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Culduthel

An Iron Age Craftworking Centre in North-East Scotland

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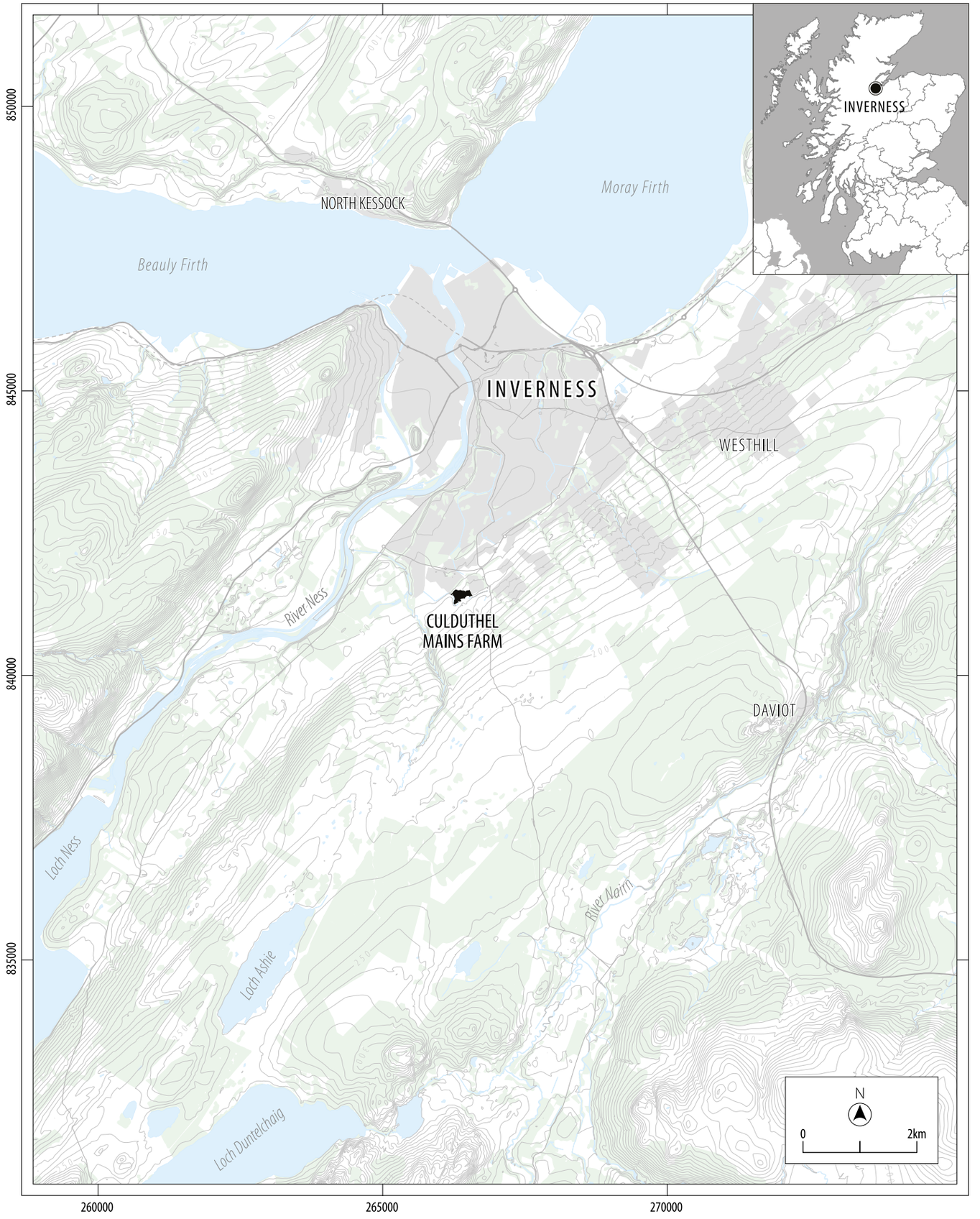

Illustration 1.1
Location of Culduthel Mains Farm. (© Headland Archaeology (UK) Ltd. Crown copyright and database right 2018)

Chapter 1

AN IRON AGE CRAFTWORKING CENTRE

Introduction

The Iron Age craftworking centre site known as Culduthel was identified in 2005 on the southern outskirts of Inverness prior to the development of the land for housing (Illus. 1.1). The excavation revealed a well-preserved settlement whose occupants had specialised in the production of iron, bronze and glass objects. Large-scale roundhouses, workshops, iron smelting furnaces and multi-purpose hearths were identified alongside a highly significant artefactual assemblage that included craftworkers tools, working waste and finished items (Illus. 1.2 and 1.3). A diverse assemblage of imported items shows that this proficient craftworking community was well-connected, participating in wide-ranging interactions with complex networks of exchange and trade, including contact with the Roman world.

The quality and quantity of the archaeological evidence recovered at Culduthel paints a vivid picture of an Iron Age community engaged in developed and sustained craft production at some point between the 2nd century BC and the early to mid-2nd century AD. The preservation of a suite of smelting furnaces, along with a substantial assemblage of iron objects and manufacturing waste, demonstrate that the site must have been a centre for significant iron production in the region with manufacture undertaken by skilled ironworkers. The wealth of evidence for this production has elucidated the entire ironworking cycle carried out on site, from the smelting of the ore to the manufacture of individual finished objects, while the range of iron artefacts recovered (including specialist craft tools, agricultural and architectural implements, weaponry and chariot parts) provides exceptional insights into the spectrum of activities in play in Iron Age northern Scotland.

The evidence for non-ferrous metal- and glassworking represents a smaller-scale industry than the iron production, underway prior to any significant contact with the Roman world at some point between the 2nd century BC and early 1st century AD. Assemblages of crucible and mould fragments, casting waste and finished and unfinished copper alloy objects demonstrate that bronzeworkers were making high-quality decorative pieces. The analysis of the glassworking debris, mostly offcuts from imported glass rods and a range of molten waste, show that coloured beads and enamels for decorating prestigious metal objects were the main products. The distribution of the non-ferrous and glassworking debris confirms that glass and bronze objects were manufactured in tandem, probably within a single specialist workshop.

