

Society of Antiquaries

Culduthel

An Iron Age Craftworking Centre in North-East Scotland

Candy Hatherley and Ross Murray

ISBN: 978-1-908332-19-6 (hardback) • 978-1-908332-20-2 (PDF)

The text in this work is published under a <u>Creative Commons Attribution-NonCommerical 4.0 International</u> licence (CC BY-NC 4.0). This licence allows you to share, copy, distribute and transmit the work and to adapt the work for non-commercial purposes, providing attribution is made to the authors (but not in any way that suggests that they endorse you or your use of the work). Attribution should include the following information:

Hatherley, C & Murray, R 2021 *Culduthel: An Iron Age Craftworking Centre in North-East Scotland*. Edinburgh: Society of Antiquaries of Scotland. https://doi.org/10.9750/9781908332202

Important: The illustrations and figures in this work are not covered by the terms of the Creative Commons licence. Permissions must be obtained from third-party copyright holders to reproduce any of the illustrations.



Every effort has been made to obtain permissions from the copyright holders of third-party material reproduced in this work. The Society of Antiquaries of Scotland would be grateful to hear of any errors or omissions.

Society of Antiquaries of Scotland is a registered Scottish charity number SC 010440. Visit our website at <u>www.socantscot.org</u> or find us on Twitter <u>@socantscot</u>.



This volume is dedicated to the excavation team of Culduthel

Culduthel An Iron Age Craftworking Centre in North-East Scotland

CANDY HATHERLEY and ROSS MURRAY

With contributions by

Torben Bjarke Ballin, Hillary E M Cool, Mary Davis, David Dungworth, Rob Ellam, Ian Freestone, Sarah-Jane Haston, Nick Holmes, Fraser Hunter, Susanna Kirk, Ann MacSween, Fiona McGibbon, Dawn McLaren, Abby Mynett, Gillian Paget, Daniel Sahlén, Jim Tate, Scott Timpany, Colin Wallace

> With illustrations by Julia Bastek-Michalska, Anna Fara-Pagowska, Anna Sztromwasser Headland Archaeology Ltd

SOCIETY OF ANTIQUARIES OF SCOTLAND



Edinburgh 2021

Published in 2021 in Great Britain by the Society of Antiquaries of Scotland.

Society of Antiquaries of Scotland National Museums Scotland Chambers Street Edinburgh EH1 1JF Tel: 0131 247 4115 Fax: 0131 247 4163 Email: editor@socantscot.org Website: www.socantscot.org

The Society of Antiquaries of Scotland is a Registered Scottish Charity No. SC010440.

ISBN 978 1 90833 219 6

British Library Cataloguing-in-Publication Data A catalogue record for this book is available from the British Library.

Copyright © Candy Hatherley, Ross Murray and individual contributors, 2021

Jacket images: (front) a selection of glass beads, metal offcuts and coins found at Culduthel; (back) cruciferous harness strap mount (photographs: Headland Archaeology (UK) Ltd and National Museums Scotland);

The rights of Candy Hatherley, Ross Murray and individual contributors to be identified as the authors of this work have been asserted by them in accordance with the Copyright, Designs and Patents Act, 1988.

All rights reserved.



The authors and the Society of Antiquaries of Scotland gratefully acknowledge funding towards the publication of this volume from Historic Environment Scotland.

Typeset in Bembo by Biblichor Ltd, Edinburgh Cover by River Design Books, Reston Manufactured in the EU by Finetone by arrangement with Associated Agencies Ltd, Oxford, England

