Kilmagadwood, Scotlandwell, Perth and Kinross: Fieldwalking Data Structure Report

AOC Project No. 24307 May 2018





On Behalf of: Perth & Kinross Heritage Trust,

The Lodge 4 York Place Perth PH2 8EP

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Prepared by: Rob Engl

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This document has been prepared in accordance with AOC standard operating procedures.

Author: Rob Engl Date: May 2018

Approved by: Martin Cook Date: May 2018

Draft/Final Report Stage: Draft Date: May 2018

Enquiries to: AOC Archaeology Group

Edgefield Industrial Estate

Edgefield Road Loanhead EH20 9SY

Tel. 0131 440 3593 Fax. 0131 440 3422

e-mail. admin@aocarchaeology.com



www.aocarchaeology.com

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Abstract

AOC Archaeology Group was commissioned by Perth & Kinross Heritage Trust to undertake a fieldwalking project to explore the extent of the prehistoric settlement at Kilmagadwood, Scotlandwell, Perth & Kinross. The aim of the project was to involve the local community and interest groups in archaeological discovery and to inform the understanding of prehistory in the local area, especially regarding the neighbouring Bronze Age burial site at Kilmagadwood.

The fieldwalking project was revealed a total of 73 finds encompassing 80 individual fragments of chipped stone, coarse stone, cannel coal/oil shale, medieval and post-medieval ceramics, vitrified material and burnt bone.

The most significant items were a heavily reworked fragment of a Neolithic Langdale tuff axehead, a small segment of an annular cannel coal or oil shale armlet, a hollow base Neolithic arrowhead and a broken flint knife.

1. INTRODUCTION

1.1 Project Background

- 1.1.1 A programme of fieldwalking was initiated by Perth & Kinross Heritage Trust (PKHT) A fieldwalking project has been initiated by Perth & Kinross Heritage Trust (PKHT) to explore the extent of the prehistoric settlement at Kilmagadwood, Scotlandwell, Perth & Kinross. The aim of the project was to involve the local community and interest groups in archaeological discovery and to inform the understanding of prehistory in the local area, especially regarding the neighbouring Bronze Age burial site at Kilmagadwood.
- 1.2 The fieldwalking survey was undertaken in accord with a *Written Scheme of Investigation (2018)* which detailed how the requirements of the project were to be met. The first part is site specific while the Appendices detail AOC Archaeology Group's operating procedures and standards.

1.3 Site Location

1.3.1 Location and Extent

The fieldwalking was undertaken in a recently ploughed field approximately 1ha in size. The field is bounded to the north and west by the A911 and to the south-east by houses. Further agricultural fields lie to the west.

1.3.2 Topography, Geology, Drainage and Landuse

The site lies on rising ground at 120m OD on the eastern edge of the Loch Leven basin. This natural bedrock depression is underlain by the Upper Red Sandstone, a sedimentary rock offering less resistance to erosion than the surrounding rocks of the area. The Lomond Hills to the east are formed from resistant igneous sills of quartz dolerite protecting Carboniferous sedimentary rocks which overlie the Old Red Sandstone.

1.3.3 The drift geology of the area is comprised of fluvio-glacial sands and gravels with alluvial soil deposits.

1.4 Archaeological Background

- 1.4.1 An encrusted urn burial was found by D Nichol of Kilmagad farm during spring ploughing in 1946 (NO10SE 1). The base of the urn was destroyed in the process. The site was situated within the field-walking area on a sloping knoll covered by a large tree, approximately 250m north-west of Kilmagad and 40m below the A911. Nichol had removed a number of large stones from the knoll, but these may have had no direct connection with the burial. The knoll, however, seemed to be rather stony in comparison with the sandy soil of the field. The urn (now in the National Museum of Antiquities of Scotland {NMAS} Accession no: EA 232) was inverted in a paved circular hole. It contained a small amount of ashes, some having been removed when first found. More ashes filled a space between stones.
- 1.4.2 An evaluation (NO 18057 02119) was undertaken in December 2012 and January 2013 on the site of two houses at the south eastern boundary of the fieldwalking area. The area was considered of interest due to the prior discovery of a cinerary urn on the site in 1946 (NO10SE)

1). The evaluations identified a number of cremation urns, and an excavation of the area was undertaken in April 2013. A total of 24 urns were discovered, 6 were intact, 11 were slightly plough damaged, and 7 were broken.

