Home Farm Car Park, Culzean: Archaeological Test Pit Programme

Data Structure Report

by Liam McKinstry

with contributions by Dr Louise Turner & Thomas Rees

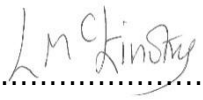
issued 18th November 2016

on behalf of The National Trust for Scotland

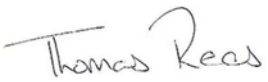
RATHMELL ARCHAEOLOGY LTD

Quality Assurance

This report covers works which have been undertaken in keeping with the issued brief as modified by the agreed programme of works. The report has been prepared in keeping with the guidance of Rathmell Archaeology Limited on the preparation of reports. All works reported on within this document have been undertaken in keeping with the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct.

Signed  Date …18th November 2016…….

In keeping with the procedure of Rathmell Archaeology Limited this document and its findings have been reviewed and agreed by an appropriate colleague:

Checked  Date …18th November 2016…….

Quality Assurance Data

Author(s)	Liam McKinstry		
Date of Issue	18th November 2016	Version	1.0
Commissioning Body	The National Trust for Scotland		
Event Name	Home Farm Car Park, Culzean		
Event Type	Test Pit Programme		
Event Date(s)	November 2016		
Rathmell Code	RA16058	OASIS Ref	rathmell1-260628
Location	United Kingdom : Scotland : Falkirk		
NGR	NS 23849 10421 (centred)	Parish	Kirkoswald
Designation(s)	None		
Canmore IDs	None		

Contents

Figures

Introduction

1. This Data Structure Report details the findings from a programme of test pitting within a field to the immediate southeast of the Home Farm Visitor Centre at Culzean, South Ayrshire (NGR: NS 2384 1042). The test pit array was designed to clarify the nature, form and extent of a spread of lithics located during a preceding archaeological evaluation carried out by Rathmell Archaeology Ltd (McKinstry 2016). In particular to determine whether the lithics discovered during the evaluation were part of the lithic spread identified during earlier National Trust for Scotland test pitting further west, or a separate site.

2. The programme of archaeological test pitting was proposed by the National Trust for Scotland in consultation with the West of Scotland Archaeology Service and South Ayrshire Council. Rathmell Archaeology Limited were appointed by the National Trust for Scotland to assist in the implementation of the programme of archaeological test pitting within the study area.

3. Rathmell Archaeology prepared a Risk Assessment Method Statement (Rees 2016), for the works within the study area which was agreed with the National Trust for Scotland.

Project Works

4. The archaeological works, which took place from the 8th to the 11th November 2016, were carried out in keeping with the methods detailed in the Risk Assessment Method Statement (Rees 2016). These works comprised:

   a. the setting up of a grid of Test Pits utilizing a total station;

   b. the excavation by machine of a series test pits to identify concentrations of lithic and other artefacts;

   c. the use of table and hand sieves by National Trust for Scotland Volunteers to recover artefacts from the test pit spoil; and

   d. the use of a metal detector to identify any concentrations of metal artefacts.

5. All of the works complied with the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Environment Scotland's Policy Statements.

Findings

6. The National Trust for Scotland's original programme of test pitting was conducted at the south western corner of the study area and carried out due to the recovery of a number of lithic artefacts from excavation of a cable trench. A total of 22 pits (0.6m x 0.6m in size) were hand excavated by volunteers within an area measuring 30m by 30m (Figure 1). The total number of flints recovered from the cable trench and the test pits was 95.

7. The recent evaluation carried out by Rathmell Archaeology (McKinstry 2016) also recovered a number of lithics (25 in total) mainly from on or at the base of a slope in the northern part of the study area. The evaluation trenches also identified a thick layer of hillwash in this northern area beneath which were two small postholes. The evaluation also recovered 37 sherds of ceramics which initial analysis identified as predominantly 19th century or later.

Test Pits

8. The current test pit grid ran from the edge of the original National Trust for Scotland programme and encompassed the western half of the Rathmell Archaeology evaluation area (Figures 1). The test pit grid ran in a southwest to northeast direction across the site with the SW-NE axis given a numerical value of between 0-180 and the SE-NW axis given an alphabetical value of between A-K. The E axis line was located 1.5m from the study areas NW boundary and the 100 axis line was located 40m NE of a gateway in the NW boundary. A total of 43 test pits were excavated within this grid each measuring 0.6m x 0.6-1m in size. The depth range of the test pits varied between 0.3-1.35m.

