703	704	Rim - Flattened	14cm
617	7	703	704	Rim - Flattened	16cm
620	7	703	704	Rim - Flattened	16cm
631	7	703	704	Rim - Flattened	16cm
624	7	703	704	Rim - Flattened	17cm
618	7	703	704	Rim - Flattened	18cm
627	7	703	704	Rim - Flattened	18cm
634	7	703	704	Rim - Flattened	18cm
648	7	703	704	Rim - Flattened	19cm
647	7	703	704	Rim - Flattened	20cm
622	7	703	704	Rim - Flattened	22cm
623	7	703	704	Rim - Flattened	23cm
629	7	703	704	Rim - Flattened	23cm
621	7	703	704	Rim - Flattened	26cm
630	7	703	704	Rim - Flattened	26cm
628	7	703	704	Rim - Flattened	32cm
619	7	703	704	Rim - Flattened	38cm
649	7	703	704	Rim - Flattened	Too Small
625	7	703	704	Rim - Flattened	Too Small
635	7	703	704	Rim - Flattened	Too Small
636	7	703	704	Rim - Flattened	Too Small

Table 2: Rim sherds and diameters within the assemblage

3.8 All rims were flat or flattened in profile. As can be seen in Table 2 a variety of different size vessels were present, ranging from 8cm cup size vessels, to much larger 38cm diameter bucket sized vessels. Four of the sherds were too small to garner any meaningful measurement on the vessels size.

DECORATION & APPLICATIONS

3.9 None of the sherds within the assemblage bore any evidence for decoration.

3.10 A single sherd (F# 637), in Fabric A type, had an applied lug to the exterior surface of the vessel. It is assumed this would have functioned as a handle or grip for the vessel, and would have been accompanied by a similar lug on the opposing side.

OTHER EARLY MEDIEVAL WARES

3.11 A single sherd (F#645) was unlike any of the other ceramic material recovered during the excavation. The fabric bore little or no inclusions, and was a very pale grey colour. The exterior surface was black and glassy, appearing to be partially vitrified. It is very difficult to draw firm conclusions from a single small sherd, however, this sherd came from a secure context with no evidence for later disturbance, and is clearly not prehistoric in nature. Therefore it can only be dated to the Early Medieval period. Given the evidence that the site was used for metal working it is possible that this sherd originated from a small crucible type vessel. This would certainly account for clearly high temperatures that the sherd, and ergo the vessel it originated from, were subjected too.

BURNT CLAY

3.12 Three pieces of burnt or highly fired clay (F#'s 1, 2, & 199) were present within the assemblage. This type of material would be expected where an oven or kiln, or possibly even a furnace, was cut into the subsoil. The heat in effect fires the surrounding subsoil, or any clay used to seal a kiln, in a similar fashion to pottery. Given the evidence that the site was utilised for metal working, and the high temperatures involved, the presence of pieces of heavily burnt or fired clay are unsurprising.

DISCUSSION

3.13 Souterrain Ware is a type of coarse ware pottery that appeared in the northeast of Ulster in the 7th – 8th centuries AD and continued in use until the 12th century AD. Vessels were predominantly bucket shaped, with slightly flared or vertical sides, flat bases and rounded rims. Decoration was applied to vessels later in the development of the ware, from around the 9th century onwards. Not all of the later vessels were decorated and the use of plain, undecorated vessels continued. Decoration was simple and took the form of an applied strip applied just below the rim on the exterior surface. The applied strip decoration may appear as a simple strip, with no further adornment, or is frequently found with pinch markings, giving the decoration what has been described as a 'pie-crust' appearance.

CONCLUSIONS

3.14 The assemblage of Early Medieval pottery from Kilmoholmóg Field, Lurgan is relatively large compared to the small area of the excavation. It is of note that at least two different Fabric types were being utilised on the site, as well as a potential sherd from a crucible. Further excavation on the site would be useful in order to garner a larger ceramic assemblage and to see whether more than the two different fabric types were being utilised. It would be helpful to recover further sherds of the potential crucible as this would be a very rare object and of great interest.

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APPENDIX 3.1: CATALOGUE OF EXCAVATED SHERDS

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
1	12	-	1202	-	-	Reddish-orange	-	Burnt Clay
2	12	-	1202	-	-	Reddish-orange	-	Burnt Clay
58	12	-	1001	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
59	12	-	1001	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
60	12	-	1001	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
61	12	-	1001	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
62	12	-	1001	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
77	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
78	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
79	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
80	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
81	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
82	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
83	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
84	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
85	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
86	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
87	13	-	1302	Body	-	Greyish Orange-brown	Small quartz	Thin -6mm - Hard Bodied
97	13	-	1304	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
199	11	-	1102	-	-	Reddish-orange	-	Burnt Clay
200	11	-	1102	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
456	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
457	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
458	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
459	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
460	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
461	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
462	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
463	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
464	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
465	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
466	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
467	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
468	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
469	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
470	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
471	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
472	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
473	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
474	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
475	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
476	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
477	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
478	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
479	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
480	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
481	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
482	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
483	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
484	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
485	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
486	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
487	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
488	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
489	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
490	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
491	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
492	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
493	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
494	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
495	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
496	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
497	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
498	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
499	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
500	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
501	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
502	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
503	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
504	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
505	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
506	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
507	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
508	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
509	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
510	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
511	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
512	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
513	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
514	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
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516	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
517	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
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519	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
520	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
521	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
522	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
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525	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
526	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
527	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
528	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
529	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
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531	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
532	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
533	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
534	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
535	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
536	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
537	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
538	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
539	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
540	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
541	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
542	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
543	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
544	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
545	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
546	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
547	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
548	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
549	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
550	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
551	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
552	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
553	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
554	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
555	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
556	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
557	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
558	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
559	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
560	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
561	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
562	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
563	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
564	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
565	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
566	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
567	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
568	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
569	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
570	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
571	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
572	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
573	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
574	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
575	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
576	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
577	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
578	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
579	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
580	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
581	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
582	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
583	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
584	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
585	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
586	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
587	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
588	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
589	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
590	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
591	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
592	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
593	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
594	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
595	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
596	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
597	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
598	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
599	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
600	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
601	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
602	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
603	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
604	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
605	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
606	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
607	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
608	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
609	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
610	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
611	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
612	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
613	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
614	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
615	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
616	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin Bodied / Thick Base - 11mm
617	7	703	704	Rim - Flattened	16cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
618	7	703	704	Rim - Flattened	18cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
619	7	703	704	Rim - Flattened	38cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
620	7	703	704	Rim - Flattened	16cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
621	7	703	704	Rim - Flattened	26cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
622	7	703	704	Rim - Flattened	22cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
623	7	703	704	Rim - Flattened	23cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
624	7	703	704	Rim - Flattened	17cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
625	7	703	704	Rim - Flattened	Too Small	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
626	7	703	704	Rim - Flattened	8cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
627	7	703	704	Rim - Flattened	18cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
628	7	703	704	Rim - Flattened	32cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
629	7	703	704	Rim - Flattened	23cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
630	7	703	704	Rim - Flattened	26cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
631	7	703	704	Rim - Flattened	16cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
632	7	703	704	Rim - Flattened	14cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
633	7	703	704	Rim - Flattened	8cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
634	7	703	704	Rim - Flattened	18cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
635	7	703	704	Rim - Flattened	Too Small	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
636	7	703	704	Rim - Flattened	Too Small	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
637	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
640	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
641	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
642	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
643	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
645	7	703	704	Body	-	Greyish White	-	Glassy exterior - Has been heavily fired
646	7	703	704	Rim - Flattened	10 cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
647	7	703	704	Rim - Flattened	20cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
648	7	703	704	Rim - Flattened	19cm	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
649	7	703	704	Rim - Flattened	Too Small	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
650	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
651	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
652	7	703	704	Base	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
653	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
654	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
655	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
656	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
657	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
658	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
659	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
660	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
661	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
662	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
663	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
664	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
665	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
666	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
667	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
668	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
669	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
670	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
671	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
672	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
673	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
674	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
675	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
676	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
677	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
678	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
679	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
680	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
681	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
682	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
683	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
684	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
685	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
686	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
687	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
688	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
689	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
690	7	703	704	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
691	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
692	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
693	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
694	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
695	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
696	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
697	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
698	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
699	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
700	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
701	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
702	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
703	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
704	7	703	704	Body	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
705	7	703	704	Base	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
706	7	703	704	Base	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
707	7	703	704	Base	-	Pale Orange - Pale grey core	Small quartz	Thick 14mm - Softer bodied & Abraded
708	7	-	701	Base	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
709	7	-	701	Base	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
710	7	-	701	Base	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
711	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
712	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
713	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
714	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
715	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
716	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
717	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
718	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
719	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
720	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
721	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
722	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
723	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
724	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

Find#	Trench	Cut	Fill	Sherd	Diam.	Fabric	Inclusions	Notes
725	7	-	701	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
726	10	-	1001	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied
727	10	-	1001	Body	-	Dark greyish-brown	Small quartz	Thin -6mm - Hard Bodied

APPENDIX 4: ANALYSIS OF PREHISTORIC POTTERY

INTRODUCTION

4.1 The aim of this report is to detail the limited assemblage of prehistoric pottery sherds that were recovered during the excavation at Kilmocholmóg Field, Lurgan, Co. Armagh. As is common with assemblages of coarseware pottery the sherds were fragmented and, particularly noticeable, the edges were worn and highly abraded.

DESCRIPTION OF THE ASSEMBLAGE

4.2 The five sherds of prehistoric pottery were present within the ceramic assemblage from the excavation. This very limited assemblage comprised two sherds of Neolithic pottery, one sherd of, very heavily abraded, Bronze Age pottery, and two sherds of pottery that could only be assigned to the general prehistoric. All five of the sherds were recovered from Trench 7.

NEOLITHIC POTTERY

4.3 Two of the sherds could be assigned to the Neolithic period, one to the Early to Middle Neolithic and one to the Middle to Late Neolithic.

4.4 Find#644 was a rim sherd from an Early - Middle Neolithic bowl. The fabric was a uniform orange-brown colour and the paste was very fine, with only minute silica inclusions present, indicating sand had either been present within the clay or was deliberately mixed through. The body of the vessel was fine, hard, and well fired. The rim itself was 'T' – shaped in profile, though the size of the sherd meant that it was not possible to garner an accurate rim-diameter measurement.

4.5 Find#733 was a body sherd from a Middle - Late Neolithic bowl. The fabric was an orange-brown colour and the paste contained inclusions in the form of tiny pieces of grit to very small pieces of gravel. The body of the vessel was of medium thickness, hard, and well fired. Decoration, in the form of incised lines, were present along the exterior surface of the sherd.

4.6 While it is difficult to draw conclusions from two small sherds from a much larger assemblage, on the balance of probability both sherds originated from Middle Neolithic bowl shaped vessels. While Find #644 may have originated from an Early Neolithic bowl, the rim form and the lack of characteristic burnishing would probably suggest a date in the earlier part of the Middle Neolithic. Find #733 is of the classic highly decorated Middle to Late Neolithic bowl forms that appear after the plainer bowls of the earlier Neolithic, though the fabric is not as crude as can be found in sherds from the Late Neolithic period.

BRONZE AGE POTTERY

4.7 Find# 638 was a rim sherd from a Bronze Age vessel. The fabric was a pinkish-orange colour and the paste contained inclusions in the form of tiny pieces of grit to very small pieces of gravel. The body of

the vessel was medium walled, and slightly soft, not as well fired as the Neolithic or Early Medieval sherds. The rim itself was rounded in profile, and produced a rim-diameter measurement of 20cm.

PREHISTORIC POTTERY

4.8 Find's 731 and 732 were two body sherds that may have originated from the same vessel. The fabric was orange-brown in colour and the paste contained inclusions in the form of tiny pieces of grit to very small pieces of gravel. Both sherds were very heavily abraded. The appearance of the fabric was quite dissimilar to the Early Medieval ceramics that were present on the site, and so it has been assumed that these sherds originated from a prehistoric ceramic tradition, though from what period cannot be stated.

CONCLUSIONS

4.9 It is difficult to draw many conclusions from five single sherds from a much larger assemblage. While the excavation and the radiocarbon dates give a clear indication that the site in question is of an Early Medieval date, the presence of these five sherds is an indication that there was some form of settlement or activity during prehistory.

4.10 The two sherds of Middle Neolithic ceramics may be an indicator towards settlement from this period being present, however this is hardly conclusive.

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APPENDIX 4.1: CATALOGUE

Find#	Trench	Cut	Fill	Sherd	Diam.	Decoration	Fabric Colour	Inclusions	Type	Period	Notes
731	7	-	702	Body	-	-	Orange brown	-	-	Prehistoric?	Heavily Abraded
732	7	-	702	Body	-	-	Orange brown	-	-	Prehistoric?	Heavily Abraded
733	7	703	704	Body	-	Incised Lines	Orange brown	Small stone / grit	Bowl	Middle Neolithic	-
644	7	703	704	Rim - T shaped	Too Small	-	Orange brown	Sand	Bowl	Middle Neolithic	
638	7	703	704	Rim - Rounded	20cm	-	Pale Pinkish orange	Small grit	-	Bronze Age	

APPENDIX 5: ANALYSIS OF POST-MEDIEVAL CERAMICS

INTRODUCTION

2.1 A total of 209 individual sherds of pottery, representing 18 different wares, were recovered during the second season of excavation at Kilmoholmóg Field, Lurgan, Co. Armagh. The ceramic assemblage can be dated to the post-medieval period (17th to 20th centuries AD), with the focus of the assemblage being the 18th to 19th centuries (Table 1).