2. OBJECTIVES

- 2.1 The objectives of the field-walking survey were:
 - to provide a short workshop on artefacts for the volunteer participants.
 - to systematically, survey the field through field-walking.
 - To produce a Data Structure Report on completion of the project.

METHODOLOGY

3.1 Introduction

- 3.1.1 The project was to be completed over two days. The on-site works are outlined in the AOC Archaeology Project Design (March 2018). The works were conducted according to AOC Archaeology Group's standard operating procedures and included the following;
 - 1. The fieldwalking was to be carried out in the field shown in Figure 1. The fieldwork was undertaken on the 7th-8th April 2018.
 - 2. Upon arrival pre-excavation photography was undertaken of the general area of the site prior to AOC conducting any works.
 - 3. The fieldwork was supervised at all times by experienced archaeologists who were able to support and guide local community volunteers. The ratio of volunteers to archaeologists did not exceed 10:1.
 - 4. A numbered base grid was set out with GPS to ensure comprehensive and systematic coverage. The fieldwork team worked systematically, walking a maximum of 2m apart over recently ploughed fields. All finds were to be individually bagged, tagged and numbered. All finds were to be surveyed and mapped using GPS. The area of the survey was also be recorded by GPS and all data inputted into a GIS system and used to produce accurate geo-referenced artefact distribution maps.
 - 5. AOC was to provide three Minelab x-terra 705 metal detectors. Volunteers were trained in their use and the area surveyed in transects no greater than 2.5m in order to gain maximum coverage. All find-spots were tagged and surveyed in using GPS. All material

was removed from site and all excavations will be immediately backfilled and compacted.

- 8. Prior to the fieldwalking and test pitting, Dr Dawn McLaren provided a short workshop on artefacts for the volunteer participants to introduce the types of artefacts that might be encountered. Examples of early prehistoric objects from AOC's handling collection were made available for the volunteers to examine as part of this workshop and visual aids prepared to give them first-hand experience of engaging with prehistoric artefacts. This workshop also coverered basic finds retrieval procedures as well as how finds are recorded in the field.
- 9. Not all later material was to be kept. All worked stone tools were retained along with any prehistoric finds (pottery, metal etc.). For large quantities of more modern material i.e. bone china or machine-made pottery, a sample of each type was to be retained in order to report on its presence. Any finds that were not readily identifiable were to be be retained for assessment by AOC's artefacts specialist.
- If in situ finds were encountered, such as the cremation urns previously identified at Kilmagadwood, the client (PKHT) and local authority archaeologist (David Strachan) was to be notified immediately.
- 11. All identified finds and artefacts were to be treated as small finds, collected and retained, and located in three dimensions. All small finds were to be conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's Conservation Guidelines No. 2 (UKIC 1983).
- 12. Following the conclusion of the fieldwalking a Data Structure Report (DSR) will be produced within 4 weeks of projects finish. This will detail the findings of the project and will make recommendations for post-excavation analysis, conservation of finds and full reporting (post-excavation research design).
- 15. The report will also be submitted to the OASIS database, and an entry will be submitted to *Discovery and Excavation Scotland*.
- 16. Following the completion of all stages of the project, the paper and digital archive will be prepared according to current best practice and deposited as appropriate with the National Monuments Record.
- 17. All artefacts recovered during the project were cleaned, bagged and boxed according to the guidelines presented in UKIC's Conservation Guidelines No 2.
- 18. All artefacts were sent to appropriate inhouse and external specialists to produce succinct reports on the objects' date, character, manufacture, cultural affinities and condition, and inform recommendations about their analysis.