Culduthel is one of the most significant Iron Age sites excavated in mainland Scotland in the last 20 years, a purpose-built manufacturing hub for iron, glass and bronze objects run by an influential and prestigious community. The site has produced secure evidence for glassworking which demonstrates that it was one of several centres of bead production in North-east Scotland in this period. It has also produced the largest later prehistoric iron and copper alloy working assemblage so far identified in Scotland, the study of which has significantly altered our

Illustration 1.2
Excavating the iron smelting furnaces

Illustration 1.3
Team on the completion of House 4. The author (Candy Hatherley) is on the furthest right

perceptions of Iron Age craft skills, technologies, innovation and manufacture.

Discovery of the site

Between 2004 and 2012 a phased plan for a large-scale housing development by Tulloch Homes Ltd on the southern outskirts of Inverness triggered a series of archaeological investigations by Headland Archaeology (UK) Ltd. Evaluations in the area prior to the discovery of the Iron Age settlement had identified little archaeology (Dutton 2004; Halliday 2000; Hastie 2004) but a single large field (*c.*5ha) was deemed to have higher archaeological potential as it contained the cropmark of a palisaded enclosure Old Town of Leys (NH64SE 241) (Illus. 1.4). An evaluation in May 2005 focused on locating the palisade, determining its level of survival and identifying if there was any associated settlement within its interior or immediate environs. Targeted trial trenches located the palisaded enclosure and showed it was well preserved along most of its circumference with features in the interior. Trenches across the remainder of the field identified two further concentrations of archaeology (in the south-west and north-east corners). An area along the northern edge of the field was excluded from the evaluation due to the presence of badger setts.

An excavation followed the evaluation in June 2005, with the objective of stripping and excavating the three concentrations of archaeological features previously identified (the palisaded

Illustration 1.4
Cropmark of palisaded enclosure.

enclosure, the south-west and north-east corners of the field). During the stripping of these areas, it quickly became clear that the archaeological activity continued beyond these areas and that the palisaded enclosure was not the main focus of the settlement. Discussions between Highland Council Archaeology Services, Headland Archaeology and Tulloch Homes Ltd concluded that the whole development area should be stripped of topsoil and the full extent of the archaeology within the land parcel be revealed. This topsoil strip, which included the area of the (now vacated) badger setts along the northern edge of the field, was archaeologically monitored by Alba Archaeology Ltd. Once stripping began in earnest it became clear that part of a spectacular prehistoric settlement had been discovered, located mainly to the north-west of the palisaded enclosure and previously not visible on aerial photographs (Illus. 1.5). Initial investigations indicated that this was a well-preserved, and multi-phase, Iron Age settlement with at least 17 roundhouses, alongside multiple features associated with ferrous metalworking (Illus. 1.6). These remains appeared to be extant on a scale previously unseen in mainland Scotland and included multiple stone-based iron smelting furnaces and intact stratified working surfaces overlain with vast spreads of waste debris.

Illustration 1.5
Aerial photograph of site during excavation.
(© Fraser Hunter/National Museums Scotland)