TYPOLOGY AND QUANTIFICATION

2.2 In the case of post-medieval ceramics it should be noted that the dates noted in Table 1 below are indicative of the main period of production, and subsequently of use. Indeed, many of the wares from this period can still be found as intact pieces in many households and some, for example Transfer Printed wares and Willow Pattern, have seen a revival and designs are currently being reproduced.

	Type	Date	Quantity
1	Blackware	17th – 19th century	58
2	Creamware	Mid-18th – Mid-19th Century	31
3	Flowing Blue Wear	Mid-Late 19th Century	1
4	Glazed Red earthenware	17th – 19th century	10
5	Ironstone ware	19th – 20th century	5
6	Marble Slip Earthenware	Late 18th – Mid-19th Century	1
7	Pearlware	Late 18th – Mid-19th Century	58
8	Pearlware - Handpainted	Late 18th – Mid-19th Century	3
9	Rhenish Stoneware	Mid-17th – Late 18th Century	1
10	Saltglazed Stoneware (Brown)	19th Century	2
11	Saltglazed Stoneware (White)	18th – Early 19th Century	1
12	Shell-edged Pearlware	Late 18th – Mid-19th Century	1
13	Stamped Spongeware	Mid-19th century	7
14	Tin-glazed Earthenware	Early 17th – Late 18th Century	2
15	Transfer Printed Earthenware	Mid-18th Century – Modern	7
16	Transfer Printed Ironstone Ware	19th – 20th century	3
17	Unglazed Red-earthenware	17th Century – Modern	16
18	Willow Pattern	Late 18th century - Modern	2
		Total	**209**

Table 1: Summary of Wares, Quantities and Dates

CATALOGUE OF EXCAVATED WARES

BLACKWARE (17TH – 19TH CENTURY - 58 SHERDS)

2.3 This pottery has a relatively hard orange red fabric, without obvious inclusions. Sherds are usually relatively thick walled and are glazed internally and externally with a thick black glaze. A variety of forms are recorded; while teapots & mugs are known the most common forms are large vessels such as milk pans, crocks, pitchers and storage jars. *(See also Red Earthenware - Glazed)*

CREAMWARE (MID-18TH – MID 19TH CENTURY – 31 SHERDS)

2.4 Soft, cream coloured earthenware usually covered in a clear glaze. The colour came from the white ball clays that were used. Due to the minor variations Creamware and Pearlware are often interchanged to mean the same type of pottery. Often found with transfer printed decoration.

FLOWING BLUE WARE (MID-LATE 19TH CENTURY – 1 SHERD)

2.5 A sub-set of transfer printed wares. The colour of the transfer print was allowed to run into the glaze. This produced a slightly blurred image and gave the glaze a tinted colouring.

GLAZED RED EARTHENWARE (17TH – 19TH CENTURY – 10 SHERDS)

2.6 This pottery generally has a soft orange red fabric, without obvious inclusions. Due to uneven firing some of the fabrics may be found with a grey core. Some of the pottery had slip applied, followed by a clear glaze, giving the surface of the pot a yellow green colour. In other cases coloured glazes, usually brown or green, were applied to decorate the pots.

IRONSTONE WARE (19TH – 20TH CENTURY – 5 SHERDS)

2.7 White bodied semi-vitrified earthenware, whose texture falls between that of cream or pearlware and porcelain. As with the earlier cream and pearlwares it is found with transfer printed, hand painted and gilded decoration.

MARBLE SLIP EARTHENWARE (LATE 18TH – MID 19TH CENTURY – 1 SHERD)

2.8 A sub-set of Creamware or Pearlware. A mixture of slip slip is applied to the body of the vessel prior to glazing. This slip mixture creates a marbled effect on the surface of the vessel.

PEARLWARE (LATE 18TH – MID 19TH CENTURY – 58 SHERDS)

2.9 A variation of Creamware, where by the fabric of the vessel was whiter and slightly harder than Creamware. Due to the minor variations Creamware and Pearlware are often interchanged to mean the same type of pottery. Pearlware is found with both handpainted and transfer printed decoration.

PEARLWARE – HANDPAINTED (LATE 18TH – MID 19TH CENTURY – 3 SHERDS)

2.10 Generally simplistic designs applied to pearlware vessels. The method of decorating pottery by hand-painting fell out of fashion with the introduction of highly decorated transfer printing.

RHENISH STONEWARE (MID 17TH – LATE 18TH CENTURY – 1 SHERD)

2.11 Grey bodied stoneware produced predominantly in Germany and France. The body of the vessels were usually highly decorated with moulded, stamped and incised decoration. This decoration would then be painted blue prior to glazing.

SALTGLAZED STONEWARE (BROWN) (19TH CENTURY – 2 SHERDS)

2.12 A hard, grey coloured fabric often used for bottles, jugs, etc. Brown saltglazed stoneware was created by dipping the vessel in brown slip before firing and followed by the addition of salt during the firing process. The sodium reacted with the silica in the clay leaving a glossy, translucent glaze.

SALTGLAZED STONEWARE (WHITE) (18TH – EARLY 19TH CENTURY – 1 SHERD)

2.13 A hard, white coloured fabric often used for plates, bowls and other tableware's. On occasion the vessel was dipped in white slip before firing; otherwise the colour of the fabric was allowed to show through. The salt was added during the firing process; the sodium reacted with the silica in the clay leaving a glossy, translucent glaze.

SHELL EDGED PEARLWARE (LATE 18TH – MID 19TH CENTURY – 1 SHERD)

2.14 Pearlware vessels where the rim has been feathered or scalloped and then painted, usually blue but green is also found. Plates and platters constitute the vast majority of forms, but bowls are also recorded.

STAMPED SPONGEWARE (MID-19TH CENTURY – 7 SHERDS)

2.15 Soft, cream coloured earthenware (usually Pearlware or Ironstoneware) usually covered in a clear glaze; the colour coming from the white ball clays that were used. As the name suggest the pattern was applied using a sponge and, in the case of stamped spongeware, a cut stamp or a stencil was used to allow more intricate designs to be applied.

TIN GLAZED EARTHENWARE (EARLY 17TH – LATE 18TH CENTURY – 2 SHERDS)

2.16 The fabric of the pottery is characteristically a pale yellow to pink colour. The vessel would then be covered in a thick pale blue tin glaze; sometimes blue handpainted designs were added. Sherds are notable for the tin glaze to peal from the surface. Although the majority of pottery uncovered in the British Isles originated from England or Holland (Delft), tin glazed earthenware's were also produced in France (Faience) and Spain (Maiolica). Most commonly found as plates, platters or bowls, other items such as cups and even tiles are recorded.

TRANSFER PRINTED EARTHENWARE (MID-18TH CENTURY – MODERN – 7 SHERDS)

2.17 The development of tissue paper transfers allowed more complex patterns to be applied to Creamware and pearlware vessels. The transfers were applied to fired and glazed vessels, which were then, fired again burning off the transfer in the kiln land leaving the ink pattern behind. Often a blue pattern was used but green, brown, black, purple and red are not uncommon.

TRANSFER PRINTED IRONSTONE WARE (19TH – 20TH CENTURY – 3 SHERDS)

2.18 As with Creamware and Pearlware, Ironstone Ware was also subjected to transfer printing.

UNGLAZED RED EARTHENWARE (17TH CENTURY – MODERN – 3 SHERDS)

2.19 Orange red fabric, unglazed but sometimes covered in slip. The most common vessel form found is flower pots.

WILLOW PATTERN (LATE 18TH CENTURY – MODERN – 2 SHERDS)

2.20 A sub-set of the transfer printed earthenware's. The classic Willow pattern usually combines a central scene comprising a willow tree, boat, bridge, figures, two birds and a pagoda with a geometric border, generally all printed in blue. Designed to mimic the design on imported Chinese Porcelain of the 18th Century, Willow pattern was very popular and remains so to this day. Usually found on plates, but also on larger platters, bowls and tureens.

DISCUSSION AND CONCLUSIONS

2.21 The assemblage can be described as typical for a 19th century rural farm setting. The wares show variety, in that both table and utilitarian wares are present within the mix; again, this would have been typical for a farm of the period.

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APPENDIX 2.1 – CATALOGUE OF EXCAVATED WARES

Find #	Trench	Cut	Fill	Pottery Type	Sherd type	Date
8	12	-	1202	Blackware	Body	17th – 19th century
9	12	-	1202	Blackware	Body	17th – 19th century
10	12	-	1202	Blackware	Body	17th – 19th century
11	12	-	1202	Blackware	Body	17th – 19th century
12	12	-	1202	Blackware	Body	17th – 19th century
13	12	-	1202	Blackware	Body	17th – 19th century
14	12	-	1202	Blackware	Body	17th – 19th century
15	12	-	1202	Blackware	Body	17th – 19th century
16	12	-	1202	Blackware	Body	17th – 19th century
17	12	-	1202	Blackware	Body	17th – 19th century
18	12	-	1202	Blackware	Body	17th – 19th century
19	12	-	1202	Blackware	Body	17th – 19th century
20	12	-	1202	Blackware	Body	17th – 19th century
21	12	-	1202	Blackware	Body	17th – 19th century
22	12	-	1202	Blackware	Body	17th – 19th century
23	12	-	1202	Unglazed Red-earthenware	Body	17th Century – Modern
24	12	-	1202	Unglazed Red-earthenware	Body	17th Century – Modern
25	12	-	1202	Glazed Red Earthenware	Body	17th – 19th century
26	12	-	1202	Glazed Red Earthenware	Body	17th – 19th century
27	12	-	1202	Stamped Spongeware	Body	Mid-19th century
28	12	-	1202	Transfer Printed Earthenware	Body	Mid 18th Century – Modern
29	12	-	1202	Transfer Printed Earthenware	Body	Mid 18th Century – Modern
30	12	-	1202	Transfer Printed Earthenware	Body	Mid 18th Century – Modern
31	12	-	1202	Flowing Blue Wear	Body	Mid-Late 19th Century
32	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
33	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
34	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
35	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
36	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
37	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
38	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
39	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
40	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
41	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
42	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
43	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
44	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
45	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
46	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
47	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
48	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century

Find #	Trench	Cut	Fill	Pottery Type	Sherd type	Date
49	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
50	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
51	12	-	1202	Creamware	Body	Mid 18th – Mid 19th Century
68	13	-	1302	Blackware	Body	17th – 19th century
69	13	-	1302	Transfer Printed Earthenware	Body	Mid 18th Century – Modern
70	13	-	1302	Creamware	Body	Mid 18th – Mid 19th Century
71	13	-	1302	Creamware	Body	Mid 18th – Mid 19th Century
72	13	-	1302	Creamware	Body	Mid 18th – Mid 19th Century
73	13	-	1302	Creamware	Body	Mid 18th – Mid 19th Century
100	8	-	801	Blackware	Body	17th – 19th century
101	8	-	801	Creamware	Rim	Mid 18th – Mid 19th Century
102	8	-	801	Stamped Spongeware	Body	Mid-19th century
113	14	-	1401	Blackware	Body	17th – 19th century
114	14	-	1401	Blackware	Body	17th – 19th century
115	14	-	1401	Blackware	Body	17th – 19th century
116	14	-	1401	Blackware	Body	17th – 19th century
117	14	-	1401	Blackware	Body	17th – 19th century
118	14	-	1401	Blackware	Body	17th – 19th century
119	14	-	1401	Willow Pattern	Rim	Late 18th century - Modern
120	14	-	1401	Pearlware - Handpainted	Rim	Late 18th – Mid 19th Century
121	14	-	1401	Unglazed Red-earthenware	Body	17th Century – Modern
122	14	-	1401	Unglazed Red-earthenware	Body	17th Century – Modern
123	14	-	1401	Unglazed Red-earthenware	Rim	17th Century – Modern
124	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
125	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
126	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
127	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
128	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
129	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
130	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
131	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
132	14	-	1401	Pearlware	Body	Late 18th – Mid 19th Century
150	11	-	1102	Blackware	Body	17th – 19th century
151	11	-	1102	Blackware	Body	17th – 19th century
152	11	-	1102	Blackware	Body	17th – 19th century
153	11	-	1102	Blackware	Body	17th – 19th century
154	11	-	1102	Shell-edged Pearlware	Rim	Late 18th – Mid 19th Century
155	11	-	1102	Willow Pattern	Body	Late 18th century - Modern
156	11	-	1102	Ironstone Ware	Body	19th – 20th century
157	11	-	1102	Ironstone Ware	Body	19th – 20th century
158	11	-	1102	Ironstone Ware	Body	19th – 20th century
159	11	-	1102	Ironstone Ware	Body	19th – 20th century
160	11	-	1102	Ironstone Ware	Pedestal Foot	19th – 20th century

