

CFA Archaeology Ltd

archaeological consultants

Advice on Archaeology & Planning

Environmental Impact Assessment

Field Evaluation & Excavation

Finds / Environmental Analysis

Geophysical Survey

Historic Building Recording

Site & Landscape Survey

Interpretation, Design & Display

**Aberdeen Western Peripheral
Route/Balmedie-Tipperty
Lot 1 – Balmedie to Tipperty
Invasive Archaeological Investigations**

**Mitigation Excavation
AWPR/B-T/BT/003**

CFA ARCHAEOLOGY LTD

The Old Engine House
Eskmills Business Park
Musselburgh
East Lothian
EH21 7PQ

Tel: 0131 273 4380
Fax: 0131 273 4381
email: info@cfa-archaeology.co.uk
web: www.cfa-archaeology.co.uk

Author	Ian Suddaby MA FSA Scot MifA
Illustrator	Leeanne Whitelaw BSc MifA & Tamlin Barton MA
Editors	Bruce Glendinning BSc PGDip MifA
Employer	Aberdeen City Council
Consultant	Kirkdale Archaeology
Date issued	January 2015
Version	3
OASIS Reference	cfaarcha1-63298

This document has been prepared in accordance with CFA Archaeology Ltd standard procedures.



Aberdeen Western Peripheral Route/Balmedie-Tipperty Lot 1 – Balmedie to Tipperty Invasive Archaeological Investigations

Mitigation Excavation AWPR/B-T/BT/003

Report No. 3222



CONTENTS

	Non-technical Summary	4
1.	Introduction	5
2.	Methodology	8
3.	Archaeological Results	11
4.	The Finds	15
5.	Assessment of Archaeological Findings	18
6.	Conclusions	20
7.	References	21

APPENDICES

1.	Context Register	23
2.	Photograph Register	26
3.	Drawings Register	29
4.	Finds Quantification	30
5.	Discovery and Excavation in Scotland Entry	31

FIGURES

Fig. 1 Location of Trench BT/003

Fig. 2 Site plan of Trench BT/003

Fig. 3 General view of Trench BT/003 from the east

Fig. 4 General view of Ditch **161** looking south

Fig. 5 Ditch **161**, section in the southern trench baulk

Fig. 6 Section of **161**, Slot 4

Fig. 7 Example of stone-holes pre-excavation

Fig. 8 Section of stone-hole **332** from the south-west

Fig. 9 A large boulder exhibiting drill holes

Fig. 10 Section of stone-hole **300** showing evidence that this boulder has been chiselled away to subsoil level

NON-TECHNICAL SUMMARY

A programme of strip and map and mitigation excavation was carried out along the Balmedie to Tipperty section of the proposed Aberdeen Western Peripheral Route/Balmedie-Tipperty (AWPR/B-T).

The subject of this report is the topsoil stripping and hand-excavation of the features in Trench AWPR/B-T/BT/003, located within Plot 408 at Dabrae, Hill of Menie.

The majority of the features identified related to post-improvement agriculture. These consisted of a boundary ditch, and improvement features such as field drains and numerous irregular shaped pits, most probably holes left over from stone and boulder extraction.

1. INTRODUCTION

1.1 General

This report presents the results of an archaeological excavation undertaken by CFA Archaeology Ltd (CFA) in April 2014. The work was undertaken in advance of the construction of the Balmedie to Tippetty section of the Aberdeen Western Peripheral Route (AWPR/B-T). The area investigated was Trench AWPR/B-T/BT/003 (abbreviated to BT/003 in this report). It was located within Plot 403 at Dabrae, Hill of Menie (NGR: NJ 9657 2072) (Fig. 1). The CFA site code was ABBY and the CFA project number was 1723.

The employer for this project was Aberdeen City Council and overall responsibility for its delivery lies with the AWPR/B-T Managing Agent. Kirkdale Archaeology was the Archaeological Consultant on behalf of Grontmij Ltd for the Balmedie to Tippetty section, and CFA was the Contractor for the works; the curator was Historic Scotland.