- 20. The DSR will make recommendations for post-excavation analysis, conservation of finds and full reporting (post-excavation research design).
- 21. All finds are to be declared through the Treasure Trove process and lists of finds submitted to the Treasure Trove Unit who will be updated at the conclusion of the project. AOC Archaeology are providing appropriate interim storage for the artefacts until they can be collected by the institution awarded the collection.



Plate 1 Findspots after Day One Survey

4 RESULTS

- 4.1 The various detailed data gathered from the field-walking survey is presented as a series of appendices:
 - Appendix 1 Finds Register;
 - Appendix 2 Photographic Register;
 - Appendix 3 'Discovery and Excavation in Scotland' (DES) entry.
- 4.2 Figure 2 identifies the position of all recovered artefacts. The works were conducted over a single weekend on the 7th 8th April. The weather conditions during the survey were fine and overall archaeological visibility remained good.
- 4.3 Based on the findings of a geophysical survey undertaken by volunteers during 2017 as part of a community excavation programme. Three one metre square trial pits were excavated to the immediate north-west of the knoll in which the urn burial was excavated in 1946. The excavations revealed 0.30m of plough-soil directly overlying a subsoil of orange clay sand. The trial pits were sterile and showed evidence of heavy plough scarring. The area of the knoll

appears to have suffered from intensive farming activity due to its relative height. A colour change was noted within the top-soil as a result of larger amounts of subsoil being brought up by the plough. It is likely that many of the anomalies shown in this area during the geophysical survey are possible stone-holes caused by the removal of large stones during ploughing.

4.4 As part of the project two metal detectors were provided and interested volunteers were trained in their use. Two Georgian ha'pennies, horse shoes, nails and farm machinery parts were retrieved.



Plate 2 Excavation of Trial Pits by Volunteers



Plate 3 Fieldwalking Underway Day 2

The Artefacts 4.5

4.5.1 In total, 73 finds were made during the fieldwalking survey, encompassing 80 individual fragments of chipped stone, coarse stone, cannel coal/oil shale, medieval and post-medieval ceramics, vitrified material and burnt bone. The assemblage is dominated by struck lithics including items of flint, chert and quartz (Q = 36).



Plate 4 The Langdale Axe

4.5.2 The most significant individual item is a heavily re-worked fragment of a Neolithic Langdale tuff axehead (SF 402). Other notable items include a burnt hollow based arrowhead (417) of late Neolithic date, a broken flint knife (SF429) small segment of an annular cannel coal or oil shale armlet (SF 423) and possible cannel coal working debris.

4.5.3 Burnt Bone

4.5.3.1 Five fragments of burnt bone were recovered (SF 399, 412, 432, 433, 437). These have been assessed by AOC's in-house Environmental Specialist, Jackaline Robertson, who states that they are consistent in size to suggest they derive from a large mammal but should be examined by an osteologist to confirm whether they may be human.

4.5.4 Cannel Coal/Oil Shale

4.5.4.1 A low-level scatter of fragments of coal and burnt shale were noted across the field. These were examined on-site and, in the main, dismissed as natural. Yet a few fragments of higher quality cannel coal/oil shale with possible working traces were recognised and collected for further study. These include a small segment of an annular armlet (SF 423) and fragments of possible working waste (SF 389, 398, 416, 418, 428, 445).

4.5.5 Coarse Stone

4.5.5.1 Three possible cobble tools, Including a possible anvil stone (SF 436), a fractured (?firecracked) abraded cobble (SF 440) and possible whetstone (SF 443), are present amongst the assemblage.

4.5.6 Ceramic Material

4.5.6.1 No prehistoric ceramics were recovered. Three shards of medieval Scottish White Gritty Ware (SF 381, 383, 391); a possible base shard from a gritty ware vessel (SF 424); two late medieval/early post-medieval gritty reduced shards (SF 385 & SF 406); and ten shards of Scottish Post-medieval Reduced and Oxidised Ware (SF 403, 404, 406, 407, 425, 426, 434, 435, 439, 442) were collected. Also retrieved was a damaged cat figurine (SF 395), probably a late 19th/20th century child's toy.