Find #	Trench	Cut	Fill	Pottery Type	Sherd type	Date
161	11	-	1102	Pearlware	Body	Late 18th – Mid 19th Century
162	11	-	1102	Pearlware	Body	Late 18th – Mid 19th Century
163	11	-	1102	Pearlware	Body	Late 18th – Mid 19th Century
168	9	-	902	Blackware	Body	17th – 19th century
169	9	-	902	Blackware	Body	17th – 19th century
170	9	-	902	Blackware	Body	17th – 19th century
171	9	-	902	Blackware	Body	17th – 19th century
172	9	-	902	Blackware	Body	17th – 19th century
173	9	-	902	Blackware	Body	17th – 19th century
174	9	-	902	Blackware	Body	17th – 19th century
175	9	-	902	Blackware	Body	17th – 19th century
176	9	-	902	Creamware	Body	Mid 18th – Mid 19th Century
177	9	-	902	Creamware	Body	Mid 18th – Mid 19th Century
178	9	-	902	Creamware	Body	Mid 18th – Mid 19th Century
179	9	-	902	Creamware	Body	Mid 18th – Mid 19th Century
180	9	-	902	Creamware	Body	Mid 18th – Mid 19th Century
181	9	-	902	Creamware	Body	Mid 18th – Mid 19th Century
182	9	-	902	Glazed Red Earthenware	Body	17th – 19th century
183	9	-	902	Glazed Red Earthenware	Body	17th – 19th century
184	9	-	902	Glazed Red Earthenware	Body	17th – 19th century
185	9	-	902	Glazed Red Earthenware	Body	17th – 19th century
186	9	-	902	Stamped Spongeware	Body	Mid-19th century
187	9	-	902	Unglazed Red-earthenware	Body	17th Century – Modern
188	9	-	902	Unglazed Red-earthenware	Body	17th Century – Modern
189	9	-	902	Unglazed Red-earthenware	Body	17th Century – Modern
190	9	-	902	Rhenish Stoneware	Body	Mid 17th – Late 18th Century
192	15	-	1502	Blackware	Body	17th – 19th century
193	15	-	1502	Blackware	Body	17th – 19th century
194	15	-	1502	Transfer Printed Earthenware	Body	Mid 18th Century – Modern
198	11	-	1102	Glazed Red Earthenware	Body	17th – 19th century
201	7	-	702	Saltglazed Stoneware (Brown)	Body	19th Century
202	7	-	702	Saltglazed Stoneware (Brown)	Body	19th Century
203	7	-	702	Unglazed Red-earthenware	Rim	17th Century – Modern
204	7	-	702	Unglazed Red-earthenware	Rim	17th Century – Modern
205	7	-	702	Unglazed Red-earthenware	Body	17th Century – Modern
206	7	-	702	Unglazed Red-earthenware	Body	17th Century – Modern
207	7	-	702	Unglazed Red-earthenware	Body	17th Century – Modern
208	7	-	702	Unglazed Red-earthenware	Body	17th Century – Modern
209	7	-	702	Glazed Red Earthenware	Body	17th – 19th century
210	7	-	702	Glazed Red Earthenware	Body	17th – 19th century
211	7	-	702	Glazed Red Earthenware	Body	17th – 19th century
212	7	-	702	Blackware	Body	17th – 19th century
213	7	-	702	Blackware	Body	17th – 19th century

Find #	Trench	Cut	Fill	Pottery Type	Sherd type	Date
214	7	-	702	Blackware	Body	17th – 19th century
215	7	-	702	Blackware	Body	17th – 19th century
216	7	-	702	Blackware	Body	17th – 19th century
217	7	-	702	Blackware	Body	17th – 19th century
218	7	-	702	Blackware	Body	17th – 19th century
219	7	-	702	Blackware	Body	17th – 19th century
220	7	-	702	Blackware	Body	17th – 19th century
221	7	-	702	Blackware	Body	17th – 19th century
222	7	-	702	Blackware	Body	17th – 19th century
223	7	-	702	Blackware	Body	17th – 19th century
224	7	-	702	Blackware	Body	17th – 19th century
225	7	-	702	Blackware	Body	17th – 19th century
226	7	-	702	Blackware	Body	17th – 19th century
227	7	-	702	Blackware	Body	17th – 19th century
228	7	-	702	Blackware	Body	17th – 19th century
229	7	-	702	Blackware	Body	17th – 19th century
230	7	-	702	Blackware	Body	17th – 19th century
231	7	-	702	Blackware	Body	17th – 19th century
232	7	-	702	Saltglazed Stoneware (White)	Body	18th – Early 19th Century
233	7	-	702	Stamped Spongeware	Body	Mid-19th century
234	7	-	702	Stamped Spongeware	Body	Mid-19th century
235	7	-	702	Stamped Spongeware	Body	Mid-19th century
236	7	-	702	Stamped Spongeware	Body	Mid-19th century
237	7	-	702	Transfer Printed Earthenware	Body	Mid 18th Century – Modern
238	7	-	702	Transfer Printed Earthenware	Body	Mid 18th Century – Modern
239	7	-	702	Transfer Printed Ironstone Ware	Body	19th – 20th century
240	7	-	702	Transfer Printed Ironstone Ware	Body	19th – 20th century
241	7	-	702	Transfer Printed Ironstone Ware	Body	19th – 20th century
242	7	-	702	Tin-glazed Earthenware	Body	Early 17th – Late 18th Century
243	7	-	702	Tin-glazed Earthenware	Body	Early 17th – Late 18th Century
244	7	-	702	Marbled Earthenware	Body	Late 18th – Mid 19th Century
245	7	-	702	Pearlware - Handpainted	Rim/ Body	Late 18th – Mid 19th Century
246	7	-	702	Pearlware - Handpainted	Body	Late 18th – Mid 19th Century
247	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
248	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
249	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
250	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
251	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
252	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
253	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century

Find #	Trench	Cut	Fill	Pottery Type	Sherd type	Date
254	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
255	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
256	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
257	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
258	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
259	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
260	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
261	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
262	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
263	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
264	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
265	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
266	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
267	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
268	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
269	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
270	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
271	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
272	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
273	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
274	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
275	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
276	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
277	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
278	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
279	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
280	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
281	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
282	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
283	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
284	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
285	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
286	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
287	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
288	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
289	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
290	7	-	702	Pearlware	Body	Late 18th – Mid 19th Century
291	7	-	702	Unglazed Red-earthenware	Body	17th Century – Modern
292	7	-	702	Unglazed Red-earthenware	Body	17th Century – Modern
728	10	-	1001	Blackware	Body	17th – 19th century
729	10	-	1001	Pearlware	Body	Late 18th – Mid 19th Century
730	10	-	1001	Pearlware	Body	Late 18th – Mid 19th Century

APPENDIX 6: ASSESSMENT OF WORKED FLINT AND STONE

INTRODUCTION

6.1 The second season of community excavations at Kilmoholmóg Field, Lurgan, produced 92 artefactual elements (Table 6.1), along with a sizable assortment of non-artefactual pieces, being unworked natural flint, and thermal shatter.

6.2 A catalogue has been compiled of the diagnostic elements of each cut/fill, along with a total count of chipped and coarse stone artefacts from that fill. Any further pertinent detail of each diagnostic piece was noted only where it added to the overall characterisation of the site and the assemblage.

THE LITHIC ASSEMBLAGE

SOURCE

6.3 A variety of lithic sources were present within the overall assemblage across the site. Where sources could be determined, these were ranging from elements sourced from nodules eroded out of the Ulster White Limestone (UWL) formations (Figure 6.1). These are most accessible along the Antrim coast, but exist as outcrops in other areas. Approximately 50% of the assemblage, where cortex could be examined, possessed fresh chalky cortex suggestive of such a source. Of the remainder, 33% possessed worn and stained cortex generally associated with glacial till material, and the remaining 17% had thin water-rolled cortex most likely a result of erosion by streams and rivers (Woodman 2015).

6.4 Colouration ranged from pale greys, through to dark blue-greys, with some instances of high quality translucent flint, and one instance of dark reddish-purple jasperised or hematised material. The best known source for this is the Donald's Hill clay-with-flints in Co. Londonderry, but it can occur anywhere the Ulster White Limestone is closely overlain by the basalt flows that form much of the geology of Northern Ireland.

6.5 In all circumstances the levels of patination and abrasion within individual cuts/fills were mixed, with occasional burnt/heated pieces mixed with unburnt, suggesting that for the most part, all elements within the assemblage should be considered as disturbed material not directly associated with the main period or activity associated with the feature. It is considered most likely that the later construction of the features/use of the site disturbed trace remains of earlier activity.

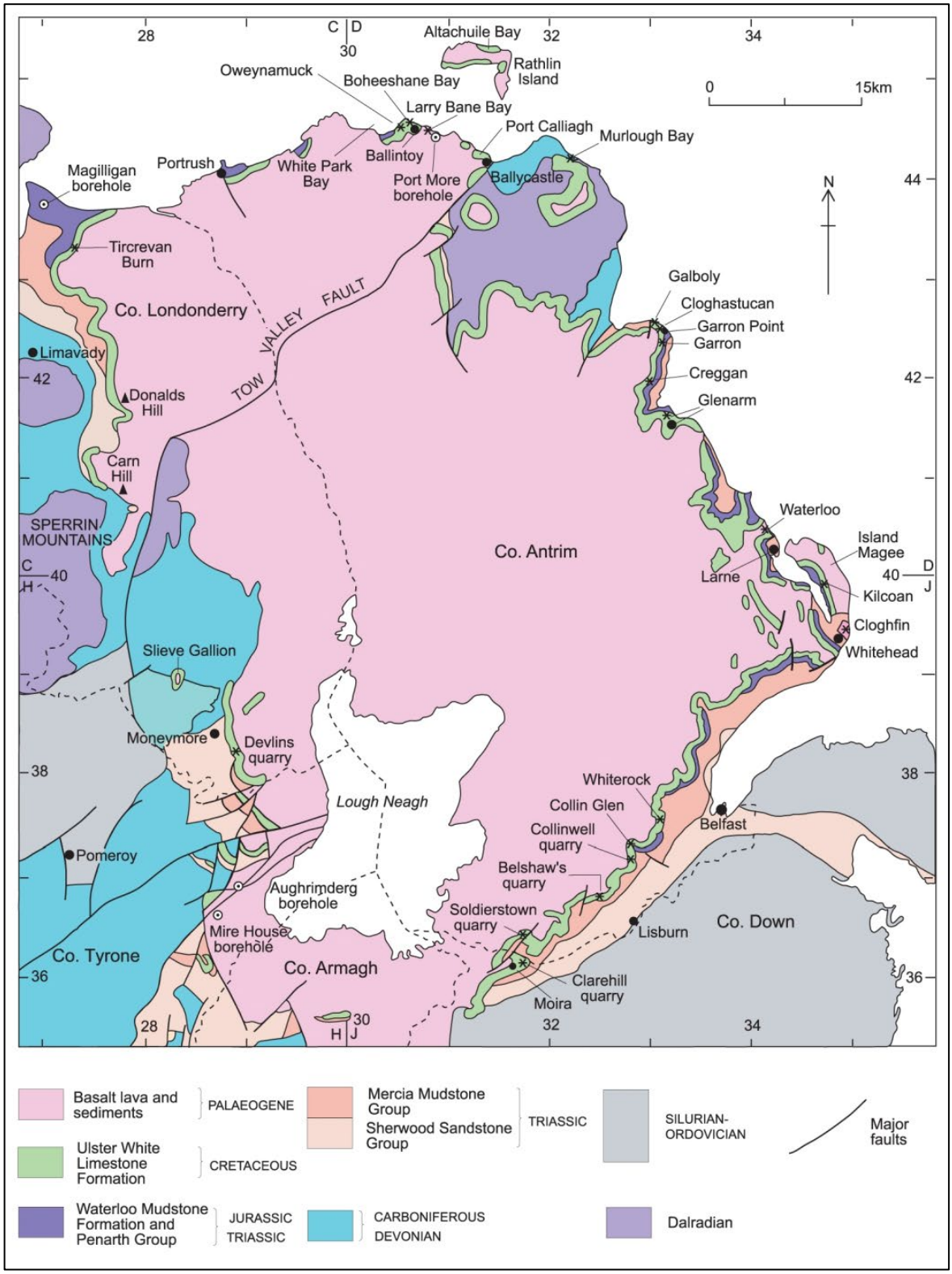

Figure 6.1: Simplified geological map of northeast Northern Ireland highlighting the distribution of Cretaceous rocks and in particular of the Ulster White Limestone Formation (Mitchell 2004)

Item		Count
Debitage	Flakes	28
	Bladelike flakes	6
	Blades	2
	Double ventral	1
	Chip	31
	Angular Shatter/Burnt shatter	5
Modified Elements & Deliberate blanks	Retouched – Convex scraper	4
	Retouched – Generic retouched	8
	Coarse - Axe	1
	Coarse – honestone	1
	Coarse – shale bracelet	1
	Coarse – roofing slate	1
	Coarse – ingot mould	1
Cores/Reduction Tools	Core - multiplatform	1
	Hammer	1
	Lithic Total	92

Table 6.1: Overall breakdown of Lithic Assemblage

DETAILED DISCUSSION

6.6 The assemblage has been discussed in general, regarding reduction strategies and retouched elements, and then by trench.