1.2 Background

The Aberdeen Western Peripheral Route/Balmedie-Tippetty is being developed by Transport Scotland in partnership with The Employer, Aberdeen City Council. These two projects were individually identified as proposed transport interventions within the Modern Transport System and developed separately through the statutory process. In November 2010 the Scottish Government confirmed its intention to procure both projects under a single Non-profit Distributing contract. These two major improvements to the trunk-road network are close to each other and together will provide significant benefits to the north-east of Scotland by reducing journey times and cutting congestion within Aberdeen City.

The AWPR/B-T project comprises the construction and operation of two major improvements to the trunk road system and is of both national and regional importance. It is designed to support national, regional and local transport and economic development policy objectives and will comprise 34.6km of wholly new dual carriageway around the outskirts of Aberdeen along with an 11.5km Fastlink running from the A90 at Stonehaven and joining the peripheral route near to Maryculter. These major improvements comprise four sections consisting of the Northern Leg from North Kingswells to Blackdog, the Southern Leg from Charleston to North Kingswells, the Fastlink from Stonehaven to Cleanhill Junction, and the Balmedie to Tippetty improvements. Nine km of new dual carriageway will also be constructed during the Balmedie to Tippetty part of the project along with 3km of on-line improvements.

1.3 Archaeological Background

A cultural heritage assessment was prepared by Kirkdale Archaeology and formed Chapter 12 of an Environmental Statement (Grontmij & Natural Capital 2007). The assessment of the Balmedie-Tippetty section studied a 1km wide corridor either side of the proposed development to assess the effects construction would have on statutorily protected sites such as Listed Buildings and Scheduled Monuments. It also studied a 300m wide corridor either side of the proposed development for sites

recorded in the National Monuments Record for Scotland (NMRS) and the local council Sites and Monuments Record. The assessment identified a total of 90 sites of cultural heritage significance along or close to the proposed route of the development, junctions and link roads, the majority of which have non-statutory protection. Eight Listed Buildings were present and one Scheduled Monument.

A review of the background of the area demonstrated that it had undergone substantial prehistoric and historic development. The ES suggested that this indicated the possibility for further unidentified archaeology in the area. A brief summary of the history of the proposed development area is given below.

There was evidence of activity from some prehistoric periods within the study corridor and wider area. A Bronze Age burial at Keir and a Bronze Age barrow at Bairnie Hillock, as well as cropmarks of possible prehistoric date and isolated findspots of prehistoric artefacts, such as a dolerite axe and flint artefacts, were all within the study area. In the wider environs was the Monykebbuck Standing Stone, Hill of Fiddes Stone Circle, South Ythsie Stone Circle, Hill of Logie Settlement, and Pitlurg Long Barrow as well as Mesolithic flint working sites along the coast and a notable findspot of gold torcs. The New Statistical Account of 1834-45 stated that there had been a number of stone circles and prehistoric burial mounds upstanding in the parish of Belhelvie.

Orrock, later recorded as 'Overblairton' in the early 14th century, was part of the Thanage of Belhelvie. These lands were cited in a charter of 1388 when they were granted to John Fraser of Forglan. In 1616, the rights of John Wood of 'Fettercairn's' to 'Over Blairton' were confirmed by James VI. A charter of 1770 refers to a 'Manour Place'. The assessment concluded that many of the more substantial farms were likely to have their origins in this period, even if the present buildings were of a later date. An example of 17th century settlement is suggested by the documentary evidence of Edward Adamson and his sons Edward and William who were recorded in Kirkhill of Foveran in the mid-to late 17th century. It was considered that some of the major land boundaries that were still extant were likely to reflect these early land holdings.

The Roy map of 1747-55 showed the area largely comprising rig fields, indicating open field cultivation. In the later 18th century there was a period of agricultural improvement in the area and it is likely that the present pattern of field boundaries was formed then, possibly incorporating earlier property divisions.