CONTENTS

List of illustrations	vii
List of tables	xi
List of contributors	xiii
Summary	XV
CHAPTER I: AN IRON AGE CRAFTWORKING CENTRE	1
Introduction	1
Discovery of the site	2
Topography, landscape and settlement	4
Archaeological background	4
Preservation of the site and excavation methodology	7
This publication	11
The structure of this monograph	11
CHAPTER 2: CHRONOLOGY AND THE RADIOCARBON DATES	13
Introduction	13
Chronology	13
Radiocarbon dates	13
CHAPTER 3: EARLIER PREHISTORIC ACTIVITY AND EARLY IRON AGE OCCUPATION	19
Period 1 – Earlier prehistoric Culduthel	19
Period 2 – Early Iron Age occupation	20
CHAPTER 4: PERIOD 3 - THE IRON AGE CRAFTWORKING CENTRE	31
Introduction	31
Preservation	31
Chronology	31
Period 3a	33
Discussion (Candy Hatherley with David Dungworth, Fraser Hunter, Dawn McLaren and Gillian Paget)	62
CHAPTER 5: PERIOD 3B - THE LATER CRAFTWORKING CENTRE	69
Introduction	69
Chronology	69
Period 3b	71
Discussion	83
CHAPTER 6: THE FINDS	89
	00
Introduction	89

Part A – Pottery and fired clay	91
Prehistoric pottery (Ann MacSween)	91
Ceramic whorl (Dawn McLaren)	96
Fired clay (Gil Paget and Dawn McLaren)	96
Metalworking ceramics	104
Petrographic and technological analysis of ceramic materials (Daniel Sahlén)	118
Part B – Stone	122
Lithics (Torben Bjarke Ballin)	122
The stone artefacts (Dawn McLaren, Fraser Hunter and Fiona McGibbon)	123
The geology of the coarse stone artefacts (Fiona McGibbon)	140
Part C – Metal	142
The manufacture of iron at Culduthel: ferrous metalworking debris and iron metallurgy	
(David Dungworth and Dawn McLaren)	142
Iron artefacts (Fraser Hunter with metallographic analysis by David Dungworth)	167
Copper alloys and coins	185
	174
Part D – Glass	197
The glass artefacts and glassworking debris from Culduthel: typology, discussion and catalogue (Fraser Hunter)	197
Analysis of the glass objects (Mary Davis and Ian Freestone)	204
Vessel glass (Hillary E M Cool)	216
CHAPTER 7: CRAFT AND SETTLEMENT IN LATER IRON AGE NORTH-EAST SCOTLAND	219
Introduction	219
Living and working at Culduthel	219
Status, society and trade	220
Scales of production and networks of exchange	222
Neighbours across the north-east	224
Conclusions	229
Bibliography	230
Secondary environmental sources	240
Index	243

LIST OF ILLUSTRATIONS

All photographs and drawings are by Headland Archaeology (UK) Ltd unless otherwise credited.

Chapt	er 1	
1.1	Location of Culduthel Mains Farm. (© Headland Archaeology (UK) Ltd. Crown copyright and database right 2018)	xvi
1.2	Excavating the iron smelting furnaces	1
1.3	Team on the completion of House 4. The author (Candy Hatherley) is on the furthest right	2
1.4	Cropmark of palisaded enclosure. (© Crown copyright: Historic Environment Scotland)	2
1.5	Aerial photograph of site during excavation. (© Fraser Hunter/National Museums Scotland)	3
1.6	Plan of all archaeological features at Culduthel	3
1.7	Prehistoric sites and finds spots known prior to the 21st century. (© Headland Archaeology (UK) Ltd.	
	Crown copyright and database right 2018)	5
1.8	Archaeological investigations around Culduthel 2000–2011. (© Headland Archaeology (UK) Ltd. Crown copyright	
	and database right 2018)	6
1.9	The photographic tower in use	8
1.10	Plan of the archaeological features in the unexcavated area of the site	9
1.11	House 10 under excavation	10
Chant	er 2	
2.1	Calibrated radiocarbon dates for Culduthel	16
2.1		10
Chapt	er 3	
3.1	Period 1 – Earlier prehistoric activity	19
3.2	Phase 9 excavations at Culduthel by Headland Archaeology	21
3.3	Period 2 – Early Iron Age occupation	22
3.4	Plan of House 5	23
3.5	Plan of House 3	24
3.6	Pre-excavation photo of House 3 showing the location of SF0147	24
3.7	House 3 after excavation	24
3.8	Plan and section through Cairn 4234	25
3.9	Cairn 4234 after the excavation of the central pit	26
3.10	Plan of the palisade	27
3.11	The palisade (facing north-west)	28
3.12	South-east terminal of the palisade	28
Chapt	er 4	
4.1	Period 3a – The Iron Age craftworking centre	32
4.2	House 7 and Workshop 8 (looking west)	33
4.3	Plan of House 7	34
4.4	Plan of House 9	34
4.5	House 10 under excavation	35
4.6	House 10 all phases	36
4.7	House 10/1	37
4.8	House 10/2	37
4.9	Plan of House 17	38
4.10	Workshop 2 and smelting furnace; Section through smelting furnace	40
4.11	Smelting Furnace 681 within Workshop 2	41