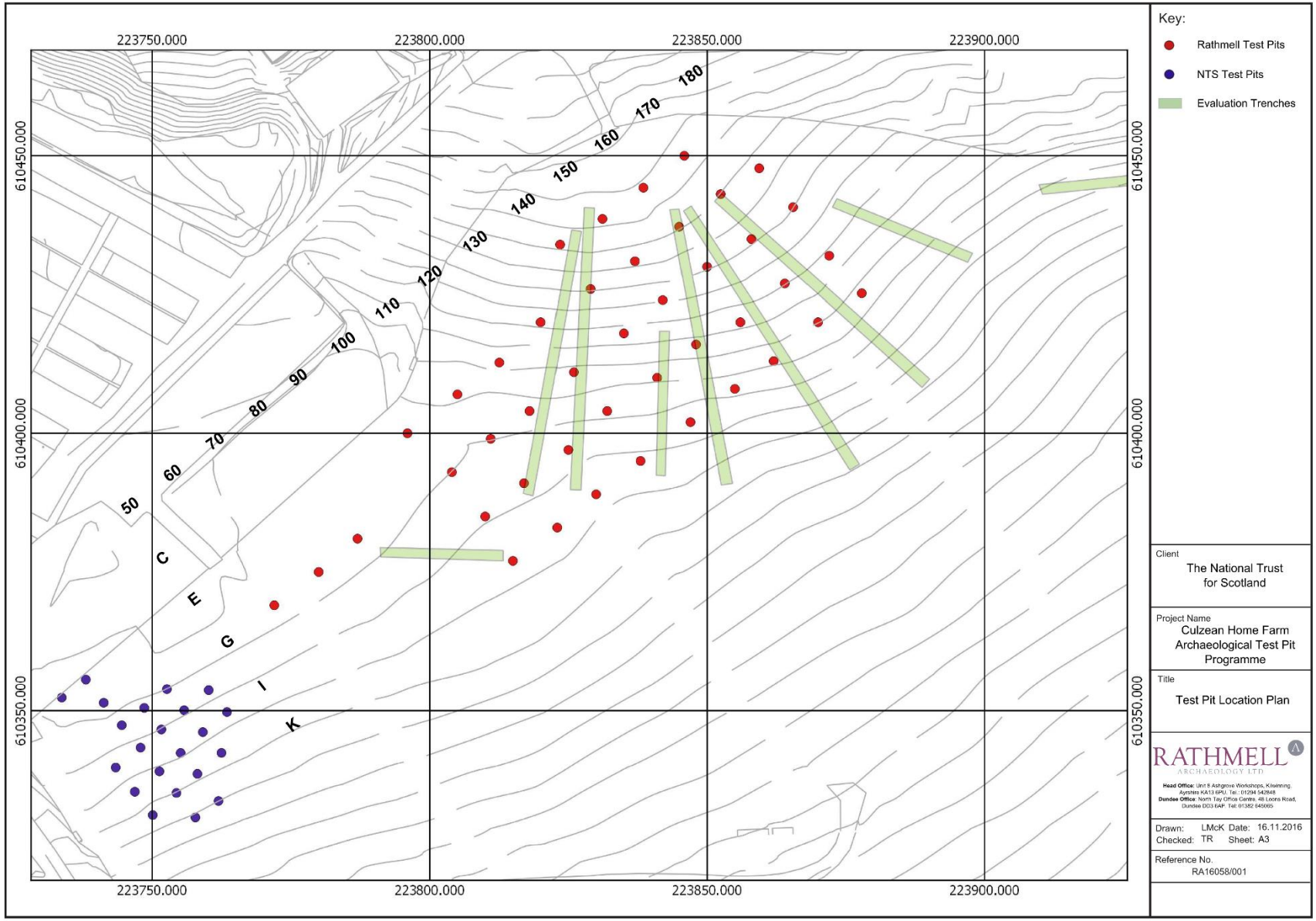


Figure 1: Test Pit Location Plan.