In 2012 a magnetometer survey was conducted over all accessible and suitable ground within the proposed corridor of the scheme (Bartlett et al 2012). A number of anomalies interpreted as possible archaeological features, including putative enclosures, were recorded along the proposed route. The anomalies were closely associated with what were interpreted as relict cultivation features. Other responses, possibly related to earlier cultivation, were also noted as well as some linear anomalies. The survey was limited by boggy ground, narrow strips that were unsuitable for survey, verges and adjacent trunk road land parcels, heavy vegetation and woodland. These un-surveyed areas totalled 20% of the total coverage. Anomalies that were identified within the route corridor as being of archaeological potential were targeted for evaluation in sixty-two of the trial trenches.

A topographic survey of four sites (previously identified in the Cultural Heritage Chapter of the ES (Sites **42**, **51**, **57**, **72**)) was conducted in 2012 (Wessel 2012).

Previous archaeological work was undertaken by CFA in 2013 and consisted of a programme of trial trenching within Lot 1 of the Aberdeen Western Peripheral Route (Moore 2013).

Three sites of potential archaeological interest were revealed by the trial trenching. It was decided, in agreement with Kirkdale Archaeology and Jacobs, and with the approval of Historic Scotland, that the mitigation measures relating to the sites identified during and following trial trenching should take the form of a strip and record, with hand excavation of any features revealed subject to further agreement.

This report covers the programme of mitigation excavation for Trench BT/003, as agreed with the Consultant. The other sites are reported on under separate cover (Suddaby 2014a & Suddaby 2014b)

2. METHODOLOGY

2.1 General

CFA Archaeology is a registered organisation (RO) with the Institute for Archaeologists (IfA). All work was undertaken in accordance with the Specification within Tender Document OJEU Reference Number 2012/S 235-387161 (2013) and with reference to, but not limited to, best practice as detailed in Schedule 1 of the same document, the preamble of the Specification: principally following published Historic Scotland standards and those set by the Institute for Archaeologists in their '*Standard and Guidance for Archaeological Field Evaluation*' (IfA 1994, revised 2008).

CFA Archaeology Ltd follows the Institute for Archaeologists' Code of Conduct, Standards and Guidance for Archaeological Fieldwork.

A terrestrial photographic condition survey was undertaken prior to and immediately after the investigation. All equipment and footwear was cleaned and disinfected prior to entry on to any areas of land. An Ecological Clerk of Works conducted walkover surveys prior to any work commencing and was consulted regularly to ensure that any ecological matters were dealt with promptly and correctly.

2.2 Surveying

The co-ordinates for the trench location were provided by the Consultant, as shown on Figs. 1 and 2. The location was accurately surveyed as excavated and tied in with the Ordnance Survey National Grid and Ordnance Datum using a GPS with a survey grade accuracy of $\pm 10\text{mm}$. Any alteration to the pre-agreed trench layout was carried out with the prior agreement of the Consultant.

Precision topographic mapping was achieved through the use of GNSS/GPS systems. The survey achieved real-time GNSS/GPS positioning accurate to 0.01m horizontal and 0.03m vertical, through the use of a Trimble R6 GNSS system with a TSC3 controller running Trimble Access surveying software. This equipment provides centimetre-accurate RTK corrections using the Trimble VRS Now RTK GNSS service.

Data collection and survey control were integrated with the overall plans for the invasive investigations.

Survey data was exported from Trimble Access on the TSC3 controller to dxf format, retaining individual point feature codes and associated attributes, and processed in AutoCAD 2013. Model space in CAD was in metres at 1:1 and standard CFA layers and feature codes were used.

2.3 Mechanical Excavation

All topsoil/subsoil was stripped from the agreed area by a tracked mechanical excavator equipped with a toothless ditching bucket. All groundbreaking operations were undertaken under the direct and continuous supervision and control of the

Contractor. Mechanical excavation ceased either at the first archaeological horizon or at the level of the natural geological deposits where it could be demonstrated that no archaeological horizon existed.

Immediately after the removal of the topsoil and any other overburden, the whole area stripped was inspected for archaeological features. All areas containing significant concentrations of features, particularly small non-linear features, or where the presence of such groups of features was suspected, were manually cleaned. The cleaning extended for 10m beyond any archaeological feature.