Cut	Fill	Box/Location	Total Elements	Of which Retouched	Diagnostic	Period
-	1	General	2	0	FN#196 – thinning flake	General prehistoric
	701	Trench 7	7	0	FN#293 – hammerstone/pestle, FN#325 – bipolar percussion flake, FN#324 – double ventral flake	General prehistoric/ Neo.
	702	Trench 7	42	9	FN#296, 297 – convex scrapers, FN#298 – convex 'thumbnail' scraper, FN#347, 348, 349 – generic retouched with semi-invasvie retouch, FN#344,345,346 – abrupt ad-hoc retouch, FN#335 – played out multiplatform core, and 9 instances of evidence of multi-platform reduction	General prehistoric/ Neo.
703	704	Trench 7	4	1	FN#295 – honestone, FN299 – convex scraper, FN#734 – ingot mould	General prehistoric/ Early Med.
-	801	Trench 8	2	0	-	-
-	902	Trench 9	6	1	FN#448 – generic retouched, FN#737 – shale bracelet fragment	General prehistoric/ Early Med.
-	1102	Trench 11	10	0	-	-
-	1203	Trench 12	5	2	FN#738 – retouched portion of broken polished porcellanite axe, FN#92 – generic retouched flake	General prehistoric/ Neo.
-	1	Trench 12	5	1	FN#66 – generic retouched flake showing evidence of dual platform reduction, FN#67 – flake showing evidence of multi-platform reduction	General prehistoric/ Neo.
-	1302	Trench 13	1	1	FN#88 – retouched blade	General prehistoric
-	1304	Trench 13	1	0	-	-
-	1401	Trench 14	7	1	FN#109 – retouched flake, with evidence for multi-platform reduction.	General prehistoric/ Neo.

Table 6.2: Summary of Diagnostic Elements

PRIMARY ELEMENTS & REDUCTION STRATEGIES

6.7 One played out multi-platform core FN#335 was present within the assemblage. Additionally 16% of the assemblage sign of detachment from dual or multi-platform cores. Platforms, where present, tended to be trimmed and largely divided between simple planar (32%), and small/pointed (26%) platforms, with occasional cortical (13%), facetted (13%) and crushed (16%) platforms.

6.8 Reduction appeared to have been in the direction of longer flakes (those with a length to breadth ratio greater than 1:1 but lesser than 2:1) and short blades (a length to breadth ratio of 2:1 or more but less than 3:1) with 41% of the intact flaked assemblage falling into these categories (26% long flake, 15% short blade), the remainder being short flakes (a large number of these being chips). The trimming of platforms, rotating of cores, faceting of occasional platforms, and working cores until played out, is suggestive of a deliberate and considered approach to reduction. This would be most characteristic of earlier prehistoric knapping strategies (Mesolithic to Neolithic) (Nelis 2004).

6.9 A single flake showed sign of bipolar reduction (FN#325). Whilst bipolar percussion has been taken as an indicator of Bronze Age reduction strategies (O'Hare, 2013), it also occurs in assemblages of any period where the lithic resource is scarce as it allows reduction of even small and awkward or otherwise untenable pieces. The presence of angular reduction shatter may be a byproduct of further bipolar reduction, but may also be a byproduct of planar reduction of poor quality raw material. The single flake from bipolar reduction (FN#325) obviously indicates that reduction method was being used on site, but as it is significantly in the minority, it is possible this was a fallback technique to eke the last uses out of almost played out or problematic cores, rather than the main reduction method.

SECONDARY AND TERTIARY ELEMENTS

6.10 Thirty secondary and forty-eight tertiary elements occurred within the assemblage. Whilst the absence of primary flakes suggested that the initial stages of knapping took place elsewhere, the proportion of secondary to tertiary flakes and general flake size and morphology (several flakes were noted with thin margins of cortex on either lateral or base) suggested that cores were small with minimal tertiary phases before being played out. This is reinforced by most flakes within the assemblage falling within the 3-6cm range.

6.11 The single double-ventral flake (FN#324) is indicative of a very deliberate production method, as these were highly unlikely to have been formed by happenstance during ad-hoc reduction processes.

MODIFIED ELEMENTS

6.12 Seventeen elements showed signs of retouch or modification for use. These consisted of one reworked broken porcellanite axe (FN#1), one fragment of shale bracelet (FN#737), eight generic retouched elements (FN#66, 99, 348, 349, 344, 345, 346, and FN#109), three convex scrapers (FN# 296, 297, 299) and a small 'thumbnail' convex scraper (FN#298), and an honestone (FN#295).

6.13 The convex scrapers all showed steep abrupt to semi-invasive retouch to dorsal distal and laterals, including fine step fractures around the periphery of the retouch which implied use and then light

secondary retouch. The 'thumbnail' scraper was smaller, with a domed appearance and fine invasive retouch across the distal 50% of the dorsal surface, again with more abrupt retouch around the periphery. Only one of the convex scrapers (FN#299) showed signs of trimming and thinning at the proximal end, removing the bulb of percussion, suggesting possible hafting.

SUMMARY TRENCH BY TRENCH DISCUSSION

TRENCH 7

6.14 Trench 7 contained the highest amount of lithics from the site; and amongst struck flakes and bladelike flakes, also contained a high number of chips, and mixed shatter. The struck elements also contained a mix of completely burnt pieces, glossy heated pieces, and fresh pieces. Some were fine longer flakes of high-quality flint, others were short thick flakes, not particularly well struck, one or two with abrupt 'opportunistic' retouch to the lateral edges utilised flakes but most likely an expedient ad-hoc retouch/use. Trench 7 also produced the highest concentration of 'formal' flint tools from the excavations – four convex scrapers, three end of flake convex scrapers formed on flakes with signs of a plunging termination prior to retouch, with abrupt to semi-invasive retouch. One of these was broken along the lateral which was a possible breakage in use or at least in one of the phases of retouch. The fourth was a small domed scraper, tending towards thumbnail style, with abrupt to semi-invasive retouch on a small 'domed' secondary flake.

6.15 An ingot mould and honestone were recovered from the potential Early Medieval ditch within Trench 7. The fragment of igneous stone used as an ingot mould had one mould 80.35mm by 7.5mm by 9.7mm in the 'upper' surface, and a shallow indentation in the lower surface. Given the condition of the surfaces and variable 'finish' or appearance this may have once been part of a larger stone with multiple moulds, but this is uncertain. The shallow indentation on the bottom obviously couldn't be used as a mould, as it is open at both ends, again, this may indicate surviving fragment of a bigger stone with multiple moulds that was then broken, or the artefact is intact, with a mould on one side, and a groove on the other side used for another purpose. Whilst no traces of any metal remain within the mould, the general size and shape conforms well to a number of ingots of copper alloy and silver from the Early Medieval period listed on the Portable Antiquities Scheme.

6.16 The hammerstone whilst substantial, appears not to have been heavily used; what pecking is there isn't enough for sustained use. It also runs from edge to flat, suggesting two faces used, and that the artefact may have been more of a pestle than a hammerstone. It is also, from the author's knapping experience, too large and heavy to be the hammerstone used for many of the fine flakes within the assemblage, and is best considered either a hammerstone imported from elsewhere but not used much on the site, or a pestle for crushing softer material.

6.17 The small fragment of slate may be a roofing slate, but shows no sign of perforation. It is from an old soil horizon on the site rather than from a cut feature, and thus could be of any period from Early Medieval through to Post-Medieval/modern.

TRENCH 8

6.18 Trench 8 contained only a small amount of heavily burnt flint, with no surviving indications that any of it was artefactual.

TRENCH 9

6.19 Trench 9 contained a much lower amount of lithic material than Trench 7, but also contained a mix of angular shatter, definitely struck pieces, and burnt possible pieces. One short pointed flake had fine abrupt retouch to one lateral, but no formal tool forms. A small section of shale bracelet was also recovered from this trench.

TRENCH 10

6.20 No artefactual material was recovered from this trench.

TRENCH 11

6.21 Again a small amount of flint was recovered, consisting of a mix of burnt, heated, and fresh struck flakes, along with some chips and angular shatter. None of the material was usefully diagnostic, but one of the burnt elements was a possible medial portion of blade, suggesting lamellar/blade-based reduction.

TRENCH 12

6.22 Trench 12 produced a small amount of worked flint, but one generic retouched flake occurred from a lower soil horizon, whilst the topsoil produced one fine flake of good quality flint showed a facetted platform with dorsal scars showing previous removals at differing degrees, indicating removal from a multiplatform core. Another fine retouched flake showed dual platform removals in a similar fashion.

6.23 The lower old soil horizon produced a broken polished axe with fresh retouch along edge over/through polish. Retouch is from one side only, shifting the new 'cutting edge' completely across to one side. This is quite rough with crests remaining between detachments that should have been trimmed off if this was an intended reworking into an adze edge. As it is, this appears to have been lost/discarded partway through or it was perhaps decided that the fragment wasn't big enough for the intended re-use.

TRENCH 13

6.24 This trench produced only two lithic artefacts. The first was a short blade with bad hinge termination, lightly patinated with damage to lateral edges, and one area of concave semi-invasive retouch notching one lateral. A second was a small distal portion of a long flake or blade, with considerable wear/abrasion to one lateral.

TRENCH 14

6.25 Trench 14 contained some examples of the same high-quality flint seen in Trench 7 and some jasperised shatter, notable for its absence from any of the non-artefactual flint collected. The only retouched element was a heavily struck flake with abrupt retouch to portions, though not enough to make a useful

convex scraper. Previous detachment scars show earlier removals from varying directions, and two dorsal faces are lightly patinated, suggesting reuse of earlier piece.

6.26 The trench also produced a broken blade showing previous small narrow bladelet removals from the core. As noted, this was high quality glossy and semi translucent flint, very similar to the broken piece found in Trench 7 and almost certainly from the same core and same knapping session.

DISCUSSION & RECOMMENDATIONS

6.27 Excavations at Kilmoholmóg, for being targeted on an Early Medieval site, produced an unexpected number of lithic artefacts. Few formal tools were in evidence – three convex scrapers, one small thumbnail scraper, and a broken and partially reworked fragment of polished stone axe. Along with these were several more rough and roughly retouched tools showing only minimal abrupt retouch and suggesting the ad-hoc and expedient production of tools where necessary.

6.28 Convex/end scrapers may be multi-use tools (Nelis 2004), but are predominantly linked with hide processing. Their presence, combined with the large number of flakes which would have been easily utilised, retouched or not, for butchery may suggest associated activities such as hide processing taking place on the site (Skriver 2004, 155). Whilst there was a general tendency for convex scraper size to diminish through the prehistoric period, and for the scraper form to become more circular resulting in the small discoidal 'thumbnail' scrapers often found in association with Beaker pottery (Woodman et al, 2006), it should be noted that convex scraper size was more likely a product of function rather than a definite indicator of chronology (ibid).

6.29 A recent reappraisal of Bronze Age lithics by Hogan (Hogan, 2021) confirms that bipolar reduction does appear to be the main knapping technique employed in the Bronze Age, with convex scrapers being the most common modified tool, followed by informal retouched flakes, with most debitage showing no secondary modification.

6.30 The double ventral flake (F#3017) derived from a production method identified for the production of laurel point blanks in the Neolithic (Nelis 2004), the morphology of which (tending towards a convex lens in section as opposed to the approximate angular D shape of most lithics) only particularly lends itself to the production of invasively retouched bifaces. The by-proxy evidence for multi-platform reduction of longer flakes could be taken as a low-reliability indicator for the Neolithic – in general Mesolithic reduction tended towards single or dual platform reduction and blade-based assemblages, and later Neolithic towards prepared platforms and multiplatform reduction to extend the lifespan of cores and assemblages consisting of blades and longer flakes, and Bronze Age reduction tended towards bipolar reduction. Secondary modifications tend towards semi-invasive to invasive for the Neolithic.

6.31 The assemblage contained mixed elements from a variety of sources, and also mixed amounts of burning, from heavily burnt broken portions, to heated, partially crazed elements, and completely fresh elements. Tool forms aside, it was notable amongst the generally unremarkable and quite ad-hoc assemblage, that

a small selection of elements from across the site were fine flakes struck from high quality flint, with dorsal scars from previous removals suggesting the use of multiplatform and dual platform cores, some with facetted platform. This combination of good quality flint, careful platform preparation, and careful prolonged working of the core through rotation, tends to be more common amongst Neolithic assemblages. Whilst the overall assemblage size is still small, and hopefully future excavations will produce more clearly diagnostic elements, at the moment it appears that the excavations have uncovered a background of Neolithic and likely Bronze Age activity in the area, which has become partially displaced, mixed through, and redeposited through the subsequent Early Medieval activity. The mix of small chips, shatter, small flakes, and retouched tools, including broken and discarded tools, suggests that the focus of this activity is in the immediate area somewhere.

6.32 The course stone elements, particularly the ingot mould and honestone from the ditch, obviously extend the stone artefact assemblage into the likely Early Medieval period, for metal casting of small ingots, and sharpening blades – the honestone shows none of the grooves that have elsewhere been suggested as for sharpening pins etc.