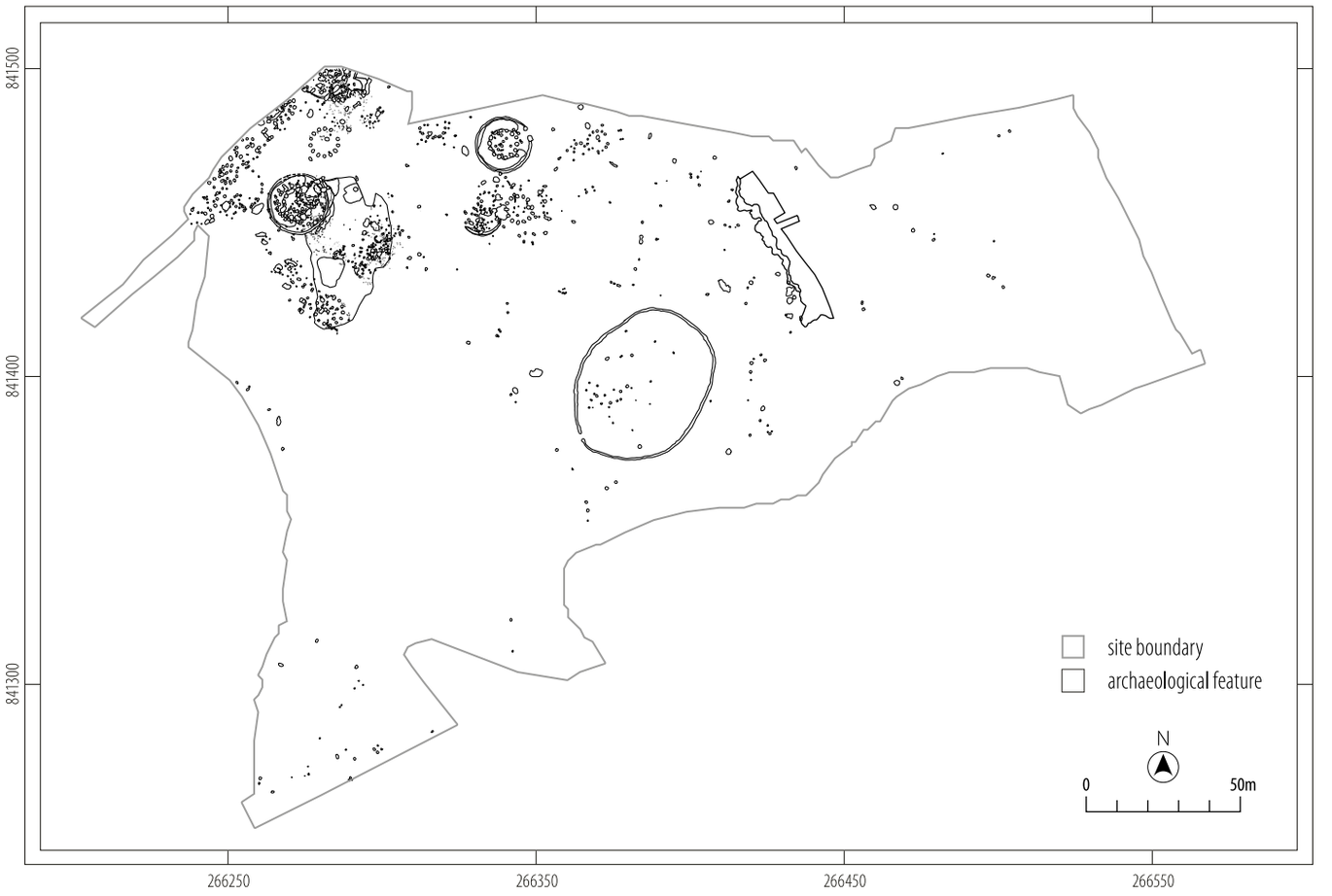

Illustration 1.6
Plan of all archaeological features at Culduthel

Once stripping was completed, Headland Archaeology was approached to produce a methodology for the excavation of the site. This work, and the subsequent excavation, is detailed in the *Preservation of the site and excavation methodology* section below.

Topography, landscape and settlement

Landscape setting

The location of Culduthel is significant. It is situated on the southern edge of the Moray Firthlands, the east coast of northern Scotland running from Orkney to Moray. The site is located on the southern shores of the Beauly Firth, a sheltered inlet of the Moray Firth that must have provided a major routeway for waterborne trade and communication along the coast and the greater Moray Firth to the north. The entire southern coast of the Moray Firth is a low-lying coastal plain that forms a discrete topographic zone bounded to the south by the Grampian mountain range, which acts as a natural boundary for a narrow strip of rich arable land with a highly accessible coastline facing the Moray Firth from Inverness to Peterhead. This fertile plain has a wealth of resources and has been noted as an attractive region for settlement from early prehistory (Jones et al 1993). It is intersected by four major rivers: the River Ness at Inverness and Findhorn, the Spey and the Deveron along the coast, and the Moray and Beauly Firths to the north.

The wider Moray Firthlands were clearly an important and busy maritime routeway through history for the exchange of goods and ideas and the movement of people. That this coastline was a key route for communication and cultural exchange in prehistory is well-illustrated by the spread of Neolithic Orkney/Cromarty tombs across Orkney and down the east coast to Inverness (Bradley 2000, Illus. 3). The meeting point of the greater and Inner Moray Firth appears key to this distribution and has been considered a frontier where a range of different cultural traditions may have intersected throughout prehistory (Bradley 2000, 229; Carver 2008, 193; Henshall and Ritchie 2001, 31). This 'boundary' is seen again in the distribution of large stone-built Iron Age roundhouses termed 'Atlantic roundhouses', whose concentrations down the east coast of Caithness and Sutherland notably peter out at the southern shores of the Beauly Firth (Illus. 7.1; Cunliffe 2005, figure 14.12).

Local topography

The site itself lies inland from the coast, *c.*4.5km to the south of the city of Inverness (NGR NH 6640140) (Illus. 1.1). It is situated on a spur of land near the base of a broad sand and gravel moraine terrace, a continuation of the southern bank of Loch Ness and the edge of the Great Glen Fault, which forms a dominant landscape feature in the area. The site's elevated position on this spur allows for clear views over the broad valley to the north and west, across the mouth of Ness valley and the Beauly and Moray Firths to the Black Isle.

Locally the site is positioned between the 60 and 65m contours at the base of a steep slope that runs downhill from moorland in the south. Adjacent to the site is a tributary of the River Ness (the Big Burn). Via this waterway, access could have been gained in wooden vessels to the River Ness and downstream to the Beauly Firth. South along the River Ness gains access to Loch Ness and the Great Glen, opening a route to the west coast and the Atlantic.

This area was part of the rural hinterland of Inverness until the end of the 20th century but is now located on the southern edge of the modern city. The field had formed part of Culduthel Mains Farm, with 19th and 20th century Ordnance Survey maps showing it as the southern part of a parcel of agricultural land (Ordnance Survey 1874).

This area enjoys fertile soils and a microclimate that belies its northerly latitude, as the mountains to the south and west shield it from the worst of the prevailing weather and provide some shelter (Richards 1999, 9–10). Roy's Military Survey of the late 18th century shows small clusters of houses strung out along the terrace, from Torbreck in the south-west to Castlehill in the north-east, marking the boundary between the cultivated land to the north and the rough grazing and moorland to the south. Modern agricultural improvements have extended the boundary between cultivated land and rough grazing a little further up the hills to the south, but 2km south of the site forestry marks the beginnings of the uplands proper.

The natural topography of the gently sloping pasture field was revealed once stripping of the topsoil and subsoil was complete. The underlying ground was undulating, with two prominent areas of higher ground separated by a large depression. The north-east part of the site sloped downwards from east to west to an area of flat ground at the base of this slope while the western edge of the site sloped sharply down towards a small stream. Between these areas of higher ground was a depression where hillwash had accumulated over the centuries, sealing and preserving the archaeological features in this area from the plough.

Archaeological background

Prior to its intensive development in the 21st century, the area was known to be rich in prehistoric sites, included some significant monuments and finds particularly from the later Neolithic and Bronze Age periods. The National Record of the Historic Environment and the Highland Historic Environment Record show numerous sites and finds spots in the immediate vicinity of the site recorded since the 18th century (Table 1.1). Many of these sites were located on the gentle north-west slope of the terrace and had been identified during the cultivation of this fertile area (Illus. 1.7). There is a stone circle at Torbreck to the west of the site (NH64SW 1), and a ring-cairn of the Clava type (NH64SE 26 – Site 1 on Illus. 1.7) on a rise to the north-west of the site, with a second Clava-type cairn a little further away to the north-east at Druidtemple (NH64SE 23). A Bronze Age gold torc (NH64SE 24), now lost, was ploughed up close to this latter cairn, where there were also reports of cists and urns being found in the vicinity. A number of Bronze Age short cists were discovered to the north and north-east of the site, including one found in 1975 which contained a Beaker, an archer's wrist guard in green-grey stone with gold rivet caps and a very fine set of barbed and tanged arrowheads (NH64SE 36 – Site 5 on Illus. 1.7). A second contained a jet necklace and bronze awl (NH64SE 30 – Site 4 on Illus. 1.7).