4.12	Workshop 13 Stages 1 and 2; Sections through Workshop 13 post-holes	42
4.13	Plan and photo of Furnace 3050	43
4.14	Plan and photo of Furnace 3790	44
4.15	Workshop 15 under excavation	44
4.16	Workshop 15 and smelting furnaces: Section through Workshop 15 post-holes	45
4.17	Smelting furnaces 4355 (centre), 4262 (left) and 4147 (right)	46
4.18	Smelting furnaces 4147 (top), 4355 (middle) and 4262 (bottom)	47
4 19	Smelting furnace 4262 with elements of the furnace superstructure intact	48
4 20	Smelting furnaces 4355 (foreground) and 4262	48
4 21	Smelting furnace 4147 showing blocking stones	48
4 22	Plan of Workshop 16 and smelting furnace 2246: Sections through Workshop 16 post-holes: Smelting furnace	10
1.22	2246 showing reused rotary quern in situ	49
4.23	Workshop 19: Section through post-hole 2416: Photo of dagger blade in situ	50
4.24	Workshop 6	51
4 25	Workshop 12: Sections through Workshop 12 post-holes: Workshop 12 (looking east)	52
4 26	Workshop 8: Sections through Workshop 8 post-holes	53
4 27	Workshop 18	54
4.28	Workshop 11 and Hearths 26, 2434 and 2166	55
4.29	The glass and copper allow hearths under excavation	55
4 30	Plan of Hearths 2434 and 2166	56
4 31	Hearth 2434	56
4.32	Hearth 2166	57
4 33	Plan of Workshop 11 showing the location of stone basin and rotary quern	58
4 34	Distribution of CU objects, crucibles and moulds	59
4 35	Ingot mould SF0339 in situ	59
4 36	Distribution of glass beads	60
4 37	Reconstruction of iron smelting furnace	63
1.07	reconstruction of from sinching furnice	00
Chapt	er 5	
5.1	Period 3b – The later craftworking centre	68
5.2	House 10/3 during excavation	69
5.3	Plan of House 10/3: Sections through post-holes	70
5.4	House 10/3 – The ring-groove	71
5.5	Excavating stake-holes beside the outer edge of ring-groove of House 10/3	71
5.6	House $10/3$ – Stone wall base	73
5.7	House 10/3 – Paved entrance	73
5.8	House 10/3 – Distribution of finds	74
5.9	House 10/3 – Plan of abandonment layer 1671 showing finds	75
5.10	House 4 during excavation	76
5.11	Plan of House 4: Sections through post-hole; Sections through ring-ditch and ring-groove	76
5.12	House 4 – Stone paving and walling within ring-ditch	77
5.13	House 4 – Plan of abandonment layers showing finds distribution; Sections through ring-ditch and ring-groove	78
5.14	House 10/3 – Cobbled yard 1945	79
5.15	Plan of cobbled yard 1945	79
5.16	Plan of abandonment layers and distribution of finds	81
5.17	Industrial waste (798) overlying cobbled yard (1945)	82
5.18	Baulk across the cobbled yard and overlying waste	82
5.19	Reconstruction of House 10/3	84
5.20	Structure 1 at Bellfield, North Kessock	85
Chavt	er 6	
6.1	Prehistoric pottery (Vessels 1–3)	92
6.2	Prehistoric pottery (Vessels 4, 18 and 19)	93
6.3	Fired clay	97
6.4	Fired clay	99
6.5	Crucibles	100
6.6	Crucibles	105
6.7	Moulds	107
6.8	Mould	107