6.33 Excavations also recovered a small D-section portion of bracelet from Trench 9. Whilst described in the site archive as a lignite bracelet, studies (Gormley, 2017) have indicated that the material may be polished shale or jet; it is most likely that actual material varies by available local sources, given how ubiquitous the bracelets are across Early Medieval sites. Lignite/shale/jet items are not unknown from earlier periods, but the size and style of the D sectioned portion from Kilmoholmóg is entirely in keeping with the Early Medieval bracelets found on a range of other sites. Production methods for these bracelets are relatively well-established, with waste material from the production coming up at a number of Early Medieval sites, and production tending to be carried out at higher status sites (ibid). However, with only one small fragment of a finished bracelet arising from excavations thus far, we cannot say more than a bracelet was present and worn, and likely broken and lost, around the site. This in and of itself is not evidence for production, and therefore not necessarily evidence of any particular status of the site. In a study attempting to identify the poorer individuals in Irish Early Medieval Society, Boyle identified a trend in the most 'impoverished' sites in his study of 50 excavations: of those sites studied with fewer than 50 artefacts in total, the most common artefactual 'common ground' was the presence of items of personal adornment, including lignite/shale bracelets (Boyle, 2004). The presence of these items on 'impoverished' sites shows that artefacts relating to personal adornment were ubiquitous, forming a 'lowest common denominator' across all levels of Early Medieval society. The presence, therefore, of a portion of such a bracelet on an Early Medieval site of any status, should not be surprising.

6.34 In balance this would seem to suggest a Neolithic date for at least some of the chipped stone lithic activity at Kilmoholmóg, with some Bronze Age activity, and a secure Early Medieval date for elements of the course stone assemblage. The mix of burnt and unburnt elements, with a high proportion of broken elements, suggests that none of these artefacts are in their primary deposition location, and instead have been displaced at least some distance. However, the large number of chips, and the noted

concentration around Trench 7 may suggest that there is some Neolithic activity in close proximity to that trench.

6.35 It is recommended that all artefactual material be retained, and one all seasons of excavation at the site are completed, a final overall lithic assessment is performed to collate all previous assessments to provide a complete overview of the lithic assemblages and final assessment of the lithic character of the site. This will avoid anything being misinterpreted due to the keyhole nature of each season's excavations.

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APPENDIX 6.1: CATALOGUE OF WORKED FLINT AND STONE

Finds No.	Cut No.	Fill No.	Gen. Type	Retouch?	Comments
63	-	-	Chip	N	Trimming/thinning chip
64	-	-	Chip	N	Trimming/thinning chip
65	-	-	Flake	N	Short flake
66	-	-	Generic Retouched	Y	Abrupt nibbling retouch to one dorsal lateral, additionally one dorsal scar shows prior removals at 180 degrees
67	-	-	Flake	N	Short flake on good quality translucent reddish-brown flint. Dorsal surface shows multiple prior removals from multiple directions and several hinge terminations.
88	-	1302	Bladelike Flake	Y	Short blade with bad termination, lightly patinated with damage to lateral edges, and one area of concave semi-invasive retouch notching one lateral
89	-	1203	Bladelike Flake	N	Short blade proportions but presence of lateral would like make this a long flake. High quality flint, some damage to one lateral.
90	-	1203	Flake	N	Long flake
91	-	1203	Flake	N	Long flake
92	-	1203	Generic Retouched	Y	Burnt proximal portion of flake, fine invasive to semi invasive retouch surviving on dorsal laterals
96	-	1304	Flake	Y	Small distal portion of long flake or blade, considerable wear/abrasion to one lateral
98	-	801	Burnt Fragment	N/A	Burnt shatter
99	-	801	Burnt Fragment	N/A	Burnt shatter
103	-	1401	Chip	N	Chip
104	-	1401	Chip	N	Chip
105	-	1401	Chip	N	Chip
106	-	1401	Flake	N	Short flake
107	-	1401	Flake	N	Short flake
108	-	1401	Blade	N	Broken blade showing previous small narrow bladelet removals from core. High quality glossy and semi translucent flint, very similar to broken piece found in Tr7 but no refit. Platform has been trimmed and isolated prior to detachment.
109	-	1401	Generic Retouched	Y	Heavily struck flake with abrupt retouch to portions, though not enough to make a useful convex scraper. Preivous detachment scars show earlier removals from varying directions, and two dorsal faces are lightly patinated, suggesting reuse of earlier piece.
195	-	-	Chip	N	Small translucent reddish-brown chip
196	-	-	Chip	N	Trimming/thinning chip

Finds No.	Cut No.	Fill No.	Gen. Type	Retouch?	Comments
293	-	701	Hammerstone	N	Lightly used igneous hammerstone. Some pecking apparent around edges, but does not appear extensively used. May instead have been pestle/crusher for softer substance. Hammerstone is too large for many of the relatively small scale lithics recovered from the site.
294	703	704	Honing Stone	N/A	Fine grained honing stone, broken at at least one end, some signs of wear/polish, no grooving so likely used for sharpening larger items.
295	-	702	Poss. Roofing Slate	N/A	Small square of slate, neat along two opposing edges, rough and broken across other two. No obvious perforations. No slate occuring in till.
296	-	702	Convex Scraper	Y	Distal end of heavily struck convex scraper on glossy, translucent high quality flint. Does not refit exactly to but extremely similar to find 296 and may be a re-use of the largest fragment of 296 after breakage. Abrupt to semi-invasive retouch to dostal lateral and distal, and some invasive retouch. Old detachment scars on dorsal surface also prior detachments at 45 degree variance, suggesting use of a multi-platform core.
297	-	702	Convex Scraper	Y	Small (30mm by 33mm) convex scraper, abrupt to semi invasive retouch to both laterals and distal portion of dorsal surfave giving horseshoe shape.
298	-	702	Convex Scraper	Y	Very small 'thhumbnail' scraper, round (25mm dia) and domed with abrupt, semi invasive and invasive retouch to entire distal half.
299	703	704	Convex Scraper	Y	Small (39mm by 39mm) convex scraper, semi ivnasive retouch to dorsal lateral and distal portions, and abrupt to semi invasive retouch to distal portion of ventral removing platform and part of bulb. May have been hafted given the deliberate attempt at thinning the rear. Fine nibbling retouch/use damage at distal.
321	-	701	Chip	N	Chip
322	-	701	Chip	N	Chip
323	-	701	Chip	N	Chip
324	-	701	Double Ventral	N	Lateral edge of small double ventral flake
325	-	701	Flake	N	Heavily heated but not burnt white, appears to be slightly offset bilpoar removal of corner of core.
326	-	701	Chip	N	Chip
327	-	702	Flake	N	Rough triangular section 'lateral' flake, potential core prep-maintenance
328	-	702	Bladelike Flake	N	
329	-	702	Bladelike Flake	N	Small 38mm blade from early stages of core opening, same nodule as 327,328, high quality glossy flint, implies possible set-up of small lamellar core for blade production
335	-	702	Multi Platform Core	N	Small multiplatform core, entirely played out (28mm x 27xx by 19mm), shows small flakes detached from three directions. One side cortical. Detachments are very small, may have been attempt to make small scraper from played out core
336	-	702	Flake	N	Very wide short flake, struck at angle to previous removals, likely core dressing/prep

Finds No.	Cut No.	Fill No.	Gen. Type	Retouch?	Comments
337	-	702	Flake	N	Broken heated flake, surviving side of dorsal surface shows at least one previous removal at 90 degree variance
338	-	702	Flake	N	Heavily heated flake with potlid fracture removing bulb of percussion. Thin flake from early stages of core opening.
339	-	702	Flake	N	Distal end of thick flake.
340	-	702	Flake	N	Small spreading flake of high quality translucent flint. Small trimmed and isolated platform.
341	-	702	Flake	N	High quality translucent flint, fine flake. Dorsal and ventral surfaces have ripple marks in opposing directions
342	-	702	Flake	N	High quality translucent flint, fine flake. Dorsal and ventral surfaces have ripple marks in offset directions, and dorsal shows some earlier scars opposing.
343	-	702	Flake	N	High quality translucent flint, fine flake. Dorsal and ventral surfaces have ripple marks in offset directions, and dorsal shows some earlier scars opposing.
344	-	702	Chip	Y	Small chip, but dorsal and ventral surfaces show four different directions od reduction. Also very fine nibbling retouch to one lateral.
345	-	702	Flake	Y	Heated and broken flake. Displays mix of damage and heat fractures - possibly a broken tool discarded into remains of a fire. Some regular abrupt retouch to the dorsal lateral.
346	-	702	Flake	Y	irregular double ventral flake with abrupt retouch to one lateral and very heavy abrupt retouch to the opposite. Given shape, may be an expedient tool retouched from a flake detached to prepare core.
347	-	702	Generic Retouched	Y	Distal end of long flake or blade. Abrupt retouch to one dorsal lateral, abrupt to semi-invasive retouch to opposite ventral lateral.
348	-	702	Generic Retouched	Y	Distal end of heavily struck rectangular flake on glossy, translucent high quality flint. Abrupt to semi-invasive retouch to dostal lateral and distal, which is square. Dorsal surface shows previous removal scars in multiple directions.
349	-	702	Generic Retouched	Y	Distal end of heavily struck flake on glossy, translucent high quality flint. Possibly broken convex scraper. Abrupt to semi-invasive retouch to dostal lateral and distal.
350	-	702	Chip	N	Chip
351	-	702	Chip	N	Chip
352	-	702	Chip	N	Chip
353	-	702	Chip	N	Chip
354	-	702	Chip	N	Chip
355	-	702	Chip	N	Chip
356	-	702	Chip	N	Chip
357	-	702	Chip	N	Chip
358	-	702	Chip	N	Chip

Finds No.	Cut No.	Fill No.	Gen. Type	Retouch?	Comments
359	-	702	Chip	N	Chip
360	-	702	Chip	N	Chip
361	-	702	Chip	N	Chip
362	-	702	Chip	N	Chip
363	-	702	Chip	N	Chip
364	-	702	Chip	N	Chip
365	-	702	Chip	N	Chip
422	-	702	Flake	N	Burnt flake
423	-	702	Flake	N	Burnt flake
424	-	702	Blade	N	Burnt short blade, distal portion only, fine nibbling damage to distal dorsal, previous scars show other long removals
432	-	702	Flake	N	Distal portion of flake, minor hinged termination
433	-	1102	Chip	N	Chip
434	-	1102	Chip	N	Chip
435	-	1102	Chip	N	Chip
441	-	1102	Bladelike Flake	N	Short irregular bladelike flake (30mm by 15mm) struck from pointed platform. Some edge damage along one lateral, likely light opportunistic use.
442	-	1102	Flake	N	Heavily burnt medial section, possibly of blade or at least long flake.
443	-	1102	Burnt Fragment	N/A	Burnt shatter
444	-	1102	Burnt Fragment	N/A	Burnt shatter
445	-	1102	Burnt Fragment	N/A	Burnt shatter
446	-	1102	Burnt Fragment	N/A	Burnt shatter
447	-	1102	Burnt Fragment	N/A	Burnt shatter
448	-	902	Generic Retouched	Y	Small long flake (38mm by 22mm), small trimmed platform, possible retouch to dorsal edge and dorsal distal, although distal retouch is very small nibbling and may be a result of use
449	-	902	Flake	N	Medial lateral section of larger flake on good quality fine grained flint
450	-	902	Flake	N	Fine flake of high quality toffee reddish brown flint, heavily trimmed narrow but wide platform.
451	-	902	Bladelike Flake	N	Short (36mm by 17mm) blade, removing prior hinge termination

Finds No.	Cut No.	Fill No.	Gen. Type	Retouch?	Comments
455	-	902	Burnt Fragment	N/A	Burnt shatter
734	703	704	Ingot Mould	N	Fragment of stone used as an ingot mould - one mould 80.35mm by 7.5mm by 9.7mm in 'upper' surface, and a shallow indentiation in the lowert surface. May have once been part of a larger stone with multiple moulds, but this is uncertain.
736	703	704	Natural	N	Bagged as possible broken quernstone, but slightly concave face shows no signs of
738	-	1203	Polished Axe	Y	Broken portion of porcellanite axe, break has been used as platform to try and trim, perhaps for rehafling, and cutting edge has been retouched completely, used as a platform for mutliple small flakes to be removed. This brings the resulting edge from central alignment to along one edge, but there are no signs of finishing this edge or repolishing. Older flake facets with partial polish on the body of the axe suggest previous phases of damage and continued use.

APPENDIX 7: ASSESSMENT OF METAL WORKING RESIDUES

SUMMARY

7.1 The assemblage of metal working residue had a total of weight of 5.9kg and was comprised of 109 components; Nineteen vitrified ceramic fragments, some of which appear to from the bases of hearths/ furnaces, one possible tuyere fragment, and 21 hearth cakes and/or furnace bottoms. The rest of the assemblage was composed of various pieces of iron slag, totalling 68 fragments in total.

7.2 The majority of the metal working residue in the assemblage was likely created during the smithing process. Some evidence of the smelting process was also present, the best example of this being NOS 11.1 an overly large hearth cake, likely a fragment of a furnace bottom.

7.3 The preservation of the residues varied, as did their effectiveness informing this report. At this stage, based on the present assemblage, it is safe to say that the majority, if not all of the assemblage was created on site. This has been deduced due to the overall size and weight of the assemblage, and in addition to the high concentration of metal working residues present in Trench 7 alone.

METHODOLOGY

7.4 The entirety of the assemblage was subject to a macroscopic analysis. The first stage of which was the sorting of individual fragments by typology, where possible. This was then followed by a more in depth examination, in which the following characteristics where recorded. Maximum length/width and maximum thickness (depth) of the fragment, all measurements are in CM. Weights were also taken from fragments with the weights recorded in grams. Following the above to steps each fragment was subjected a more in-depth analysis to make not of any pertinent features.