Table 1.1
Sites, findspots and cropmarks in the immediate vicinity of Culduthel

Site No.	NRHE No.	Site name	Description
1	NH64SE 26	Culduthel	Clava-type cairn
2	NH64SE 49	Culduthel	Two re-touched pieces of flint and a blue glass bead, found in a ploughed field
3	NH64SE 33	Culduthel Mains, Knocknagael	Bronze Age short cist
4	NH63SE 30	Culduthel	Bronze Age short cist – a crouched female skeleton, a necklace or girdle of jet, including a V-perforated toggle, a small flake of obsidian a fragment of a bronze awl, and pieces of charcoal
5	NH64SE 36	Culduthel	Bronze Age short cist, containing a skeleton, beaker, eight flint arrowheads, bone toggle, amber bead, and a rare stone arm-bracer (used by archers to protect their arms from the bowstring) mounted with four large gold caps measuring about a quarter of an inch across their heads
6	NH64SE 25	Knocknageal Boar Stone	Class I Pictish Symbol Stone bearing a boar surmounted by a mirror-case
7	NH64SE 241	Old Town of Leys	Cropmark – Enclosure; palisaded
8	NH64SE 71	Culduthel	Cropmark – Barrow (possible)
9	NH64SE 48	Inverness, Royal Academy	A riveted piece of bronze and several flints, including a microlith, found during work on Academy

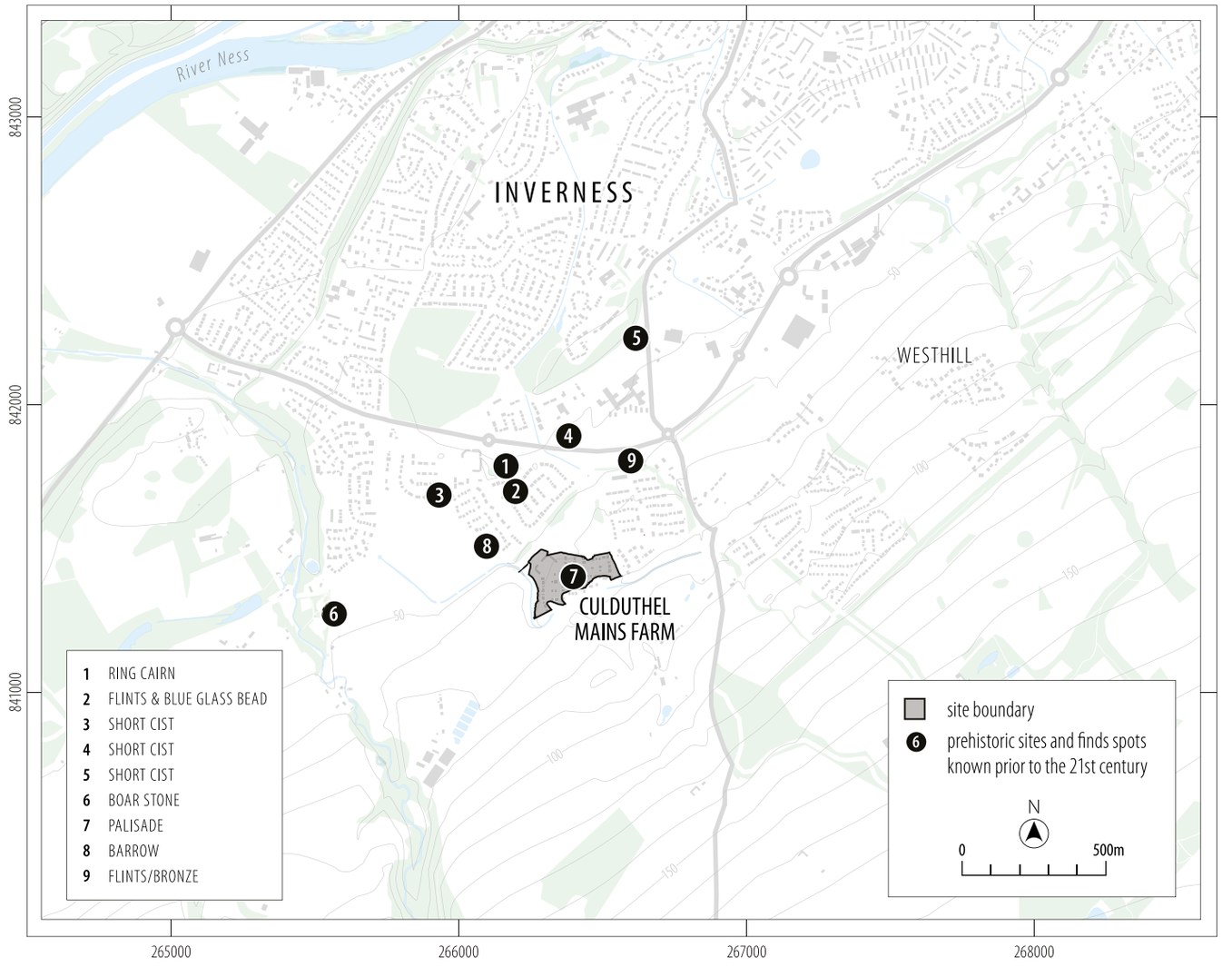

Illustration 1.7
Prehistoric sites and finds spots known prior to the 21st century. (© Headland Archaeology (UK) Ltd. Crown copyright and database right 2018)

The Knocknagael Boar Stone (NH64SE 25 – Site 6 on Illus. 1.7) is a Class I Pictish symbol stone formerly located to the west of the site. The stone is now in the foyer of the Highland Council Offices in Inverness.