Figure 2a: Pre excavation view of the study area, from the NE.

Figure 2b: View of hand sieving being undertaken, from the SW.

Figure 3a: View of the table sieve in use

Figure 3b: Onsite finds processing underway

9. There was no change in the topsoil, hillwash and natural subsoil encountered within the test pits in the study area to that encountered in the earlier evaluation. The topsoil, (001), consisted of moderately compacted, mid grey-brown silty sand with occasional to moderate small stone and pebble inclusions. The depth of the topsoil varied due to a curving ridge of higher ground which ran across the site in an E-W direction. The depth of the topsoil along the highest part of the ridge was 0.31-0.39m. The topsoil was particularly deep in the northern part of the site where it had a maximum thickness of 0.45m where it had built up at the base of the ridge.

10. The hillwash identified within the study area, (002), consisted of moderately compacted, light grey-brown silty sand with occasional patches of small stone and pebbles. The hillwash layer had a thickness range of 0.4-0.6m. Beneath the hillwash lay a deposit of naturally occurring subsoil, (003), which consisted of very compacted, light grey-brown silty clay with very occasional small stone and pebble inclusions. The layer was encountered at a depth range of 0.49-0.82m from the present surface of the study area.

Sieving and Artefact Recovery

11. Due to the size of the test pits and the inclement weather during the works it was not possible to separate the topsoil, hillwash and natural subsoil within the test pits. This meant that artefacts could only be pinpointed 2-dimensionally during the sieving process (Figures 6). The sieving of the test pit spoil carried out within the study area was done using small hand (Figure 2b) and larger table sieves (Figure 3a). Each of the pits was given and identifying number from the grid which in turn was given to all of the recovered artefacts.

12. During the course of the works a total of 169 lithics and 93 other finds were recovered from the onsite sieving. Of the lithics recovered 70 of these were flint debitage, cores or tools (see below and Appendix 1). From the sieving results it was difficult to show the definite concentrations of the flint artefacts within the test pit grid (Figure 6) though two possible areas of concentration could be seen within the study area. The first was centred on test pits 100G, 100I, 60G, 70G and 80G, where a number of flint artefacts were recovered, including 2 cores, as well as a percussive stone and some burnt animal bone. The second area was in the northern part of the study area within test pits 140C, 150C and 160C where a total of 9 flint artefacts were recovered.

13. A number of other finds, mainly ceramic, were recovered from the study area. The total number of other finds was 93 with 63 of them being ceramic. No particular concentrations could be identified with the ceramics recovered from the study area with a general spread noted across the study area (See below and Appendix 1). The rest of the finds mainly consisted mainly of shards of modern glass, iron (including a possible sickle blade) and an opaque turquoise? glass bead.

Ceramic Assemblage by Dr Louise Turner

14. A total of 63 sherds of ceramic were recovered during the on-site works. Most were derived from tea sets or dinner services of 19th century date. Of these sherds, the majority comprised sherds of plain clear-glazed white earthenware (Figure 4b), with two sherds displaying a mould-imparted basket-weave pattern on their upper surface. Some sherds of blue-and-white transfer-printed wares were present, but the sherds were too small to establish any specific pattern. One sherd from a clear-glazed brown-and-white transfer-printed white earthenware vessel was also present.

15. Most sherds derived from mass-produced, utilitarian wares, though four sherds from finer vessels were present. Two derive from a hand-gilded white earthenware cup and one from a hand-painted white earthenware cup, while the fourth derives from a hand-painted clear-glazed polychrome bone china or semi-porcelain cup. One thin-walled sherd in a clear-glazed black fabric may derive from a black basalt type ware.

16. Amongst this largely modern assemblage, three sherds of post-medieval reduced ware were recovered. Manufactured in the post-medieval period (16th or 17th century), these isolated sherds attest to occupation in the area prior to the construction of the Adam-designed Culzean Castle during the mid-18th century.

17. Some of the sherds had been burnt or heated: one sherd of white earthenware and one sherd of post-medieval reduced ware had been altered in this way, suffering discolouration and slight vitrification of the fabric.