4.5.7 Langdale Axehead

4.5.7.1 A damaged and re-worked fragment of a Neolithic stone axehead (SF 402) is the most significant individual item amongst the assemblage. The axehead has been produced from a distinctive fine-grained green-grey tuff (Group VI in the ICP scheme) sourced from Great Langdale in Cumbria, a major Neolithic 'axe factory' from which roughouts and finished axes were exported widely across Scotland and the British Isles as a whole. The surfaces of the Kilmagadwood axe are scraped, gouged and fractured as the result of recent plough damage. This later damage masks traces of the original polished surfaces of the stone as well as extensive remodification of the axehead which has taken place after breakage in antiquity. Further study of this item is required to understand its original form.

4.5.8 **Chipped Stone**

	Flint	Quartz	Chert	Chalcedony	
Туре					Total
Blade	1	0	1	0	2
Chip	3	0	0	0	3
Chunk/Fragment	2	1	2	0	5
Core					
Platform	0	1	0	0	1
Bipolar	1	0	0	0	1
Flake	14	1	1	1	17
Nodule	1	0	0	0	1
Microburin	1	0	0	0	1
Retouched flake	1	0	0	0	1
Knife	1	0	0	0	1
Hollow based	1	0	0	0	1
arrowhead					
Total	26	3	4	1	34

4.5.8.1 Initial assessment revealed a small assemblage of 34 chipped stone artefacts. The majority of the assemblage was composed of flint (n. 26) with small supplementary amounts of chert (n. 4) quartz (n. 3) and chalcedony (n. 1). The flint was largely fresh in appearance with only six burnt pieces and five showing signs of patination. The flint varied in colour between grey and honey brown. This is typical of assemblages throughout the east coast of Scotland. An exception to this was (SF 379) which was a mottled dark brown and is likely to be an import from the Yorkshire Wolds.

- 4.5.8.2 The small quartz assemblage was of the grey, translucent 'greasy' variety with a dense crystalline structure and good flaking properties. The chert was more varied with two of the artefacts being of the Southern Uplands type.
- 4.5.8.3 All but four of the assemblage was composed of debitage with the majority consisting of flakes (n.17). Two cores were retrieved, one being a platform core made on quartz (SF 392) and the other identified as a bipolar remnant made on flint (SF 414).
- 4.5.8.3 Four artefacts (SF 417, 429, 441, US) showed signs of secondary modification and can be dated to the later Neolithic. Artefact SF 417 is a burnt, hollow based arrowhead with damage evident to both the tip and right-hand barb. The arrowhead has been invasively worked over the ventral face, with retouch applied only along the edges of the dorsal face. Hollow based arrowheads are fairly rare in British contexts but are generally considered to be of later Neolithic/Chalcolithic date. The second worked piece SF 429, is the distal tip of an invasively worked knife. This is again likely to be of late Neolithic date. The third artefact is a retouched flake (US) with fine abrupt retouch applied along the flakes right lateral edge. The final piece appears to be a microburin (SF 441) and is of Mesolithic date.

CONCLUSION 5

- 5.1 The fieldwalking survey undertaken at Kilmagadwood was successful in both its training aims and in recovering a wide range of archaeologically significant material. This material reflects the longstanding occupation of the area from the Mesolithic to the 18th century. The presence of the Langdale axe and the Yorkshire flint at Kilmagadwood illustrate that the area was an integral part of a wider prehistoric trade system linking the area to the north of England.
- 5.2 Although no further structural evidence of funerary activity was observed at Kilmagadwood the burnt bone and burnt hollow based arrowhead may relate to material disturbed from such contexts by modern ploughing.
- 5.3 It is recommended that further analysis be carried out on the burnt bone, Langdale Axe and the Cannel coal artefacts.