Cropmarks visible on aerial photographs have expanded this picture of prehistoric ritual and funerary activity along the terrace to include a possible barrow (NH64SE 71 – Site 8 on Illus. 1.7). Settlements have also been identified on aerial photographs around Torbreck (NH64SE 70), Lower Slackbuie (NH64SE 37) to the west, and the Iron Age settlement and palisade at Balloan Park to the north-east (NH64SE 42 (Wordsworth 1999)).

Modern archaeological investigations

This area has seen major development in the late 20th and early 21st centuries with the expansion of the city's housing, infrastructure and shopping centres. As the terrace and its environs is known to be rich in prehistory, archaeological investigations prior to construction in the area of Culduthel have been frequent and this is now one of the most thoroughly investigated landscapes in north-east Scotland (Illus. 1.8).

Most fields in the immediate vicinity of the site have undergone investigation (Illus. 1.8 – Headland Archaeology Investigations Phases 1 to 9). Unfortunately, the fields to the north and north-west of the site, into which the Iron Age activity seen on the site may have originally extended, were heavily plough truncated and almost void of archaeological features (Headland Phases 1 and 4 (Hastie 2004); Headland Phase 6 (McCondichie 2006)). Archaeological investigations in the wider area have identified Neolithic, Bronze and Iron Age activity, which is detailed below. Where available, radiocarbon dates gained for this activity have been recalibrated using OxCal v 4.2 (Bronk Ramsey 2009), which utilises the most recent calibration curve available at the time of writing (Reimer et al 2013).

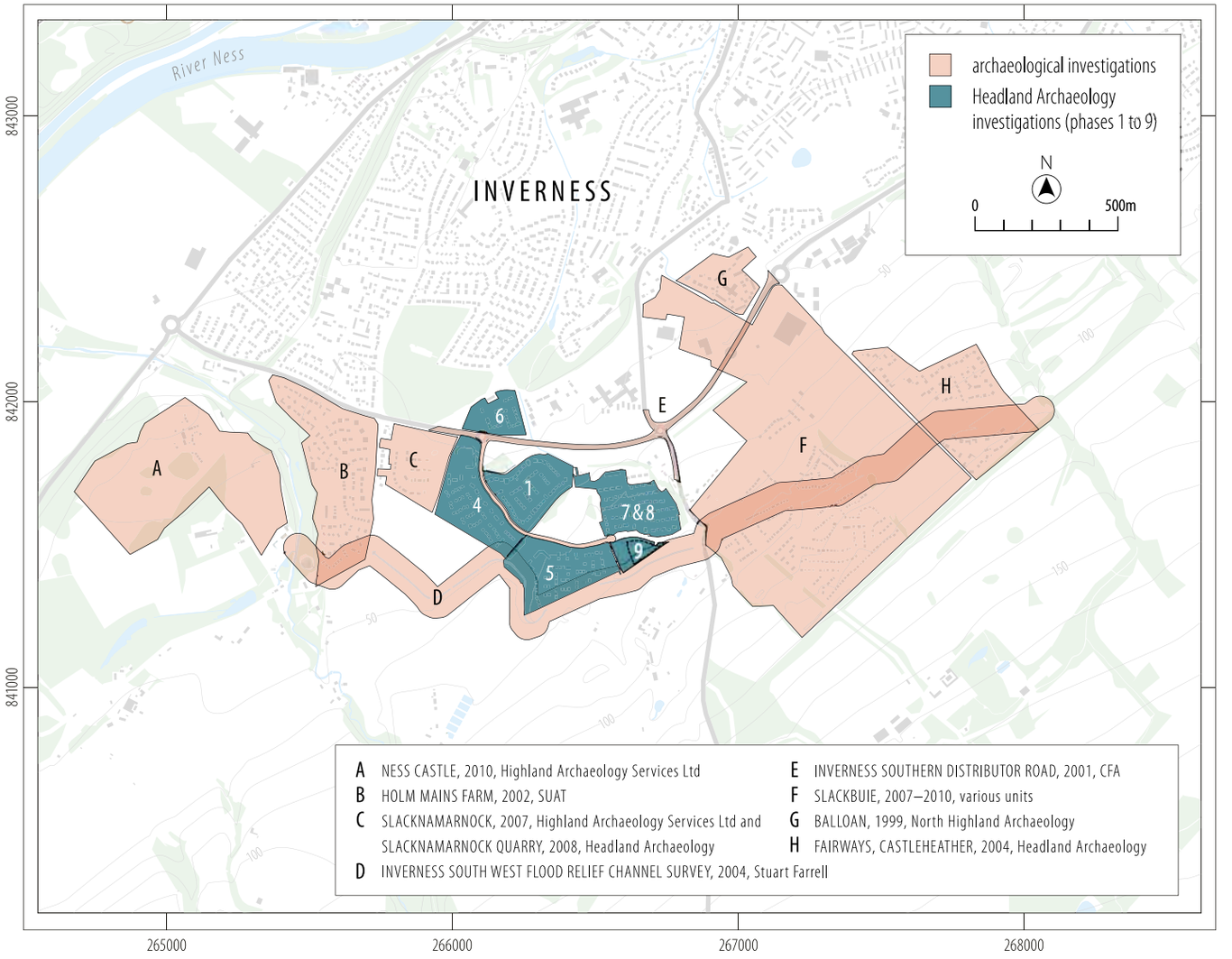

Illustration 1.8
Archaeological investigations around Culduthel 2000–2011. (© Headland Archaeology (UK) Ltd. Crown copyright and database right 2018)

Early prehistoric activity

Corroborating the evidence from the national and regional monuments records that the terrace was a hub for earlier prehistoric activity, investigations along the Southern Distributor Road to the north of the site identified numerous pits, mostly thought to be Neolithic in date (Site E on Illus. 1.8; Suddaby 2001). Work on the same linear scheme also identified prehistoric settlement evidence including pits, post-holes and Bronze Age pottery (Kilpatrick 2009; 2010). At Holm Mains Farm to the west of the site, two early Bronze Age cists with Beaker pots were uncovered in 2003 (Site B on Illus. 1.8; Brown 2003). One of the cists contained an individual male placed in a crouched position, accompanied by a collection of lithics including two barbed-and-tanged arrowheads.