18. Two adjoining fragments of clay tobacco pipe comprising part of a stem with a spur (probably derived from a short, cutty-type pipe) were found in different test pits. These were stamped 'A Coghill' 'Glasgow,' and were manufactured by Alexander Coghill of Glasgow who was operating between 1826 and 1904 (Figure 4a). The characteristics of the broader ceramic assemblage would suggest a date at the later end of this range, with transfer-printing becoming more widespread from the 1820s onwards and brown-and-white transfer-prints becoming more popular from the 1840s onwards.

19. Around half-a-dozen sherds of red tile field drains were also recovered. These appear to have derived from a closed, omega-sectioned drain of late 19th or early 20th century date.

Lithic Assemblage by Thomas Rees

20. Some 70 pieces of flint were recovered during the test pitting exercise in November. Broadly, the character of the material recovered was comparable to that derived from the evaluation trenches.

21. As has previously been reported (McKinstry 2016), the evaluation trenches recovered 15 pieces of struck flint, predominantly from Trench 5 though material also came from Trenches 1 and 3. While no retouched tools were identified from the trench assemblage, four platform cores were identified.

22. From the November test pits, three additional cores were identified, all platform cores with one or two platforms producing blades and microblades (Figure 5b). Adding these to the evaluation trench cores gives around 8.8% of the combined assemblage as platform cores. Further, the absence of bipolar working techniques - a late variant typical within later Late Neolithic and Early Bronze Age horizons – may prove notable.

23. The focus of the reduction process for the flint appears to be the production of blades – if not microblades. A broad trend in reduction strategies has been recognised with many microblades present in Mesolithic and Early Neolithic assemblages, stout blades being preferred in later Early Neolithic and Late Neolithic before squat flakes are adopted in the Early Bronze Age.

24. Primary removal flakes as well as whole and split pebbles illustrate the raw material derives from foreshore recovery of flint nodules (Figure 5a). A wide variety of flint colours were present (greys, translucent, brown, honey and orange flint) again suggesting opportunistic use of diverse foreshore material. Some of the lithic pieces exhibited evidence of heat alteration and the formation of patina – suggesting varied use and post-depositional environments for the material.

25. Notable, given the mainland Ayrshire location of the site near to Arran, is the absence of pitchstone within the assemblage. While pitchstone can appear within any chronological assemblage, its strongest export/exchange period coming off Arran was during the Early Neolithic (Ballin 2009).

26. A single retouched piece was recovered (from 60G) which had a convex semi-abrupt retouched edge – a small thumbnail scraper (Figure 5a).

27. In addition to the flint, small fragments of burnt shale and quartz were also recovered from numerous test pits.

28. Overall, the reduction process in combination with core forms, suggest an early prehistoric (ie Late Mesolithic to Early Neolithic) date for the combined assemblage. The absence of pitchstone may give more weight to the earlier end of this range.

29. The portion of the lithic scatter investigated by the National Trust for Scotland, to the immediate SW, appears comparable to our material. Their description if of 95 lithics of potentially late Mesolithic to early Neolithic date (some 76 lithics from test pits and 19 from service trench, all lying in the range 25 to 45m in the November test pit numbering sequence).