LIST OF ILLUSTRATIONS

6.9	Proportion of analysed sherds showing a peak, a trace or no evidence for key elements (Cu, copper; Zn, zinc;	100
< 10	Pb, lead; Sn, tin; Ag, silver). (a) crucibles (68 sherds analysed); (b) moulds (20 sherds analysed)	108
6.10	Degree of wear on crucible sherds (excluding items recovered from sieving, since this process caused wear)	109
6.11	Tuyères (SF0524)	115
6.12	Tuyères (SF0431)	116
6.13	Geological setting of the district around Culduthel, Inverness, after Fletcher et al (1996)	120
6.14	Comparison of amount of alumina versus alkali elements for the different samples; values are percentages	120
6.15	Saddle querns and a cobble tool	124
6.16	Rotary querns	126
6.17	Rotary querns	127
6.18	Worked stone – Whetstone, shale bead, spindle whorl and a pounder	129
6.19	SEM image (back-scattered electron detector) of sample 1139 (slag cake from context 411). The bright globular	
	dendrites are the iron oxide wüstite, the light grey laths are the iron silicate fayalite	147
6.20	SEM image (back-scattered electron detector) of sample 1148 (large fragment of flowed slag from context 185).	
	The bright globular dendrites are the iron oxide wüstite, the light grey laths are the iron silicate fayalite	147
6.21	SEM image (back-scattered electron detector) of sample 1157 (slag cake from context 4145) showing wüstite	
	and fayalite as well as several large hercynite (FeAl ₂ O ₄) crystals (mid-grey, centre and left)	148
6.22	SEM image (back-scattered electron detector) of Sample 1130 (unclassified slag with charcoal impressions	
	and some signs of flow from context 4260) showing a crystal of leucite and leucite-wüstite (centre left)	148
6.23	SEM image (back-scattered electron detector) of Sample 1153 (small lump of dense slag from context 3756)	
	showing a microstructure dominated by iron oxides. There are clearly two different types of iron oxide present:	
	the darker phase contains a small proportion of aluminium	149
6.24	SEM image (back-scattered electron detector) of Sample 1152 (plano-convex slag cake from context 4145)	
	showing the complete crystallisation/devitrification of the glassy matrix	149
6.25	SEM image (back-scattered electron detector) of the microphase separation in the glassy matrix of Sample 1152	
	(plano-convex slag cake from context 4145)	149
6.26	SEM image (back-scattered electron detector) of Sample 1123 (clay furnace wall material from context 4175)	
	showing the vitrified outer surface at the top (containing large areas of porosity (black)) and the underlying	
	ceramic material (containing large angular grains of quartz (dark grey))	150
6 27	SEM image (back-scattered electron detector) of Sample 1123 (clay furnace wall material from context 4175)	100
0.27	showing the microphase separation in the vitrified outer surface	150
6 28	(a and b) SEM images (back-scattered electron detector) of Sample 1065 (flake hammerscale from context 3022)	150
0.20	showing the layers of wijstite/magnetite	150
6 29	(a and b) SEM images (back-scattered electron detector) of Sample 1052 (spherical hammerscale from context 3022)	150
0.27	showing the typical hollow spherical structure and dendritic microstructure	151
6 30	SEM image (back scattered electron detector) of Sample 1126 (smithing pan context 412) showing the flake	151
0.50	hammerscale and rock fragments	151
6 31	SEM image (back sectored electron detector) of Sample 1103 (magnetic flake from context 3050) showing the	131
0.51	SERVI Image (back-scattered electron detector) of sample 1105 (magnetic make from context 5050) showing the	151
6 22	SEM image (heals contained cleaters) of Semple 1140 (uncleasified cleathurst from context 185) showing	151
0.32	SEW image (back-scattered electron detector) of Sample 1149 (unclassified sing lump from context 185) showing	150
(22	Silies and increased a content of all hulls along	152
0.33	Silica and iron oxide content of all bulk slags	152
6.34	Magnesia and time content of all bulk stags	153
0.35	Alumina and manganese oxide content of all bulk stags $11 (1120 + 1120)$	153
6.36	Linescans through the thickness of a fragment of furnace wall (sample 1120, context 185)	154
6.3/	Iron oxide and silica content of the hammerscale samples	155
6.38	Alumina and phosphorus oxide content of the hammerscale samples	155
6.39	Optical microscope image of a bloom fragment (Sample 2006, SF0361). The sample is dominated by pearlite	4.5.4
< 10	with laths of cementite	156
6.40	Optical microscope image of a bar fragment (Sample 2016). The sample is dominated by pearlite with cementite	
	at prior austenite grain boundaries	156
6.41	Optical microscope image of a spearhead ferrule (Sample 2014, SF1026). The sample contains both pearlite	
	and ferrite. Note also the dark thin bands of entrapped slag (slag inclusions)	157
6.42	Optical microscope image of a knife tip (Sample 2013, SF1209). The sample contains only ferrite. Note also	
	the dark thin bands of entrapped slag (slag inclusions)	157
6.43	Average chemical composition of slag inclusions compared with Culduthel slag	157
6.44	Iron craft tools	169
6.45	Iron craft tools and sickle (SF0510)	170