7 REFERENCES

AOC Archaeology 2018 Kilmagadwood, Scotlandwell, Perth and Kinross. Fieldwalking Project Design. Unpublished Client Report.

Cowie, T G. (1978a) Bronze Age food vessel urns in northern Britain, Brit Archaeol Rep, BAR British, vol. 55. Oxford. Page(s): 125, no.KIN 1 RCAHMS Shelf Number: P.81

Stevenson, R B K. (1948d) An encrusted-urn burial at Scotlandwell, Kinross-shire', Proc Soc Antiq Scot, vol. 80, 1945-6. Page(s): 145-6



Figure 1: Site Location

01/24307/DSR/01/01

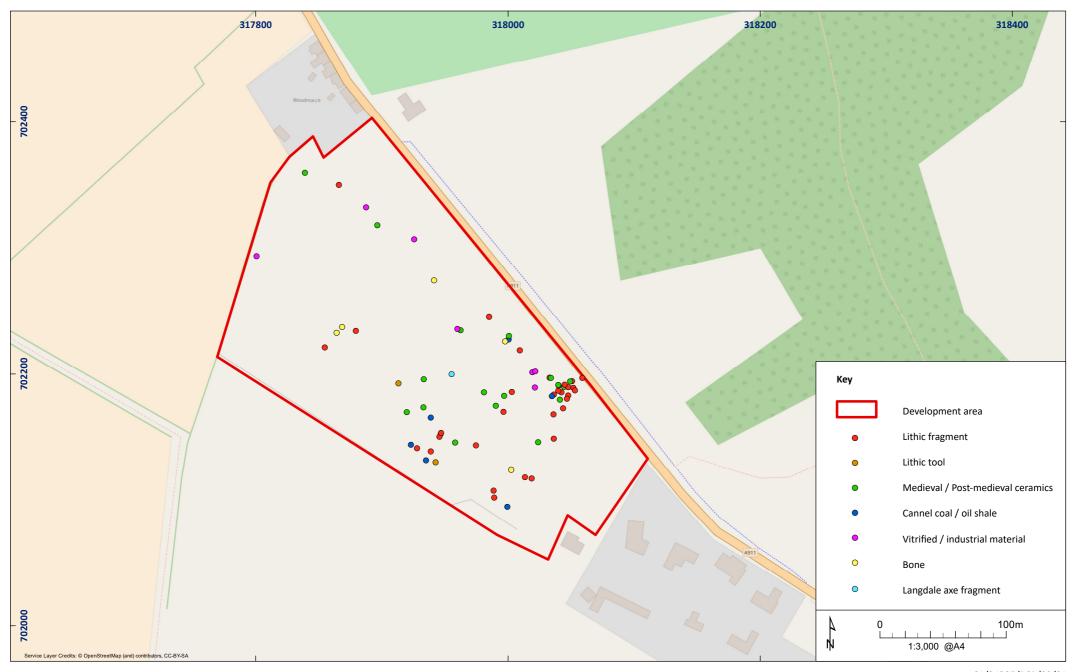


Figure 2: Artefact Location

01/24307/DSR/02/01

Kilmagadwood, Scotlandwell, Perth & Kinross, Fieldwalking

Section 2: Appendices

Appendices

Appendix 1: Finds Table

GPS/SF No.	Material	Description
374	ST	1 x quartz-rich angular stone. ?worked
375	ST	1 x burnt flint
376	ST	1 x flint
377	ST	1 x angular quartz fragment
378	ST	1 x flint
379	ST	1 x flint
380	ST	1 x burnt flint
381	Се	1 x shard Scottish White Gritty Ware (medieval)
382	ST	1 x burnt flint
383	Се	1 x shard Scottish White Gritty Ware (medieval)
384	ST	1 x quartz-rich angular stone. ?worked
385	Се	1 x shard Scottish White Gritty Ware (medieval)
386	ST	1 x quartz-rich angular stone. ?worked
387	ST	1 x flint
388	ST	2 x flint
389	ST	1 x burnt flint; 1 x burnt cannel coal/oil shale
390	ST	1 x flint
391	Се	1 x shard Scottish White Gritty Ware (medieval)
392	ST	1 x angular quartz
393	Се	1 x red earthenware sherd with white interior slip
394	VI	1 x unusual pale and cobalt blue opaque glass
395	Се	1 x damaged cat figurine
396	IND	2 x amorphous nodules of vitrified material
397	ST	1 x burnt flint
398	ST	2 x angular fragments cannel coal/oil shale. ?worked
399	ВО	1 x fragment of burnt bone
400	Се	1 x shard gritty reduced ware (late medieval?)