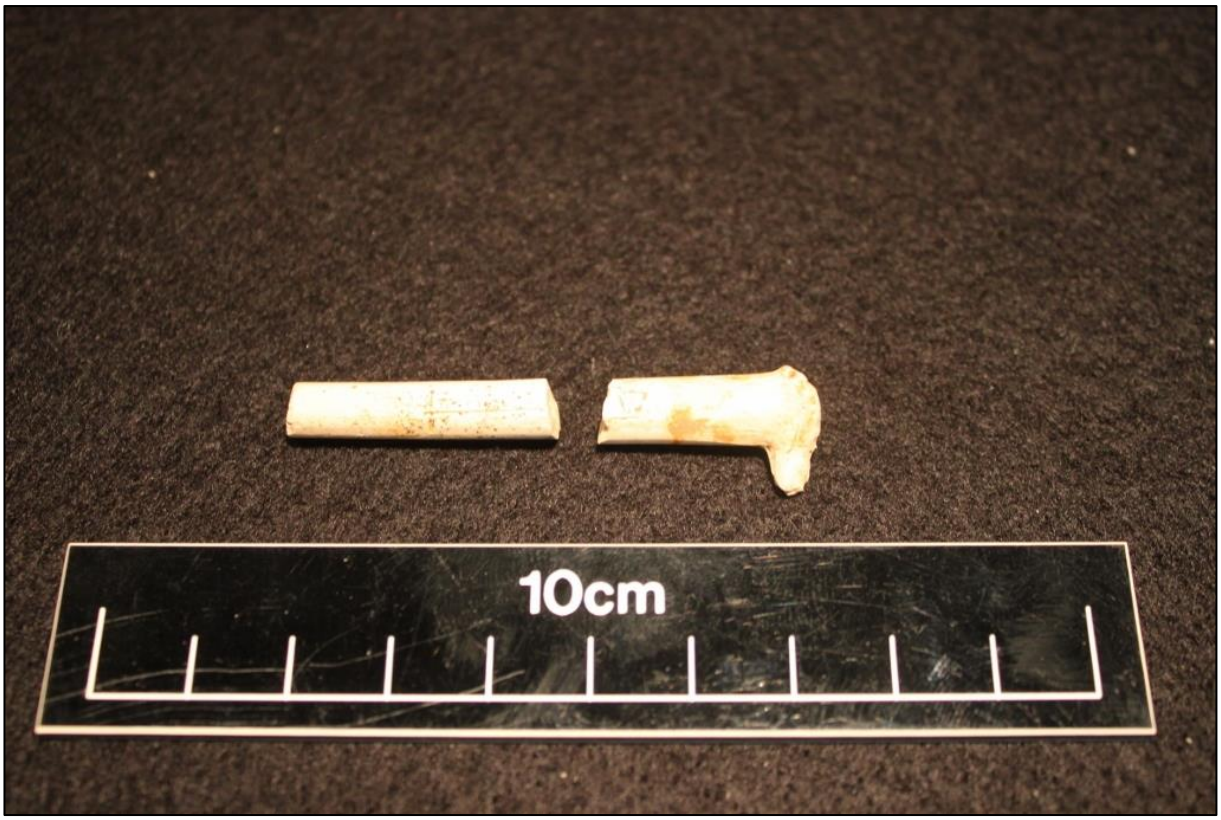


Figure 4a: Scaled photograph of clay pipe stems

Figure 4b: Scaled photograph of 19th century pottery

Figure 5a: Scaled photograph of flint pebble, flake and scraper

Figure 5b: Scaled photograph of flint platform core

30. There is now strong information to suggest there is a continuous, low density spread of lithic material across the Events Field. The character of the assemblage appears to be generally consistent and suggests early prehistoric activity.

Discussion

31. The test pitting within the study area identified at least two possible concentrations of lithic artefacts and other material though the trend within the study area was for a low level deposition across the entire area. The first of these possible concentrations was located in the south western part of the study area and between the National Trust for Scotland's original test pits and the evaluation works in the north and north eastern part of the study area. The second of these concentrations located in the northern and north eastern part of the study area at the base of a slope (Figure 6) may correlate to the findings from the evaluation where most of the lithics recovered came from this area. These concentrations may indicate a possible late Mesolithic or early Neolithic occupation site close by.

32. Though the concentrations of lithic artefacts were not from secure contexts, being recovered from the topsoil and hillwash, they do however suggest areas of possible prehistoric activity within the study area. Continued agricultural activity within the study area from the 18th century onwards and its topography could account for the sizeable amounts of hillwash present on site. This activity may have cut through prehistoric features, occupation layer or lithic working areas such as the two postholes identified during the previous evaluation works (McKinstry 2016) and displaced the material across the study area. This activity also explains why the prehistoric artefacts were found along with later post-medieval material.

Conclusion

33. The archaeological programme of test pitting at Home Farm, Culzean Estate identified two possible concentrations of prehistoric lithics, one to the southwest and another to the north and northeast. The latter correlates with the findings of the earlier evaluation works and may indicate the presence of a possible prehistoric domestic or industrial site either within or close to the study area.