Excavation at Slacknamarnock Quarry (Site C on Illus. 1.8) also identified a cist burial containing a crouched inhumation and a pit with a double cremation (Murray 2009). These were located close to a cist burial discovered in 1970 during quarrying (NH64SE 33). None of the burials have been dated but they may broadly be assigned a Bronze Age date.

Headland's Phase 7, 8 and 9 investigations identified substantial earlier prehistoric activity including a possible Neolithic mortuary enclosure alongside clusters of pits with Early, Middle and Late Neolithic pottery (Headland Phase 9 (van Wessel 2012)) and a multi-phase landscape with evidence of Neolithic, Bronze Age and Early Historic activity (Headland Phase 7 and 8 (Murray 2008)). Both these sites are further explored in Chapter 3.

Later prehistoric activity

Later Bronze Age and Iron Age unenclosed settlements have been identified in the land around the site. At Balloan Park an evaluation across the line of a cropmark palisade enclosure (NH64SE 42) identified hints of an extensive unenclosed settlement surrounding the small oval enclosure (Site G on Illus. 1.8; Carter and Russell-White 1993; Wordsworth 1999). The narrow stone-filled palisade ditch was unfortunately not dated, and nor was its interior investigated. The two radiocarbon dates gained for the site, for features outside of the enclosure, returned an Early Iron Age date (770–390 cal BC – GU3174) and a Middle Iron Age date (60 cal BC–cal AD 250 – GU3175) (Wordsworth 1999).

An evaluation of another unenclosed settlement at Balloan Park (Site G on Illus. 1.8 – Balloan Cottages NH64SE 37) identified post-holes and pits, two of which were dated to the Middle Iron Age (350–50 cal BC – SUERC-32353; 200–50 cal BC – SUERC-32354) (Farrell 2010). Further south at Slackbuie, one of the numerous investigations of this area identified a complex of pits and post-holes, which appeared to represent the remains of several roundhouses and storage pits (Site F on Illus. 1.8; Fyles 2007; Dutton 2007). Mid- to late Bronze Age pottery recovered was complemented by radiocarbon dates, indicating Bronze Age activity on the site. The clearest visible structure was a roundhouse with a central hearth dated to the Middle Iron Age (350–40 cal BC – SUERC-15207).

The only confirmed early medieval activity in the area was a metalworking site excavated in Headland's Phase 7 and 8 excavations, a rare site for mainland Scotland as most evidence for metalworking in this period comes from the Northern Isles (e.g. Birsay, Orkney (McDonnell 1986); Scatness, Shetland (McDonnell 1998a)). A cobbled surface preserved below an area of hillwash containing 11 iron objects including a small knife blade, a hook, a decorated copper alloy pin and a fragment of lead plate. Metalworking debris overlying the cobbles included furnace bottoms, smelting and smithing slag, suggested that small-scale metalworking was taking place (Murray 2008; Hatherley and Scholma-Mason [forthcoming]). Charcoal overlying the cobbles was dated to cal AD 570–650 (SUERC-20239), an early medieval date that was supported by proxy dating of the metal objects. To the east of the cobbled surface was a bowl furnace for smelting and to the west were numerous pits, including one that contained nearly 16 kg of iron slag, including several furnace bases. Charcoal from this pit returned a radiocarbon date of cal AD 770–990 (SUERC-20227).

Preservation of the site and excavation methodology

Deposition and taphonomy

The intensive agricultural regimes practiced in lowland Scotland has led to the removal of upstanding prehistoric structures and heavily truncated sub-surface archaeology. Many of the archaeological features identified at Culduthel were in the condition expected from a field that had been cultivated for several centuries, heavily truncated with only the lower portions of features surviving. Dense patches of stratified archaeological deposits and upstanding stone structures did, however, survive in the north-west area of the site. This level of preservation was surprising as, prior to stripping, the shallow regular slope of the field suggested that the underlying subsoil was uniform in depth and the area had been heavily ploughed. On stripping, it became clear that the underlying glacial sands and gravels gave rise to a hummocky, undulating terrain. An area of ground (approximately 8000m^2), located at the base of a slope separating two areas of higher ground, had been capped by colluvium, which had sealed and protected an area of archaeological features (approximately 1300m^2).

This hillwash must have come from bare soil upslope, possibly from a combination of open, trodden ground within settlement areas nearby and/or from tilled arable fields. The bulk of the deposits preserved under this hillwash were located within a slight hollow at the base of the slope to the east and south-east of a large ring-groove roundhouse (House 10). Another major factor in the excellent preservation of this area, and the roundhouse beside it, was thick layers of waste debris (an artefact-rich stony matrix that contained charcoal, slags, moulds, crucibles, discarded tools and unfinished items), which had sealed the archaeology after the site was abandoned. These layers had presumably formed from the gradual spreading of the industry's spoil heaps through natural processes such as wind and rain. The accumulation of hillwash above these spreads of waste had, in turn, helped to minimise the dispersal of artefacts contained with them.

The undulating topography of the site, areas of upstanding archaeology and the thick homogeneous spreads of waste material made the stripping of the site very difficult. Areas of the site do appear to have been over-machined; in particular, a baulk along the north-west limits of the excavation showed a deep layer of waste debris that had been removed over a wider area.

Excavation methodology

As the importance of Culduthel was quickly realised during the topsoil strip, the first task for Headland Archaeology was to produce a pre-excavation plan of the site once the strip was complete. This plan was first shown to the Highland Council curator Kirsty Cameron and the Edinburgh-based specialists to assist in the production of a methodology for the excavation of the site, including advice on how to excavate the huge mass of industrial waste material encountered and the upstanding stone-lined iron smelting furnaces. As some parts of the site appeared to be more akin to an urban settlement it was decided to modify excavation techniques accordingly, to consider the well-stratified, archaeologically rich deposits present. A single context recording system was therefore adopted site-wide and used in combination with hand-drawn plans and sections, and digital survey equipment. The director, Ross Murray, was a keen photographer and the site was frequently shot from the top of a four-storey photographic tower to carefully record progress (Illus. 1.9). Finds were located three-dimensionally, photographed and planned, and this data has been invaluable in creating distribution maps of artefacts, waste debris and working waste, during the post-excavation process.