An overall plan of all visible features was prepared by instrument survey and, where appropriate, hand planning. The plan also showed any areas of visible damage or destruction of the archaeology caused by recent activity e.g. service trenches, quarry pits etc. The survey data and any hand-drawn plans were accurately tied in to the Ordnance Survey National Grid and Ordnance Datum.

Following the completion of the topsoil stripping, a composite drawing showing information from the instrument survey and the hand planning was prepared and submitted to the Consultant. Features shown on the drawing were annotated with a preliminary archaeological interpretation. The drawing was submitted to the Consultant along with detailed costings and programme for undertaking excavation of features present, and for undertaking a post-excavation assessment and preparation of a post-excavation assessment report. Following agreement with the Consultant, the mitigation excavations were then undertaken as described in Section 2.4.

Topsoil and subsoil were segregated into separate spoil heaps on either side of the trench. Spoil from the excavation of any archaeological features was stored on the subsoil side. All backfilling was undertaken following inspection by, and with the prior agreement of, the Consultant. The material was backfilled in reverse order of removal in a series of layers no more than 250mm thick, each layer compacted as appropriate by the mechanical excavator prior to placement of the next layer.

2.4 Hand Excavation and Recording

The excavation of features was agreed in advance with the Consultant. In this instance 25% of the isolated negative pit-like features that were present were excavated by half section, then fully excavated, to identify if they had a significant archaeological origin. Further excavation of these features was to be agreed if they proved to be of archaeological significance. It was also agreed that 20% of the linear feature that crossed the trench was to be excavated.

All excavated contexts were fully recorded by detailed written context records giving details of location, composition, shape, dimensions, relationships, finds, samples, cross-references to other elements of the record and other relevant contexts. At least one plan and at least one section were drawn at an appropriate scale. Photographic records in digital form were taken of all trenches and archaeological features using a camera with a minimum resolution of ten megapixels. Feature locations were surveyed using a GPS with a survey survey-grade accuracy of $\pm 10\text{m}$ (horizontal)/ $\pm 30\text{mm}$ (vertical). All artefacts were recovered from site for specialist

examination and analysis. All soil from the excavation of archaeological features was metal detected.

2.5 On-site Palaeoenvironmental Sampling Strategy

Samples comprising at least 40 litres per context or 100% of smaller contexts were taken for the recovery of small plant remains, small bones and finds. The soil samples were processed during fieldwork to allow a continuous reassessment and refinement of sampling strategies.

2.6 Archiving

The project archive, comprising all CFA record sheets, plans and reports, will be deposited at the RCAHMS and will conform to current guidelines in MoRPHE (English Heritage 2006). The deposition of paper and digital archives with RCAHMS will comply with their current requirements (RCAHMS 1996a, 1996b) and with the Archaeological Archives Forum (Brown 2007) and ADS guidelines for digital archives (Richards and Robinson 2001).

All artefactual material is allocated through the Treasure Trove process. *Treasure Trove in Scotland: A Code of Practice* (Scottish Government 2008) will be followed for the notification of finds to the Treasure Trove Unit. The finds/ecofacts will be archived according to the Scottish Museums Council guidelines (Scottish Museums Council 2000). Copies of specialists' reports, finds, illustrations, and x-rays will be included with the deposition where appropriate. Packing lists (paper and digital), and site information recorded on Museum Transfer Forms will be included with each deposition. Signed receipts for deposition will be retained. A discard policy is not appropriate for material collected in Scotland.

A summary statement of the results of this survey will be submitted for publication in *Discovery and Excavation in Scotland* once all archaeological works are completed (Appendix 5). An *OASIS Scotland* entry will be completed.

3. ARCHAEOLOGICAL RESULTS

3.1 General

Trench BT/003 measured 50m east-west by around 35m north-south (Fig. 2). It was located in a shallow valley on almost level ground between Dambrae to the east and two recently formed artificial ponds to the west. A canalised stream ran in a deep ditch to the south of the trench, alongside the unclassified road to Westfield.