6.46 6.47	Iron tools, daggers, pins and belt hooks Iron linchnin, holdfaste, holts and a roue	171 173
6.48	Unfinished iron. Top left: SE0287, top centre: SE03582, top right: SE0204, hottom left: SE0435, hottom right: SE0522	174
6.49	Offente	175
6.50	Commer allow artefacts	195
6.50	Harnoss stron mount	185
6.52	Sword hilt guard	186
6.52	Designed sing handed sing	100
0.55	Projected mig-neaded pm	100
0.54	Dumb-bell toggle	100
6.55	Roman coin (SF0401)	188
6.56	Roman coin (SF0503)	188
6.57	Copper-alloy artefacts	189
6.58	Lead artefacts	194
6.59	Pewter artefact	194
6.60	Culduthel lead isotope values plotted against those from other published Scottish lead sources	196
6.61	Glass artefacts	198
6.62	Glass – colours and types of object	199
6.63	Cross-section of opaque red rod (SF1268)	199
6.64	Broken opaque red block showing the trail of a yellow strand twisted with a clear strand (SF1289)	199
6.65	Opaque yellow decoration on bead seen through broken clear glass (SF0846)	199
6.66	Small blue annular bead (SF1260)	200
6.67	Small blue barrel-shaped bead (SF1261)	200
6.68	Dark green/blue bead (SF0486)	201
6.69	Blue toggle with yellow decoration (SF0938)	201
6.70	Antimony-coloured bead (SF0612)	201
6.71	Tin-coloured bead (SF1254)	201
6.72	Colourless glass bead with vellow decoration (SF0399)	202
6.73	Pale glass fragments (SF1262)	202
6.74	Blue and white spiral (SE1011)	203
6 75	Antimony-rich blue flake (SE1266)	203
6.76	Opaque vellow ball (SF1294)	204
6.77	Glass 'rod' with discoloured outer surface (SE0355)	204
6.78	SEL vellow and clear glass (scale bar = 50 µm); surface undulation in the flake (SE1286)	205
6.79	BSEL vellow and clear glass (scale bar $= 50 \mu m$); fine particles (SE1286)	205
6.80	Sode /cilica composition of the class the how illustrates the normal composition for code lime silica class from the	205
0.80	LLA /D amon partial, and differentiates outline with law and a values	200
6.01	Sectors discourse of during economic silies illustrating economic of the slope coefficient	208
0.81	Scatter diagram of alumina versus sinca industrating some of the glass outliers $DEL = (1 - 1)^{1/2} = (1 - 1$	208
6.82	BEI of cuprite dendrites within red glass (scale bar -10μ m) (SF1269)	209
6.83	This scatter diagram of the two main additional elements (copper oxide and lead oxide) added to LIA opaque red glass illustrates	200
6.0.1	how the Culduthel glass sits as a discrete group among other similar Late Iron Age red glass, and away from Roman red glass	209
6.84	Scatter diagram of manganese oxide versus magnesia and potash, showing grouping of red glass from Culduthel	210
6.85	Scatter diagram showing a clear linear correlation between alumina and iron oxide on red glass from Culduthel	210
6.86	Lead and antimony levels in the yellow glass. The two tin-coloured beads are in the top left-hand corner	211
6.87	Scatter diagram showing the similarity of the yellow glass from Culduthel to other British IA glass and Roman	
	Mediterranean coloured glass dating from 1st century BC to 1st century AD (Freestone Roman mosaic vessel glass,	
	Jerusalem glass ref). There is a noticeable difference from British vessel glass from Binchester (Paynter 2006);	
	Colchester, York, Leicester, Mancetter (Jackson 2005) and Lincoln	211
6.88	Various IA and RB blue glasses showing a diversity of colourless glasses used before the addition of colourants.	
	(Henderson 1995; 1987c; 1987b; MacDonald & Davis 2002)	214
6.89	Scatter diagram showing how the colourless glass is distributed; the three decorated beads are on the right-hand side	214
6.90	BSEI of bead perforation, showing iron scale lining the inside of the hole. (Scale bar = $500 \mu m$) (SF0399)	216
6.91	BSEI of bead perforation, showing cross-section of iron scale lining the hole. (Scale bar = $30 \mu m$) (SF0399)	216
01		
Chapte		~~ <i>i</i>
/.1	I he later prehistoric sites within the study area	224
7.2	Excavated unenclosed settlement sites within the study area. The locations of promontory forts, ritual sites and glass	
	manufacturing sites are also shown. ^(C) Headland Archaeology (UK) Ltd	226
7.3	Aerial shot of excavations at Birnie, Moray in 2008. © Aberdeenshire Council Archaeology Service AAS-08-4 DG CT_0326	227