Specialist advice was ongoing during the excavation, with staff from National Museums Scotland (notably Fraser Hunter, Andy Heald, Dawn McLaren and Trevor Cowie), the team from the Highland Archaeology Service (notably Kirsty Cameron), environmental, soil and finds specialists from Headland (Scott Timpany, Stephen Carter and Julie Franklin) all visiting to help with excavation and sampling methodology, on-site finds advice and spot dating.

As the site had been identified early on as the focus of ferrous and non-ferrous metalworking, metal-detectors were used throughout the excavation to screen all deposits prior to and during excavation. The detecting gave the excavators advance warning that they might be about to encounter significant artefacts and allowed them to maximise the recovery of metal artefacts. Given the abundance of metal finds across the site, careful progress was made through the deposits, which also helped in the detection of non-metallic artefacts. Extra care was taken to avoid the unnecessary fragmentation of objects, and to prepare appropriate conservation-standard storage containers for large

Illustration 1.9
The photographic tower in use

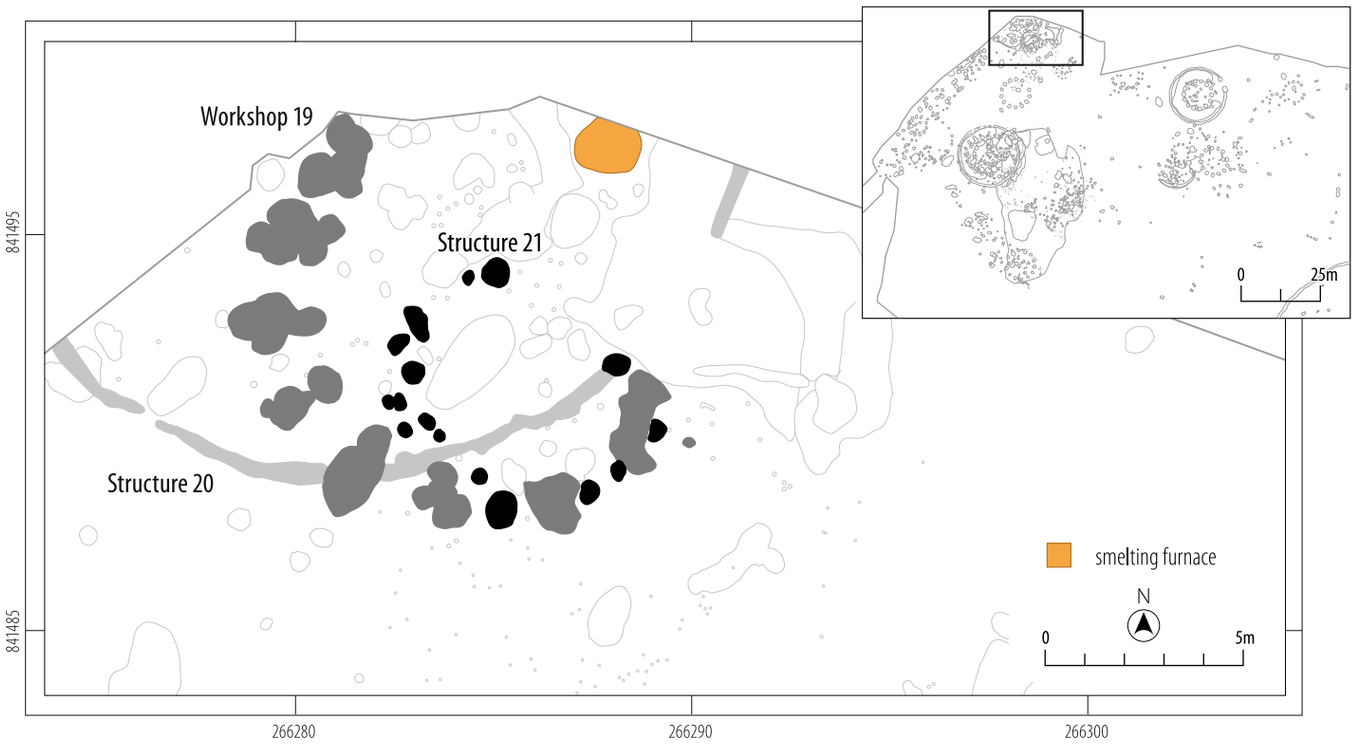

Illustration 1.10
Plan of the archaeological features in the unexcavated area of the site

and fragile artefacts such as the daggers and spearhead. Additional metal-detecting across the site was undertaken by volunteers Len Pentecost-Ingram and Eric Soane from the Highland Historical Search Society.

Sampling also played a key role in the excavation methodology. Bulk samples were taken from all deposits with the intention of using these to recover (in addition to ecofacts) small artefacts and microscopic items of industrial waste that would otherwise have gone largely undetected. This sampling strategy certainly helped to identify that an area of the site had been used for glass manufacture as the tiny fragments of glass and copper alloy waste material (miniscule flakes, droplets or fragments of rods, crucibles and moulds) would have been missed by the naked eye and were only been identified by careful sieving on site or back at the lab. The routine sampling of such materials also assisted in addressing any potential bias that could be introduced from the hand-selection of artefacts and types of industrial waste and has led to greater confidence in compiling and interpreting distribution patterns for material across the site.

Due to the time constraints and pressure to complete the work, some areas of the site were not as thoroughly investigated as they should have been. This is notable in the methodology used to excavate the thick layers of waste debris. Due to the sheer scale of the debris, stripping by hand was considered too time-consuming and the bulk of the material was removed by mini-digger, with only a few test pits and slots dug by hand. One area in the northern corner of the site was deemed suitable for preservation in situ, as it was to be open ground in the proposed development. The area contained a series of overlapping structures (19, 20 and 21) alongside a dense area of pits, gullies, post-holes and a furnace (Illus. 1.10) These features were surveyed, and a selection were excavated. The majority were unexcavated, and the area was wrapped in Teram to protect the archaeology, and backfilled.