401	ST	1 x flint
402	ST	1 x re-worked Langdale axe fragment
403	Се	1 x shard Scottish Post-medieval Reduced Ware Pottery
404	Се	1 x shard Scottish Post-medieval Oxidised Ware Pottery

405	ST	1 x flint
406	Се	1 x shard Scottish Post-medieval Oxidised Ware Pottery
407	Се	1 x shard Scottish Post-medieval Reduced Ware Pottery
408	ST	1 x flint
409	ST	1 x flint
410	ST	1 x flint
411	ST	1 x burnt flint
412	во	1 x burnt bone
413	ST	1 x chert
414	ST	1 x flint
415	ST	1 x flint
416	ST	1 x angular fragment cannel coal/oil shale (worked?)
417	ST	1 x burnt flint hollow based arrowhead
418	ST	1 x angular fragment of cannel coal/oil shale. ?worked
419	ST	1 x angular quartz-rich stone
420	ST	1 x chert
421	ST	void
422	ST	1 x angular quartz fragment
423	ST	1 x cannel coal/oil shale armlet fragment
424	Се	1 x base shard from thick white gritty vessel (?medieval)
425	Се	1 x shard Scottish Post-medieval Oxidised Ware Pottery
426	Се	1 x shard Scottish Post-medieval Oxidised Ware Pottery
427	ST	1 x burnt flint
428	ST	1 x angular fragment of cannel coal/oil shale. ?worked
429	ST	1 x broken flint knife
430	ST	1 x flint
431	ST	1 x flint
432	во	1 x burnt bone
433	во	1 x burnt bone
434	Се	1 x shard Scottish Post-medieval Reduced Ware Pottery
435	Се	1 x shard Scottish Post-medieval Reduced Ware Pottery
436	ST	1 x cobble tool (?anvil?
437	ВО	1 x burnt bone
438	IND	1 x glassy green low-density vitrified material
439	Се	1 x shard Scottish Post-medieval Reduced Ware Pottery
440	ST	1 x fractured fragment of possible cobble tool

441	ST	1 x flint
442	Се	1 x shard Scottish Post-medieval Oxidised Ware Pottery
443	ST	1 x possible whetstone
444	ST	1 x flint
U/S	ST	4 x cannel coal/oil shale (worked?)
U/S	ST	1 x vitrified stone (related to limeworks?)
U/S	ST	1 x flint