LIST OF TABLES

1.1	Sites, findspots and cropmarks in the immediate vicinity of Culduthel	5
2.1	Radiocarbon dates from Culduthel	14
4.1	Summary of principal features of the workshops	39
6.1	Summary of fabric types present	96
6.2	Summary of condition of the fired clay	96
6.3	Summary of range of wattle impressions present	99
6.4	Distribution of crucibles and moulds by context (by fragment count and weight). Joining fragments in a context	
	are counted as one	109
6.5	Catalogue of illustrated crucibles	110
6.6	Catalogue of illustrated moulds	112
6.7	Distribution of tuyère fragments by form	114
6.8	List of ceramic samples selected for petrographic and technological analysis	119
6.9	Summary of petrographic analysis	120
6.10	Range and quantities of coarse stone tools present	123
6.11	Distribution of stone artefact types by area and structure	131
6.12	Range of wear identified on the grinding and working surfaces from the site	138
6.13	Range of diagnostic and undiagnostic debris present at Culduthel	144
6.14	Distribution of slag by area	158
6.15	Distribution of ferrous metalworking waste by context type	158
6.16	Range and quantity of slag by feature category	159
6.17	Range and quantity of slag present within in situ metalworking features	160
6.18	Range and quantity of slag present within discrete dumps	161
6.19	Range and quantity of slag present within spreads	162
6.20	Range and quantity of slag reused as cobbling and wall core material	163
6.21	Range and quantity of slag in residual contexts	164
6.22	Summary of functional categories in Culduthel ironwork, with numbers and total mass of iron	168
6.23	Iron tools from Culduthel	172
6.24	Summary of metallographic and slag inclusion data	175
6.25	Overall character of iron finds by context type	176
6.26	Material categories by context type	176
6.27	Find categories by structure	177
6.28	Comparison of major Scottish Iron Age ironwork assemblages	177
6.29	Summary of copper alloy assemblage by functional category and context	180
6.30	Petal and cruciform strap mounts and junctions known to the writer	187
6.31	Alloy types (from surface X-ray fluorescence) correlated with manufacturing technology	190
6.32	Occurrence of minor elements by technology and alloy type	191
6.33	Results of quantitative analysis of six fragments of casting debris, compared with the results from (semi-quantitative)	
	surface analysis and (italicised in the final column) the alloy type from surface analysis	191
6.34	Summary of casting debris by context	193
6.35	Catalogue of coiled strips. c.1671 is a post-abandonment context which represented the interface between the feature	
	fills in House 10/3 and the base of the ploughsoil; it is not securely Iron Age	194
6.36	Lead isotope ratios	195
6.37	Analytical results	206
6.38	Modern and slag analytical results	213