Post-excavation analysis

The assessment of the bulk of the finds and the subsequent programme of post-excavation and analysis were undertaken by a team of specialists from National Museums Scotland led by Dawn McLaren (now at AOC Archaeology Group) and Fraser Hunter. On their advice the entire iron assemblage was X-rayed, and a large proportion conserved. This not only ensured the long-term survival of this important assemblage but allowed for fine tools and other finds to be identified at an early stage, rather than being classed as probable nails. It also allowed the identification of substantial amounts of bloom, which would have been impossible without X-rays.

Aside from the iron, detailed analysis was also undertaken on the copper alloy finds, including XRF scientific analysis; the Roman coins; glass finds and glassworking debris; lead including isotope analysis; ceramics (crucibles, moulds, tuyères and fired clay) including petrographic and technical analysis; prehistoric and Roman pottery; and chipped and coarse stone. The methodology for individual specialist analysis of this assemblage is detailed within each separate report in Chapter 6.

The environmental analysis for the site was unfortunately very limited. Of the 1,676 bulk samples taken from site and processed, only 48 samples were selected for analysis. This selection was based on features that contained the most abundant grain, together with those that contained significant quantities of charred nutshell fragments. To compound this limited analysis, the preservation of the small amount of animal bone was poor and the entire assemblage of small fragments deemed too degraded to identify. Additionally, the charcoal analysis to investigate the wood fuels used for the furnaces was started (notes of this work survive in the site archive) but was never completed, and the material could not be found at the time this publication was being written.

As the site was densely occupied over a considerable period, there is a question of the security of the environmental material and the likelihood that the majority of this material was intrusive and unrelated to the features it was retrieved from. Due to this conclusion, and the minimal analysis undertaken, the information that the environmental analysis of the site can add to the overall narrative of the site is considered to be limited, and therefore the environmental evidence is presented here as short summaries within each period chapter. The full environmental report is located within the site archive.

A total of 34 radiocarbon dates were obtained from a range of features, each a single date from a single feature. This dating programme and the radiocarbon dates are discussed in detail in Chapter 2. Due to this limited radiocarbon dating programme, and the general lack of datable artefactual material recovered across the site, a substantial number of discrete features (pits and post-holes) excavated across the site could not be placed within a phase of activity. All undated features that formed no coherent structures, relationships or clusters and contained no diagnostic artefacts have therefore not been included within any of the periods outlined in the following chapters. They are only illustrated on the master-plan of all archaeological features (Illus. 1.6).

The site is archived with the NRHE as CDF05 (acronym for Culduthel Farm 2005).

Illustration 1.11
House 10 under excavation

This publication

The excavation was undertaken by a commercial archaeology unit, Headland Archaeology (UK) Ltd, between May 2005 and February 2006 by a team of up to 30 field archaeologists ranging from recent graduates to long-serving professionals. It was directed in the field by Ross Murray (now of AOC Archaeology Group), who wrote the post-excavation assessment report (Murray 2007), and managed by Mark Roberts (now of CFA Archaeology). The main author of this monograph (Candy Hatherley) was part of the excavation team from October to December 2005. The excavation was funded by the developer Tulloch Homes Ltd and undertaken, as are all commercial archaeological projects, within a pressurised environment to have the on-site work completed as quickly as possible. The bulk of the post-excavation programme, which ran from 2006 to 2008, was co-ordinated by Ross Murray at Headland Archaeology and Dawn McLaren and Fraser Hunter at National Museums Scotland. This post-excavation programme was funded by the developer with a grant from Historic Environment Scotland assisting with the final publication of this monograph.

As is often the way within commercial archaeology units, Ross Murray moved on to pastures new before the post-excavation process was complete but much of this publication can be credited to his hard work and understanding of the site. The programme to publication has been completed at Headland Archaeology between 2016 and 2020 with ongoing support from National Museums Scotland (NMS). This publication has been co-ordinated and written by Candy Hatherley. The contributions from independent and NMS specialists were written between 2008 and 2011 and, as such, their references, and specific archaeological data, may reflect this lag in publication. It has been illustrated by Headland's in-house graphics team lead by Julia Bastek-Michalska.

The structure of this monograph

Following this introduction to the archaeology of Culduthel and its landscape, Chapter 2 gives an overview of the archaeological sequence and the phasing of the site with an analysis of the chronology of the site gained through Accelerator Mass Spectrometry (AMS) dates and the finds. Chapter 3 outlines the earlier prehistoric activity (Period 1) and the Early Iron Age occupation of the site (Period 2). Chapters 4 and 5 focus on the most intense period of occupation at Culduthel when the site was a craftworking centre engaged in the production of iron, bronze and glass (Period 3; Illus. 1.11). Chapter 6 contains the series of specialists reports for the finds assemblages, which have been spilt into four parts by material (Part A – Pottery and fired clay Part B – Stone; Part C – Metal; and Part D – Glass).

The final chapter, Chapter 7, reviews what we have learned from the excavation of this unique Iron Age craftworking centre. It looks at the community that worked and lived at Culduthel and tries to define the role that architecture and industry played in the settlement. Explorations into the scale of production and possible networks of exchange, trade and resources, help to demonstrate that Culduthel was a major production centre in north-east Scotland in the later prehistoric period and potentially part of a network of production sites across the southern coast of the Moray Firth. We then turn to view their neighbours along the Moray Firth coastal plain, primarily to help to place Culduthel in a regional context in north-east Scotland, but also to explore its potential for wider social and cultural networks. This concluding chapter is set against the backdrop of some reccurring themes in Iron Age studies, including identity, place, status and ritual practices, to aid the discussion on how the new evidence from Culduthel impacts on Iron Age studies in Scotland and beyond.