Appendix 1: Photographic Record

Digital Photographs - Digital Camera 1

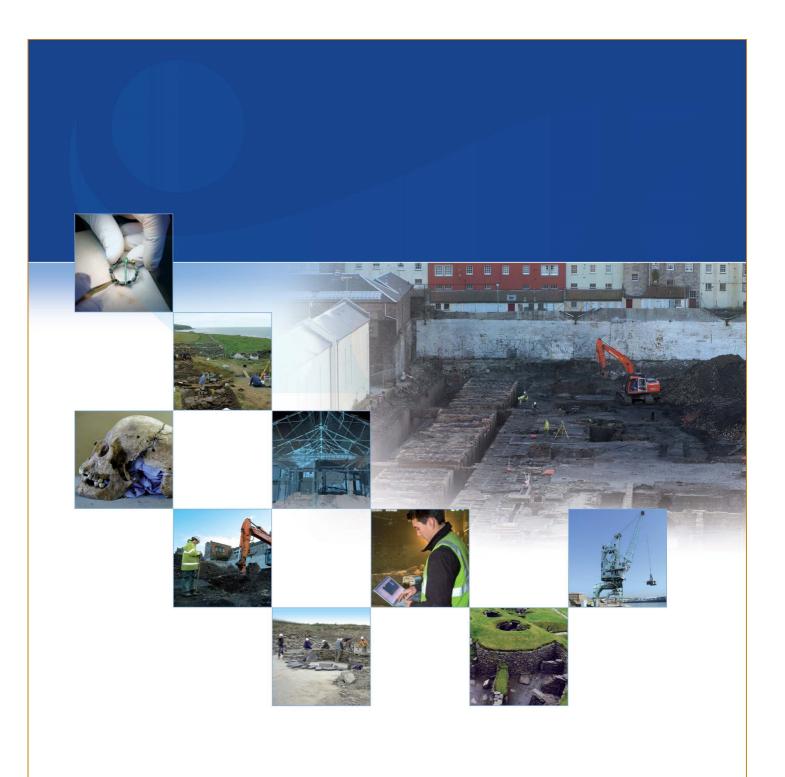
Frame	Description	From
1-9	Pre ex field	Var
10	Survey markers after Day 1	SE
11-13	Volunteer with Langdale Axe	S
14-16	Trial Pitting	NW
15-17	Survey	SE

Appendix 2: 'DISCOVERY AND EXCAVATION IN SCOTLAND' (DES) REPORT

LOCAL AUTHORITY:	Perth and Kinross Council
PROJECT TITLE/SITE NAME:	Kilmagadwood, Scotlandwell, Perth & Kinross; Fieldwalking
PROJECT CODE:	AOC 24307
PARISH:	Portmoak
NAME OF CONTRIBUTOR:	Rob Engl
NAME OF ORGANISATION:	AOC Archaeology Group
TYPE(S) OF PROJECT:	Archaeological Fieldwalking Project
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	Lithics, Langdale axe, Cannel coal, medieval/post medieval ceramics
NGR (2 letters, 6 figures)	NO 18391 01819
START DATE (this season)	7 th April 2018
END DATE (this season)	8 th April 2018
PREVIOUS WORK (incl. DES ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	AOC Archaeology Group was commissioned by Perth & Kinross Heritage Trust to undertake a fieldwalking project to explore the extent of the prehistoric settlement at Kilmagadwood, Scotlandwell, Perth & Kinross. The aim of the project was to involve the local community and interest groups in archaeological discovery and to inform the understanding of prehistory in the local area, especially regarding the neighbouring Bronze Age burial site at Kilmagadwood. The fieldwalking project was revealed a total of 73 finds encompassing 80 individual fragments of chipped stone, coarse stone, cannel coal/oil shale, medieval and post-medieval ceramics, vitrified material and burnt bone. The most significant items were a heavily re-worked fragment of a Neolithic Langdale tuff axehead, a small segment of an annular cannel coal or oil shale armlet, a hollow base Neolithic arrowhead and a broken flint knife.
PROPOSED FUTURE WORK:	To be confirmed
CAPTION(S) FOR ILLUSTRS:	n/a
SPONSOR OR FUNDING BODY:	PKHT

Kilmagadwood, Scotlandwell, Perth and Kinross: Data Structure Report

ADDRESS OF N	ΛΑΙΝ	AOC Archaeology Group; Edgefield Road Industrial Estate; Loanhead.
CONTRIBUTOR:		Midlothian, EH20 9SY
EMAIL ADDRESS:		rob.engl@aocarchaeology.com
ARCHIVE LOCATION		Archive to be deposited in NMRS





AOC Archaeology Group, Edgefield Industrial Estate, Edgefield Road, Loanhead EH20 9SY tel: 0131 440 3593 | fax: 0131 440 3422 | e-mail: admin@aocarchaeology.com