The topsoil (**001**) within the trench was generally 0.3m deep although agricultural subsoil (**002**) was present in the south-eastern and north-eastern corners. The south-western corner contained deep made-ground and it transpired that peaty soil and boulders from the formation of the adjacent ponds had been spread over this area. Over the whole of the trench, boulders intermittently protruded from the natural substrate (**003**) (Fig. 3). The natural was in general a light yellow-orange sandy clay with a varied stone content.

Sixty-six individual pit-like features (**181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 203, 205, 209, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 243, 245, 247, 249, 251, 253, 255, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 320, 322, 324, 326, 328, 330, 332, 334 & 336**) as well as the pit-like feature identified during the evaluation phase (Moore 2013) (numbered here as **259**) were identified following the completion of the strip and map. Feature **160** was a sinuous palaeochannel and feature **161** was a linear ditch which terminated before the northern edge of the trench. Clay-piped field drains **308, 310** and **312** were confined to the north-east corner of the trench. In addition to these, three modern test-pits (**175, 177 & 179**), a modern water pipe (**171**), two modern drains (**169 & 173**), three rotary boreholes (**163, 165 & 167**) and a further possible linear feature (**201**) were also identified.

Following the strip and map it was agreed with the Consultant that the features all appeared to be relatively recent and that the pit-like features all appeared to be stone-holes. It was agreed that, as a first stage, 25% of these pit-like features would be excavated to confirm their nature and origin and that only if they proved to be of archaeological significance would further work be undertaken. Eighteen of the pit-like features (**181, 183, 189, 203, 219, 221, 229, 243, 251, 255, 269, 273, 281, 300, 304, 320, 332 & 334**) were excavated. A slot was excavated across the possible linear feature (**201**) and five slots were excavated across the ditch (**161**).

With the exception of linear ditch **161** and modern feature **201**, all of the excavated features in Trench BT/003 were stone-holes, where stones or boulders had been torn out by machine during agricultural work or removed by hand or using hand tools. It was agreed with the Consultant that no further excavation of the remaining pit-like features was justified as the random patterning of these features, along with the similarity in fills to the excavated features and their irregular shapes in plan, indicated that these were most likely to be stone-holes as well.

During the course of the excavation none of the features were identified as being of archaeological significance so with the consent of the Consultant, no soil samples were collected.

3.2. Features

Palaeochannel (Fig. 2)

The palaeochannel (**160**) entered the trench at the centre of the western side and ran with a sinuous course through the centre of the trench to the north-eastern corner where it broadened out. Over most of the length, it was 4-5m wide.

Boundary Ditch (Figs. 2, 4, 5 & 6)

Ditch **161** was located at the western side of the trench. It was aligned broadly north-west to south-east and had a width of 1m-1.5m. Five slots were excavated through this feature but no finds were recovered. The depth was c. 0.1m at the northern end but a depth of 0.4m was recorded at the southern end. It was notable that it narrowed to avoid a stone which had later been extracted (**189**) and this relationship was recorded in Slot 5. It was filled with a dark grey, peaty sandy silt with small stones (**162**). At the south end in Slot 4, a basal deposit of sandier material with more stones was recorded (**317**).

Modern Feature (Fig. 2)

Feature **201** was located at the north-western corner of the trench. It had a length of 4.5m and a width of up to 0.5m. On investigation, this feature was identified as a wheel rut probably created by heavy plant during the formation of the adjacent pond.

Stone-holes (Fig. 2)

Eighteen of the pit-like features (**181, 183, 189, 203, 219, 221, 229, 243, 251, 255, 269, 273, 281, 300, 304, 320, 332 & 334**) (for an example see Fig. 7) were excavated to confirm their nature and origin. All proved to be stone-holes so no further excavation was required. In addition, the remainder of the pit-like feature first recorded during the evaluation (**408/03**, herein **259**) was fully excavated.

Feature **181** measured 0.6m in length, 0.55m in width and 0.2m in depth. It contained a single sterile fill (**030**).