7.5 As no microscopic or chemical analysis was undertaken all the collected data must be regarded as provisional.

DESCRIPTION

7.7 This assemblage of metal working residue had a total of weight of 5.9kg and was comprised of 109 components. The assemblage was derived from Trenches 7, 9, 12, 13, and 14, with only Trench 7 producing residues from a cut archaeological feature. The rest of the trenches only produced small amounts of residues from the topsoil which lay within the area of the trenches.

7.8 The metal working residues uncovered in Trenches 9, 12, 13, and14 were not of much interest, barring a few fragments from Trench 9, in particular NOS 7.2 and 7.7. NOS 7.2 was a piece of possible prill slag which had been perforated or formed around a calendrical object. No 7.7 is a hearth cake with an agglomerated base and a highly dimpled surface, this piece seems out of place given that the concentration of hearth cakes on the site was in Trench 7.

7.9 The vitrified ceramic martial uncovered in Trench 7 is rather consistent, and they all originated from the fill of the ditch [704] or the topsoil. All of the larger fragments display the same level of quartz inclusions (see Tables 1 and 10). Given that the grains of quartz are still firmly secured in the ceramic material would suggest that the quartz was being used as strengthening agent. It must also be noted that quartz is a possible component in flux (Dolan 2012) which may be used during the smelting process, but at this time there is no clear evidence for this within the assemblage. The levels of vitrification across all fragments are not consistent, but this is to be expected as differing levels of heat and the material components that form the ceramic effect this process. One other point of note is that the green tinge of the vitrification on some of the fragments, for example NOS 13.1, may be the result of exposure to wood ash (Young 2018). Given the inclusions and the level of vitrification and overall structure of the material in question it is safe assume the material is the remains of furnace and/or hearth walls and bases.

7.10 Much like the vitrified ceramic the hearth cake fragments uncovered in the fill of the ditch [704] and in the topsoil within Trench 7 are rather consistent, barring a few outliers. It should also be noted at this time that differing levels of corrosion and damage are apparent across all fragments and has in places hindered more precise analysis. The outliers are discussed in the paragraph below. All of the fragments in question here adhere to the classic plano-convex shape. Most have agglomerated bases and dimpled surfaces with the expected tubular vesicles where appropriate. Their overall dimensions are consistent with what one would expect with a smithing hearth, with overall depths/ thickness lower than 5cm with the majority in this assemblage falling comfortably within to the 2cm-3cm range (McDonnell 1982).

7.11 The outliers in question are NOS 11.1, 11.2, 11.5, 11.7, 11.10, 11.12, 12.6, and 12.33 (see Tables 8 and 9 for details). NOS 11.1, 11.5, and 11.7 have been noted as possibly belonging to the base of a smelting furnace rather than a smithing hearth. These conclusions have been drawn due to a number of factors. Firstly, the overall weight of the fragments involved. NOS 11.1 is the heaviest with a weight of 825g, while NOS 11.5 and 11.7 have weights of 500g and 162g respectively (alone these three pieces make up over one sixth of the weight of the entire assemblage). The second indicator is that they are exceptionally large (see Table 10 for dimensions). Finally, the depth/ thickness of all these fragments is on the upper end of what can be considered as hearth cake, with NOS 11.1 being at the absolute limit of 5cm (McDonnell 1982). NOS 11.2 has a large sub circular impact site on its base where it appears it have been struck; one would suggest this impact is the result of the destruction of the hearth cake prior to its deposition in fill [704]. NOS 11.10, and 12.6 are of note due to them being the only typical hearth cake fragments that still have visible quartz grains embedded in them, with such grains being embedded in the fragments rim. NOS 11.12 is of note as an agglomerated iron rich rim of a hearth cake fragment lacking all other base and surface features. It also has some fine quartz inclusions. NOS 12.33 is a possible highly corraded hearth cake fragment with a small, embedded lump of charcoal present.

7.12 The bulk of the metal working residue in Trench 7, in both the topsoil and ditch fill [704], was iron slag of a more general nature. As is the nature of iron slag, for the most part, most fragments were somewhat amorphous and undiagnostic. The main takeaway from this section of the assemblage is that such a large amount of slag in such a small area is conclusive evidence of iron working taking place on the site. Some outliers are present, such as NOS 12.26, and 12.27, which are small slag fragments which contain quartz inclusions.

7.13 NOS 1.15 is a possible fragment from a tuyere. A tuyere is the small nozzle into which air is blown and is an essential part to any smithing hearth or smelting furnace. Note the word possible has been used at this time due to the degraded condition of this fragment.

DISCUSSION AND CONCLUSION

7.14 Given the large amount of metal working residue present on the site of Kilmocholmóg it can be said with certainty that there was secondary metal working taking place on the site. Secondary metal working in this context is the production and repair of tools and other such iron objects (Kerr, McCormick & O'Sullivan 2013). This conclusion has been informed by the following factors. The large amount of metal working slag, the many and varied hearth cakes which fit the established parameters for being smithing hearth cakes. The prevalence of iron objects unearthed across the site, the majority of which are iron nails and some of which were found in context with the metal working residues. The secondary evidence of the construction and use of smithing hearths such as the fragments of vitrified ceramic and the one possible tuyere fragment. It must be stated that no subsoil cut hearth or furnaces have, as yet been uncovered. Due to this, no certain comment can be made on the structure or typology of the pyrotechnical apparatus in use. What can be stated is that simple pit furnaces and shaft furnaces were prevalent in the Early Medieval period and is likely given the established date of AD 378 - 537 for ditch [703], the feature from which most of the diagnostic metal working residue is from.

7.15 The evidence for primary metal working on site is scant. But it could not be ruled out at this stage as more evidence may come to light with either further analysis and further excavation of the site. Primary metal working in this context is the smelting and refining of iron ore and the creation and working of iron blooms (Kerr, McCormick & O'Sullivan 2013). It is prudent to note at this point that primary metal working is not necessary for secondary working and a trade in iron blooms has been noted as taken place in the Early Medieval period (Kerr, McCormick & O'Sullivan 2013). The evidence that is present for primary working is in the form of three possible furnace bottoms, all of which are on the larger scale of what could be interpreted as smithing hearth cakes. In short NOS 11.1, 11.5, and 11.7 are outliers that fit the ill-defined requirements of what could be consider smithing hearth bottoms. Although, as stated, this evidence can be considered scant as the morphology of smithing hearth cake and furnace bottoms is similar. Scale and patterns of degradation is the most accurate way of differentiation between the two but this is a difficult process (McDonnell 1982).

7.16 Scott described five levels of iron-working on Irish sites; specialist smelting and bloom-smithing sites; occasional smelting and smithing sites; sites forging artefacts from imported stock for local use; sites forging artefacts from imported stock for wider communities; and sites engaging in occasional artefact repair and production. At this point we are unable to attribute one of these site types to Kilmocholmóg, but hopefully with further excavation we will be able to remedy this fact (Scott 1991, 101).

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APPENDIX 7.1 TABLES AND FIGURES

Note all of the below tables shall display the weights and dimensions of the relevant metal working residues. The relevant cut/fill and non-organic sample shall be listed in association with the table number.

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
4.1	60.28g	6.5cm	6cm	2.4cm	Quartz inclusions. Possible hearth base fragment. Tubular vesicles.
4.2	10.16g	3.3cm	2.4cm	1cm	Quartz inclusions.
4.3	5.7g	2.4cm	1.9cm	1.4cm	Only the base is vitrified.
4.4	15.31g	4cm	3.7cm	0.5cm	Quartz inclusions. Fine tubular vesicles.
4.5	1.07g	1.8cm	1cm	0.3cm	Very fine tubular vesicles.
4.6	5.62g	2.5cm	1.8cm	0.9cm	Quartz inclusions. Only the base is vitrified.
4.7	10.15g	3.3cm	2.6cm	1.1cm	Quartz inclusions. Fine tubular vesicles.

Table 1. X7 Fragments of vitrified ceramic martial likely from a furnace or smithing hearth. TR7 Cut N/A Fill 702 NOS 4

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
5.1	20.96g	4.1cm	3cm	1.8cm	Degraded. Highly dimpled. Fine tubular vesicles.
5.2	26.06g	4.2cm	4cm	2cm	Very fine tubular vesicles. Agglomerated surfaces.
5.3	11.52g	4cm	2cm	1.4cm	Degraded. Highly dimpled. Fine tubular vesicles.

Table 2. X3 Lumps of iron slag. TR7 Cut N/A Fill 701 NOS 5

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
6.1	4.32g	2cm	1.3cm	0.4cm	Degraded. Very fine tubular vesicles.
6.2	23.05g	4.1cm	2.5cm	1.6cm	Degraded. Fine tubular vesicles. Dimpled surface.
6.3	5.11g	2.9cm	1.9cm	0.4cm	Vitrified ceramic. Fine tubular vesicles. Dimpled surface. Partly abraded / degraded.
6.4	5.27g	2.9cm	1.7cm	0.9cm	Partially smoothed base. Dimpled top. Very fine tubular vesicles.
6.5	16.54g	3cm	3.3cm	0.4cm	Smooth base. Partially dimpled top. Possible tap slag.

Table 3 .X4 Lumps of iron slag / x1 Vitrified ceramic. TR7 Cut N/A Fill 702 NOS 6

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
7.1	2.7g	2.2cm	1.5cm	0.5cm	Degraded prill slag.
7.2	5.58g	2.5cm	1.4cm	1.1cm	Perforated. Prill slag.
7.3	16.78g	3.5cm	2.5cm	1.4cm	Prilly and dimpled. Very fine tubular vesicles.
7.4	4.89g	2.7cm	1.4cm	1cm	Flat bottomed and perforated. Very fine tubular vesicles.
7.5	20.32g	4cm	2.7cm	1.8cm	Possible hearth cake fragment. Highly Degraded. Very fine tubular vesicles.
7.6	19.14g	5cm	5cm	0.3cm	Highly corroded. Partially prilled. Flat base. Possibly run slag.
7.7	85.21g	8cm	5.1cm	1.3cm	Hearth cake with an agglomerated base and highly dimpled surface.

Table 4. X7 Iron slag. TR9 Cut N/A Fill 902 NOS 7

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
8.1	1.61g	1.9cm	1.3cm	0.5cm	Prill slag. Very fine tubular vesicles.
8.2	16.95g	4.7cm	3.7cm	0.4cm	Relatively flat and abraded. Very fine tubular vesicles. Small amounts of vitrification. Possibly run slag.
8.3	17.75g	3.8cm	2.3cm	1.3cm	Partially prilled and dimpled. Fine tubular vesicles.

Table 5. X3 Iron slag. TR13 Cut N/A Fill 1302 NOS 8

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
9.1	3.78g	2cm	1.2cm	0.8cm	Prill slag. Very fine tubular vesicles.
9.2	18.59g	4cm	2.5cm	1cm	Prill slag. Very fine tubular vesicles.

Table 6. X2 Iron slag. TR14 Cut N/A Fill 1401 NOS 9

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
10.1	400g	13.1cm	8cm	6.5cm	Probable hearth cake. Degraded surface. Agglomerated iron clusters. Some vitrification. Dimpled on all sides.
10.2	105g	6cm	5cm	1.5cm	Hearth cake. Dimpled on all sides. Fine tubular vesicles.
10.3	32.26g	3cm	2.5cm	2cm	Highly degraded and dimpled.
10.4	24.29g	3.6cm	4.1cm	2.5cm	Highly degraded and dimpled.
10.5	9.45g	3.5g	2.2cm	1.4cm	Likely prilled slag. Highly corroded.
10.6	30.96g	5.1cm	4.7cm	1.5cm	Vitrified ceramic. Agglomerated iron clusters. Some quartz inclusions. Very fine tubular vesicles.
10.7	32.71g	4.5cm	3.2cm	2.2cm	Highly degraded and dimpled. Very fine tubular vesicles.

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
10.8	45.63g	5cm	2.9cm	2.5cm	Probable hearth cake fragment. Iron rich. Agglomerated base. Dimpled side and surface.
10.9	40.42g	5.5cm	5.1cm	1cm	Somewhat flattened and corroded. Dimpled.
10.10	19.55g	4.2cm	2.1cm	1.5cm	Corroded and dimpled. Tubular vesicles.
10.11	102g	7.3cm	5.5cm	2.5cm	Highly corroded.
10.12	20.71g	3cm	2.6cm	2.4cm	Corroded and dimpled. Fine tubular vesicles.
10.13	25.92g	4cm	4cm	3cm	Corroded and dimpled. Tubular vesicles.
10.14	0.88g	2.1cm	1cm	0.3cm	Small corroded fragment of prill slag.
10.15	9.49g	3cm	2.4cm	1.1cm	Highly dimpled and perforated. Fine tubular vesicles.
10.16	51.1g	5cm	3cm	2.2cm	Corroded and dimpled. Tubular vesicles.
10.17	2.95g	2.1cm	1.4cm	0.4cm	Probable corroded prill slag.
10.18	7.03g	3.2cm	2.7cm	0.3cm	Relatively flat. Corroded and dimpled. Fine Tubular vesicles.
10.19	6.91g	3.3cm	2.5cm	0.5cm	Relatively flat and dimpled. Fine Tubular vesicles.
10.20	1.1g	1.6cm	0.7cm	0.3cm	Probable corroded prill slag. Fine Tubular vesicles.
10.21	36.5g	4.5cm	3.2cm	2.3cm	Relatively flat. Corroded and dimpled. Fine Tubular vesicles.
10.22	7.99g	3.2cm	2.5cm	0.3cm	Corroded and dimpled. Fine Tubular vesicles. Vitrified patches.
10.23	3.61g	2.4cm	1.8cm	1cm	Highly Corroded and dimpled. Fine tubular vesicles.
10.24	9.54g	2.7cm	2.5cm	0.7cm	Highly Corroded and dimpled. Fine tubular vesicles.
10.25	2.41g	3.8cm	0.5cm	0.2cm	Small corroded fragment of run or prill slag. Fine tubular vesicles.
10.26	8.93g	2.5cm	1.4cm	0.4cm	Small corroded fragment of run or prill slag.
10.27	9.53g	2.5cm	2cm	0.7cm	Highly Corroded and dimpled. Fine tubular vesicles.