34. As well as the prehistoric artefacts a large number of other finds, ceramic, glass, metal etc., were recovered, mainly of a 19th century or later date though three sherds of post medieval reduced ware pottery were also recovered from the site suggesting possible 16th to 17th century activity as well.

35. The programme of archaeological test pitting was proposed by the National Trust for Scotland in consultation with the West of Scotland Archaeology Service and South Ayrshire Council. Rathmell Archaeology Limited were appointed by the National Trust for Scotland to assist in the implementation the works.

Acknowledgements

36. The author would like to thank Derek Alexander from the National Trust for Scotland for the opportunity to carry out these works and his guidance both on and off site. I would also like to thank all of the staff and volunteers from the National Trust for Scotland for their enthusiastic help in excavating and sieving the many Test Pits at Home Farm. Thanks should also go to Rathmell Archaeology site staff Craig Stanford for his on-site assistance and also to Thomas Rees and Dr Louise Turner for their finds analysis and editing of this report.

References

Ballin, TB 2009 *Archaeological Pitchstone in Northern Britain*, BAR Brit 476 (Oxford)

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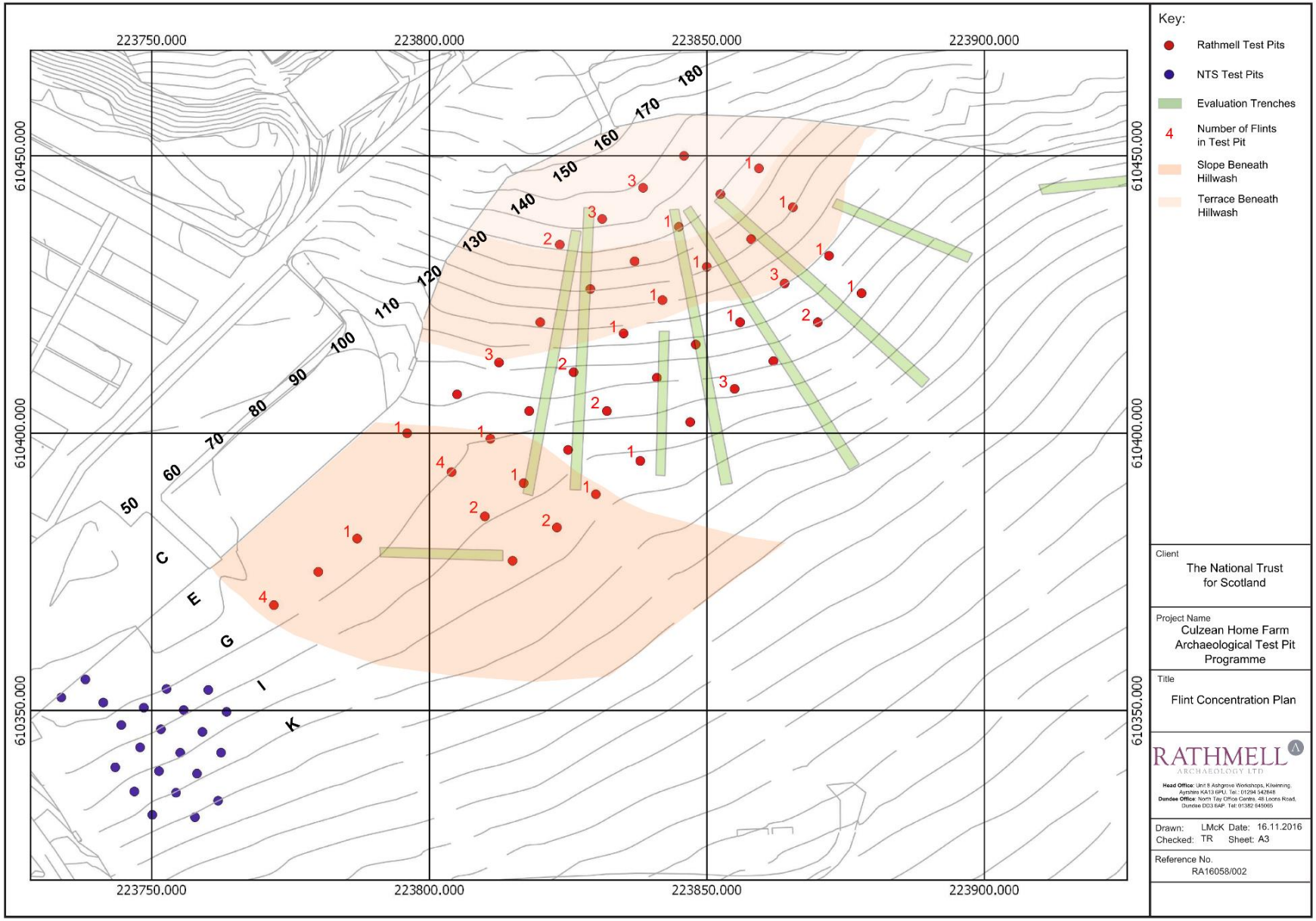