LIST OF CONTRIBUTORS

TORBEN BJARKE BALLIN Lithic Research, Banknock Cottage, Denny, Stirlingshire FK6 5NA

HILLARY E M COOL Barbican Research Associates, 16 Lady Bay Road, West Bridgford, Nottingham NG2 5BJ

MARY DAVIS Department of Collections Services, National Museums Scotland, Chambers Street, Edinburgh EH1 1JF

> DAVID DUNGWORTH English Heritage, Fort Cumberland, Portsmouth PO4 9LD

> > ROB ELLAM

Scottish Universities Environmental Research Centre, Scottish Enterprise Technology Park, Rankine Avenue, Glasgow G75 0QF

IAN FREESTONE University College London, Institute of Archaeology, 31-34 Gordon Square, London WC1H 0PY

> SARAH-JANE HASTON Formerly Headland Archaeology, 13 Jane Street, Edinburgh EH6 5HE

> > NICK HOLMES

Research Associate, Numismatics (retired curator), Department of Scottish History and Archaeology, National Museums Scotland, Chambers Street, Edinburgh EH1 1JF

FRASER HUNTER Department of Scottish History and Archaeology, National Museums Scotland, Chambers Street, Edinburgh EH1 1JF

SUSANNA KIRK Department of Conservation and Analytical Research, National Museums Scotland, Chambers Street, Edinburgh EH1 1JF

> ANN MACSWEEN Historic Environment Scotland, Longmore House, Salisbury Place, Edinburgh EH9 1SH

FIONA MCGIBBON The University of Edinburgh, School of Geoscience, The King's Buildings, James Hutton Road, Edinburgh EH9 3FE

DAWN MCLAREN AOC Archaeology Group, Edgefield Road Industrial Estate, Loanhead EH20 9SY (formerly National Museums Scotland)

> ABBY MYNETT Wessex Archaeology, 21-23 Slater's Steps, Edinburgh EH8 8PB

GILLIAN PAGET National Museums Scotland, Chambers Street, Edinburgh EH1 1JF

DANIEL SAHLÉN Stockholm University, Department of Archaeology and Classical Studies, Wallenberglaboratoriet,SE-106 91 Stockholm, Sweden

> JIM TATE National Museums Scotland, Chambers Street, Edinburgh EH1 1JF

SCOTT TIMPANY University of the Highlands and Islands, East Road, Kirkwall, Orkney, KW15 1LX

COLIN WALLACE University of Liverpool, Archaeology, Classics and Egyptology, 12–14 Abercromby Square, Liverpool, LG9 7WZ

> HEADLAND ARCHAEOLOGY LTD ILLUSTRATORS Julia Bastek-Michalska Anna Fara-Pagowska Anna Sztromwasser

SUMMARY

In 2005, Headland Archaeology excavated a site at Culduthel Farm on the southern outskirts of Inverness. What was initially a small-scale excavation of a palisaded enclosure turned into a major discovery when the works revealed a well-preserved craft production centre with large-scale roundhouses, multiple workshops containing iron smelting furnaces and glass and bronzeworking hearths. The extensive artefactual assemblage contained a rich range of material including craftworking tools, working waste and finished items. The site is highly significant for the study of the Scottish Iron Age and paints a detailed picture of the craft processes at play in the community, their contacts and networks for the procurement of raw materials and exchange of utilitarian and exotic objects. Archaeological analysis of the site informs wider research topics for the Iron Age in Scotland, illuminating the contact between Scotland and Rome in the early 1st Millennium AD and adding to our knowledge of how status was defined and displayed at this time.