Table 7. X27 Iron Slag. TR7 Cut N/A Fill 702 NOS 10

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
11.1	825g	13cm	11.2cm	5cm	Agglomerated base and sides with some remaining iron. With the rest being Highly corroded and dimpled. Fine tubular vesicles. Likely a Furnace bottom.
11.2	300g	10.5cm	9cm	2.5cm	Agglomerated base with some remaining iron. Base also has a large sub circular area of damage. With the rest being corroded and dimpled. Fine tubular vesicles.

11.3	65.74g	6.2cm	4cm	2.7cm	Agglomerated base with a corroded and dimpled surface. Fine tubular vesicles.
11.4	300g	14cm	9.5cm	3.2cm	Agglomerated base and sides with some remaining iron. With the rest being Corroded and dimpled. Fine tubular vesicles.
11.5	500g	15cm	11.8cm	2.6cm	Agglomerated base and sides with some remaining iron. With the rest being corroded and dimpled. Fine tubular vesicles. Likely a Furnace bottom.
11.6	250g	9cm	5.9cm	4cm	Corroded and dimpled. Fine tubular vesicles.
11.7	162g	9cm	7.4cm	4cm	Agglomerated base and sides with some remaining iron. With the rest being Corroded and dimpled. Tubular vesicles. Likely a Furnace bottom.
11.8	118g	6.5cm	6cm	2.3cm	Corroded and dimpled. Fine tubular vesicles.
11.9	200g	8.1cm	6.2cm	2.4cm	Agglomerated base and sides with some remaining iron. Fine tubular vesicles. Dimpled surface.
11.10	64.92	6.9cm	5cm	3cm	Agglomerated base and sides with some remaining iron. Fine tubular vesicles. Dimpled surface. Small quartz inclusions.
11.11	247g	12cm	6.5cm	2.7cm	Highly corroded and dimpled. Fine tubular vesicles.
11.12	88.16g	8.5cm	3cm	3cm	Agglomerated hearth rim fragment. Contains a high iron content. Some quartz inclusions. Fine tubular vesicles.
11.13	52.52g	7.2cm	3.8cm	1.5cm	Highly corroded and dimpled. Fine tubular vesicles.

Table 8. X13 Hearth cake fragments/ Furnace bottom Fragments. TR7 Cut 703 Fill 704 NOS 11 (Note all samples here are plano-convex shape)

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
12.1	53.27g	7.2cm	4.7cm	4.2cm	Possible highly corroded hearth cake. Some prilling and fine tubular vesicles.
12.2	37.44g	6cm	4.2cm	2.1cm	Possible highly corroded hearth cake. Agglomerated base. Dimpled with fine tubular vesicles.
12.3	9.18g	4.2cm	2.7cm	1.7cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.4	47.39g	5.7cm	5.1cm	2.8cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.5	28.24g	5.2cm	3.9cm	1.6cm	Highly Corroded and dimpled. Fine tubular vesicles.

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
12.6	79.43g	7.5cm	5.2cm	2.3cm	Possible highly corroded hearth cake. Agglomerated base. Dimpled with fine tubular vesicles. Some quartz inclusions.
12.7	55.23g	5.2cm	4.7cm	2.4cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.8	43.95g	5.2cm	4.4cm	2cm	Possible highly corroded hearth cake. Agglomerated base. Dimpled with fine tubular vesicles.
12.9	59.67g	7.5cm	4cm	3.8cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.10	27.85g	4.7cm	3.1cm	1.5cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.11	23.96g	4.4cm	4cm	1.2cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.12	22.43g	4cm	3.7cm	1.7cm	Possible highly corroded hearth cake. Agglomerated base. Dimpled with fine tubular vesicles.
12.13	53.86g	6.5cm	4.5cm	1.6cm	Possible highly corroded hearth cake. Agglomerated base. Dimpled with fine tubular vesicles.
12.14	6.69g	2.8cm	2.8cm	1.7cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.15	3.87g	3cm	1.5cm	0.5cm	Highly vitrified ceramic possible tuyere fragment.
12.16	2.55g	2.2cm	1.5cm	0.4cm	Highly Corroded and dimpled. Very fine tubular vesicles.
12.17	9.1g	3cm	1.6cm	1.6cm	Highly vitrified ceramic fragment.
12.18	12.8g	3.1cm	2.3cm	1.5cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.19	12.31g	2.5cm	2cm	1.6cm	Highly Corroded and dimpled. Fine tubular vesicles. Small quartz inclusions.
12.20	6.22g	3.6cm	0.6cm	0.6cm	Corroded prill slag. Fine tubular vesicles.
12.21	8.36g	3cm	2cm	1.6cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.22	1.01g	2cm	0.7cm	0.4cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.23	17.75g	3.5cm	3cm	2.4cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.24	58.78g	5.5cm	4.5cm	4cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.25	1.74g	2cm	0.7cm	0.4cm	Highly Corroded and dimpled. Fine tubular vesicles.

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
12.26	18.38g	3cm	2.7cm	1.6cm	Highly Corroded and dimpled. Fine tubular vesicles. Small quartz inclusions.
12.27	20.2g	3.4cm	2.5cm	1.5cm	Highly Corroded and dimpled. Fine tubular vesicles. Small quartz inclusions.
12.28	8.5g	2.7cm	2cm	1.6cm	Highly vitrified ceramic fragment. Small quartz inclusions.
12.29	3.2g	2cm	1.5cm	1.4cm	Highly Corroded and dimpled prilled slag. Fine tubular vesicles.
12.30	2.73g	2cm	0.9cm	0.7cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.31	6.71g	3cm	1.5cm	0.8cm	Prill slag. Fine tubular vesicles.
12.32	7.21g	3.5cm	1.7cm	1.5cm	Highly Corroded and dimpled. Fine tubular vesicles.
12.33	14.78g	4.5cm	2.7cm	2.3cm	Possible hearth cake fragment. Highly Corroded and dimpled. With fused charcoal fragment.

Table 9. X33 Iron Slag/ Vitrified ceramic. TR7 Cut 703 Fill 704 NOS 12

NOS Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
13.1	82.74g	8.5cm	5.5cm	3cm	Quartz inclusions. Possible hearth base fragment. Fine tubular vesicles.
13.2	75.22g	8cm	5.4cm	3cm	Quartz inclusions. Possible hearth base fragment. Fine Tubular vesicles. Exterior is poorly vitrified. Some ash present on and near base.
13.3	33.54g	5.3cm	3.3cm	1.5cm	Quartz inclusions. Possible hearth base fragment. Fine Tubular vesicles. Glass like base.
13.4	11.3g	4.5cm	2.4cm	1cm	Quartz inclusions. Possible hearth base fragment. Fine Tubular vesicles.
13.5	25.56g	4.5cm	3.4cm	1.6cm	Quartz inclusions. Possible hearth base fragment. Fine Tubular vesicles.
13.6	9.67g	2.7cm	2.7cm	1cm	Quartz inclusions. Fine Tubular vesicles.
13.7	19.46g	5.2cm	3.6cm	0.6cm	Quartz inclusions. Possible hearth base fragment. Fine Tubular vesicles.

Table 10. X7 Fragments of vitrified ceramic martial likely from a furnace or smithing hearth. TR7 Cut 703 Fill 704 NOS 13.

(Note all fragments are plano-convex)

Finds Number	Weight in Grams	Length in cm	Width in cm	Thickness in cm	Notes
FN#53	2.07g	1.9cm	0.5cm	0.5cm	Highly vitrified ceramic fragment. Small quartz inclusions.
FN#54	2.83g	2.5cm	1.4cm	0.4cm	Probable corroded prill slag. Fine Tubular vesicles.

Table 11. X2 fragments of metal working residue which were mistakenly labeled as finds onsite.

FN 53 is from TR12 Fill 1202. FN 54 is from TR12 Fill 1202

APPENDIX 8: SUMMARY OF INDIVIDUAL CONTEXTS

TRENCH 7

Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
701	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
702	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil
703	Cut		704-707	2.50*	3.20	1.20	Cut of ditch, containing F704-707 *length only within Trench 7*
704	Fill	703	-	-	2.80	0.64	Upper most fill of ditch C703; grey brown silty clay
705	Fill	703	-	-	2.61	0.32	Secondary fill of C703: black – dark brown silty clay
706	Fill	703	-	-	1.30	0.34	Primary fill of C703: brown clayey gravel
707	Fill	703	-	-	2.00	0.21u	Same as F704

TRENCH 8

Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
801	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
802	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil

TRENCH 9

Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
901	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
902	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil
903	Layer	n/a	n/a	n/a	n/a	n/a	Spread of stones

TRENCH 10

Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
1001	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
1002	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil
1003							Spread of stones

TRENCH 11

Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
1101	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
1102	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil

TRENCH 12

Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
1201	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
1202	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil
1203							Spread of stones

TRENCH 13

Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
1301	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
1302	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil
1303	Cut	-	1304	0.80	0.40	0.20	Cut of possible terminus of gully, filled by 1304
1304	Fill	1303	-	0.80	0.40	0.20	Fill of 1303; light grey brown silty clay

TRENCH 14

Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
1401	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
1402	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil
1403	Cut						Cut of posthole; filled by 1404
1404	Fill						Fill of posthole C1403; grey brown silty clay