Figure 6: Plan showing Flint concentrations.

Appendix 1: Registers

Within this appendix are all registers pertaining to works on-site during the evaluation.

Context Register

Context No.	Test Pit	Type	Description	Interpretation
001	All	Deposit	Moderately compacted, mid grey-brown silty sand with occasional to moderate small stone and pebble inclusions. Depth of the layer along the E-W ridge was 0.31-0.39m. Topsoil was particularly deep in the northern part of the site where it had a maximum thickness of 0.45m where it had built up at the base of a curving ridge which ran across the site. Overlies (006) and (002).	Topsoil
002	All	Deposit	Moderately compacted, light grey-brown silty sand with occasional patches of small tone and pebbles. Layer has a thickness range of 0.4-0.6m.	Hillwash
003	All	Deposit	Very compacted, light grey-brown silty clay with very occasional small stone and pebble inclusions. Layer forms up at 0.49-0.82m from the present surface. Underlies (002).	Natural subsoil

Drawing Register

Drawing No.	Sheet No.	Area	Drawing Type	Scale	Description
1	1	-	Plan	1:500	Measured sketch plan of Test Pit layout

Photographic Register

Image No.	Digital	Description	From	Date
001	DSCN0142	Pre excavation view of the study area	NE	08/11/16
002	DSCN0143	Pre excavation view of the study area	ENE	08/11/16
003	DSCN0144	Setting up the Gazeebo	SE	08/11/16
004	DSCN0145	Using the table sieve	S	08/11/16
005	DSCN0146	Machine starting to excavate the Test Pits	SW	08/11/16

Image No.	Digital	Description	From	Date
006	DSCN0147	Hand sieving being set up	SW	08/11/16
007	DSCN0148	Machine excavating the Test Pits	S	08/11/16
008	DSCN0149	Utilising the tarps	SE	08/11/16
009	DSCN0150	North western line of Test Pits excavated	S	08/11/16
010	DSCN0151	Using the table sieve on the north western line of Test Pits	S	09/11/16
011	DSCN0152	Using the table sieve on the north western line of Test Pits	SSW	09/11/16
012	DSCN0153	Test Pit spoil heaps covered by tarps to protect from rain	SW	09/11/16
013	DSCN0154	Bagging the finds at the gazeebo	SE	10/11/16
014	DSCN0155	Using the table sieve	WSW	10/11/16
015	DSCN0156	View of hand sieving and metal detecting on site	SSW	10/11/16
016	DSCN0157	Gazeebo with Home Farm in the background	SE	10/11/16
017	DSCN0158	Packing up at the end of the day	S	10/11/16
018	DSCN0159	Last bit of metal detecting	S	10/11/16
019	DSCN0160	Interesting finds at the table sieve	W	10/11/16
020	DSCN0161	First 36 Test Pits backfilled	SW	10/11/16

Finds Register

Lithic Finds

Find No.	Test Pit	Flint	Notes	Quartz	Burnt Shale
001	60G	4	Scraper (1); Burnt (3)	N	N
002	70G	0		Y	Y
003	80G	1		N	N
004	100E	1		N	N
005	100G	4	Platform Core (1); Burnt (1)	Y	Y
006	100I	2	Platform Core (1); Burnt (1)	Y	Y
007	100K	0		N	Y
008	110E	0		Y	Y
009	110G	1	Pebble (1)	N	N
010	110I	1		Y	N
011	110K	2		N	Y
012	120E	3	Burnt (1)	N	N
013	120G	0		N	N
014	120I	0		N	N
015	120K	1	Burnt (1)	N	Y
016	130E	0		N	N
017	130G	2	Burnt (2)	N	N
018	130I	2		Y	Y
019	130K	1		N	Y
020	140C	2		N	N
021	140E	0		N	N
022	140G	1		Y	N
023	140I	0		Y	N
024	140K	0		Y	N
025	150C	3		N	Y
026	150E	0		N	N
027	150G	1		Y	N
028	150I	0		N	Y
029	150K	3	Pebble (1); Burnt (2)	Y	Y
030	160C	4	Burnt (1)	N	Y
031	160E	1		N	Y

032	160G	1	Pebble (1)	N	N
033	160I	1		N	N
034	160K	0		Y	N
035	170C	4	Scraper (1)	Y	Y
036	170E	0		N	N
037	170G	0		N	N
038	170I	3	Platform Core (1)	Y	Y
039	170K	2		N	Y
040	180E	1		Y	Y
041	180G	1		Y	Y
042	180I	4	Burnt (1)	N	N
043	180K	1		Y	Y
044	US	3		Y	N

Ceramic Finds

Find No.	Test Pit	Ceramic	Notes	Glass	Metal	Animal Bone	Wood	Other
045	100G	1		1				
046	100I	4		1				1 (Plastic) 1 (organic)
047	100K	1						
048	100E	5 1 (possible)						
049	110K			1				
050	120E	1						
051	120I	1		1				
052	130E	1						
053	130G	2		1				
054	130I	2		1				
055	140G	4						
056	140I			2				
057	140K	1					1	
058	150E	1						

059	150K	2				1		
060	160G	5		1				
061	160I	1						
062	160K			1				
063	170E	1						
064	170K	1						
065	180E	2		1				
066	180G	1						
067	180I			1				
068	180K	2						
069	170C	4 1 clay pipe		1	3			
070	160C	6		2				
071	140C	1		1				
072	150C	2						
073	60G	4						
074	70G				1			
075	U/S	3	Clay pipe stem (1)					
076	110E	5						
077	110I	1		2				

Appendix 2: Discovery & Excavation in Scotland

LOCAL AUTHORITY:	South Ayrshire Council
PROJECT TITLE/SITE NAME:	Home Farm Car Park, Culzean
PROJECT CODE:	RA16058
PARISH:	Kirkoswald
NAME OF CONTRIBUTOR:	Liam McKinstry
NAME OF ORGANISATION:	Rathmell Archaeology Limited
TYPE(S) OF PROJECT:	Test pit programme
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	Prehistoric flint scatter
SIGNIFICANT FINDS:	Prehistoric lithics, post medieval-modern ceramic
NGR (2 letters, 8 or 10 figures)	NS 23849 10421 (centred)
START DATE (this season)	8th November 2016
END DATE (this season)	11th November 2016
PREVIOUS WORK (incl. *DES* ref.)	NTS volunteer test pitting programme
MAIN (NARRATIVE) DESCRIPTION: (may include information from other fields)	The archaeological programme of test pitting at Home Farm, Culzean Estate identified two possible concentrations of prehistoric lithics, one to the southwest and another to the north and northeast. The latter correlates with the findings of the earlier evaluation works and may indicate the presence of a possible prehistoric domestic or industrial site either within or close to the study area. As well as the prehistoric artefacts a large number of other finds, ceramic, glass, metal etc., were recovered, mainly of a 19th century or later date though three sherds of post medieval reduced ware pottery were also recovered from the site suggesting possible 16th to 17th century activity as well.
PROPOSED FUTURE WORK:	Yes
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	National Trust for Scotland
ADDRESS OF MAIN CONTRIBUTOR:	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
EMAIL ADDRESS:	contact@rathmell-arch.co.uk
ARCHIVE LOCATION (intended/deposited)	Report to West of Scotland Archaeology Service and archive to HES Collections.

Contact Details

38. Rathmell Archaeology can be contacted at our Registered Office or through the web:

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