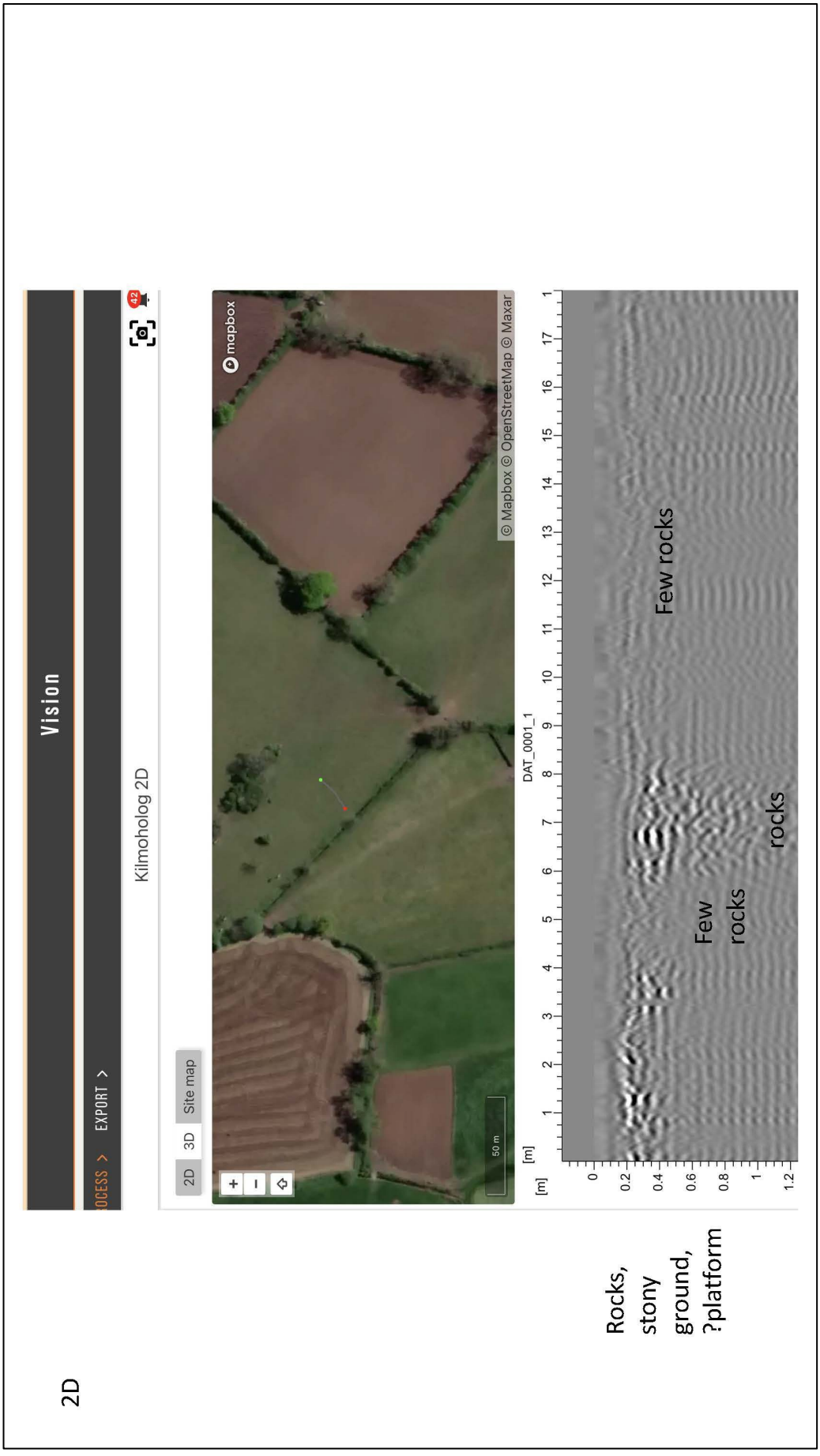
TRENCH 15

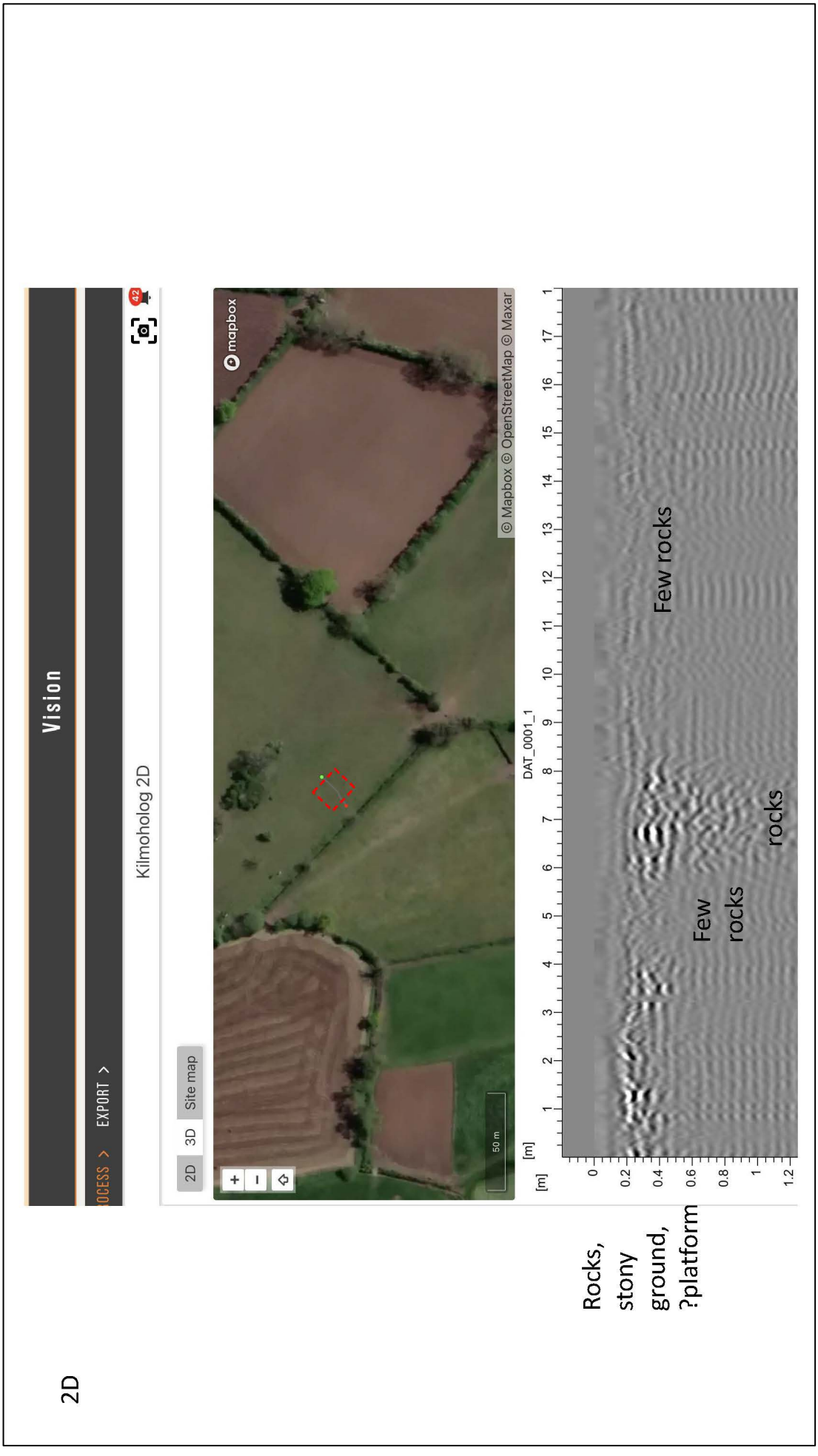
Context No.	Type	Fill of	Filled by	Length (m)	Width (m)	Depth (m)	Brief Description
1501	Layer	n/a	n/a	n/a	n/a	n/a	Topsoil
1502	Layer	n/a	n/a	n/a	n/a	n/a	Subsoil

APPENDIX 9: SAMPLE LIST

Sample number	Context [Cut]	Context [Fill]	Number of Bags	Description	Feature
1	703	704	2	Upper fill of C703: grey Brown silty clay	Ditch
2	1403	1404	2	Only fill of posthole; grey brown silty clay	Posthole
3	703	706	2	Primary Fill of C703; brown clayey gravel	Ditch
4	703	705	2	Secondary Fill of C703: black-dark brown silty clay	Ditch

APPENDIX 10: GEOPHYSICAL SURVEY 2023




2D
Vision
OCESS > EXPORT >
Kilmoholog 2D
2D 3D Site map
mapbox
© Mapbox © OpenStreetMap © Maxar
50 m
DAT_0001_1
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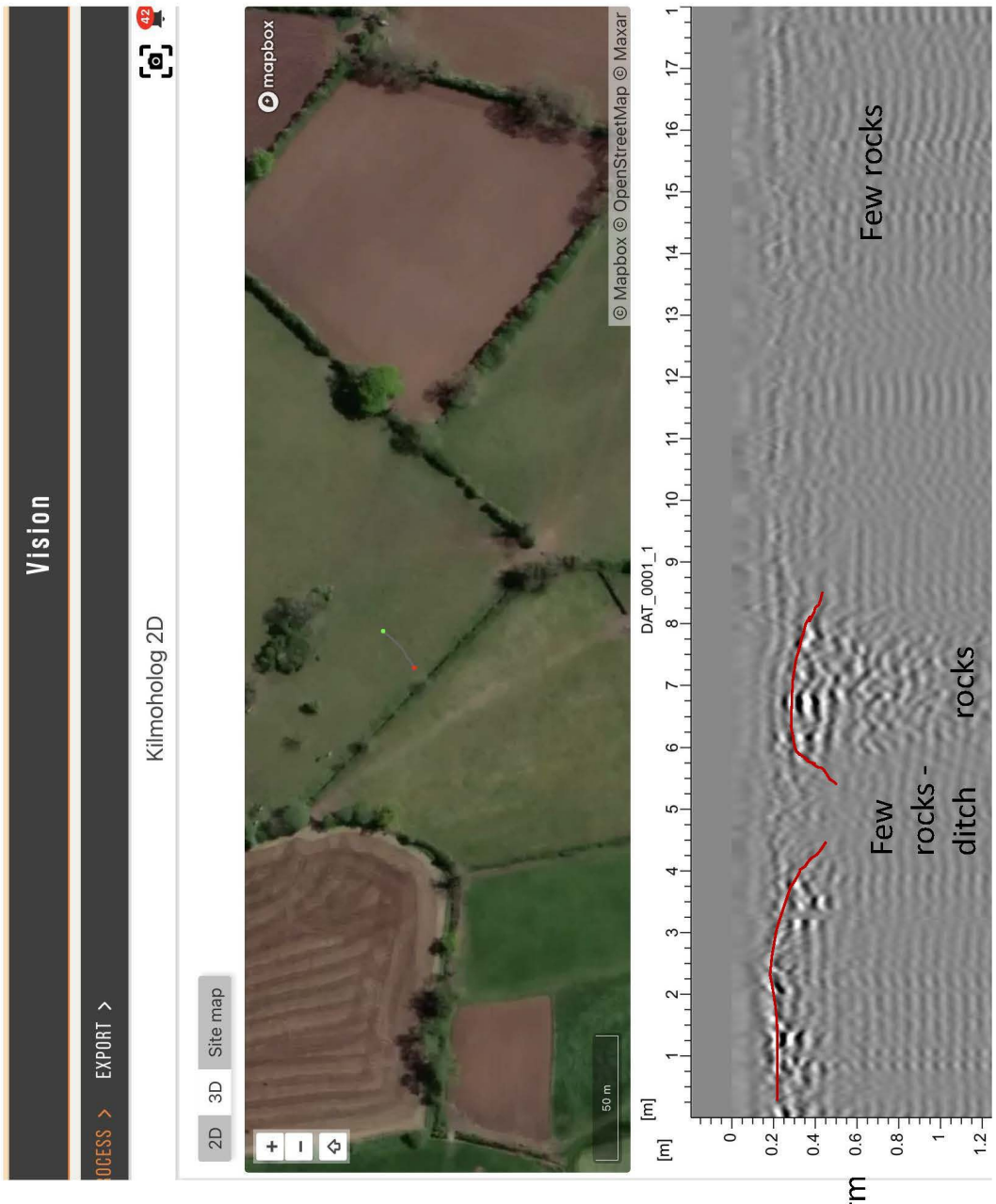
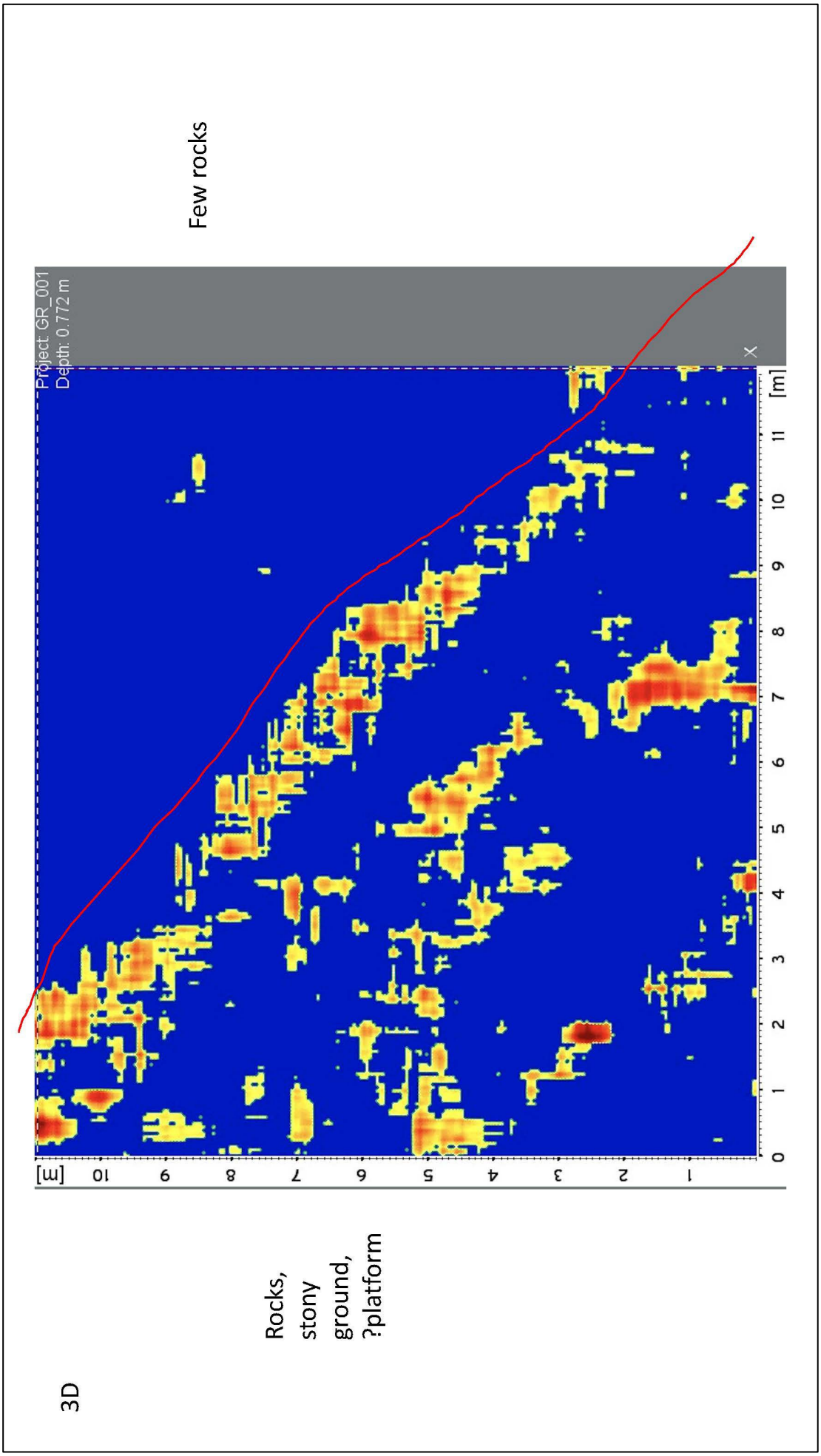
Few rocks
Few rocks
rocks
Rocks, stony ground, ?platform



2D

Rocks, stony ground, ?platform


Few rocks
Project: GR_001
Depth: 0.772 m
[m]
0 1 2 3 4 5 6 7 8 9 10 11
[m]
1 2 3 4 5 6 7 8 9 10
Rocks, stony ground, ?platform
3D