Feature **183** measured 1m in length, 0.95m in width and 0.2m in depth. It contained a single sterile fill (**184**) containing several angular stones.

Feature **189** measured 0.6m in length, 0.55m in width and 0.2m in depth. It contained a single sterile fill (**030**).

Feature **203** measured 0.1m in length, 0.75m in width and 0.2m in depth. It contained a single sterile fill (**204**).

Feature **219** measured 1.6m in length, 0.75m in width and 0.1m in depth. It contained a single sterile fill (**220**).

Feature **221** measured 2.5m in length, 1.95m in width and 0.4m in depth. A substantial part of a large boulder remained within it. A cylindrical drill hole was

preserved in the upper face of the boulder where it had been drilled and then parts of the boulder had been split away. A second hole was noticed on an angular stone found within the feature. The single fill (222) in the pit was sterile.

Feature 229 measured 0.6m in length, 0.55m in width and 0.2m in depth. It contained a single sterile fill (230).

Feature 243 measured 2.4m in length, 1.8m in width and 0.3m in depth. It contained a single sterile fill (244) with several angular boulders in the fill.

Feature 251 measured 1.9m in length, 1m in width and 0.25m in depth. It contained a single sterile fill (252).

Feature 255 measured 0.7m in length, 0.45m in width and 0.1m in depth with an uneven base. It contained a single sterile fill (256).

Feature 259 was partially excavated during the evaluation (as 408/03) and was fully excavated during this latter phase of the work. The feature measured 1m in length, 0.8m in width and 0.2m in depth with a convex base. The previously unexcavated portion of the fill (260) was sterile.

Feature 269 measured 1m in length, 0.7m in width and 0.2m in depth. The single fill (270) included several stone inclusions and lumps of bog iron and natural mineral pan.

Feature 273 measured 1.05m in length, 1m in width and 0.25m in depth. It contained two fills, (274, 331), with 331 having a greater content of small stones. Mineral pan was recovered from 274.

Feature 281 measured 1.75m in length, 1.15m in width and 0.1m in depth. A substantial part of a large boulder remained upstanding by 0.25m within it. Two cylindrical holes were preserved in the upper face where parts of the boulder had been drilled and split away. The single fill (282) in the pit around the boulder was sterile.

Feature 300 (Fig. 10) measured 2.6m in length, 2.4m in width and 0.25m in depth. A substantial part of a large boulder remained within it. This boulder had been split away to just below the level of the natural. One cylindrical drill hole was preserved in the upper face. The single fill (301) in the pit contained bog iron.

Feature 304 measured 2.3m in length, 1.6m in width and 0.2m in depth. A substantial part of a large boulder remained within it. This boulder had been split away to just below the level of the natural. The single fill (305) in the pit contained modern ceramic and part of an iron strap.

Feature 320 measured 0.4m in length, 0.35m in width and 0.2m in depth. It contained a single sterile fill (321).

Feature 332 (Fig. 8) measured 1.05m in length, 0.95m in width and 0.3m in depth. It contained a single sterile fill (333).

Feature **334** measured 0.55m in length, 0.4m in width and 0.15m in depth. It contained a single sterile fill (**335**).

4. THE FINDS

Table 1 summarises the finds quantities by find type that were collected during the fieldwork and bulk sample processing. The individual finds are quantified by context number in Appendix 4.

Find type	No.	Wt (g)
CBM	3	57
Glass	7	246
Iron	3	154
Lithic	1	40
Pottery	10	83
Bog Iron Ore / Mineral Pan	16	696

Table 1- Summary of finds

4.1 Finds by Christina Hills

Ceramic building material, in the form of three tile fragments, was recovered from the topsoil (**001**). The fragments all dated to the post-medieval period.

Pottery was found in the topsoil (**001**) and context **305**, the fill of pit-like feature **304**. The sherd found in context **305** is modern ceramic whereas the other nine sherds from the topsoil are of a slightly earlier post-medieval date.

The glass is all modern in date and mainly consists of green bottle glass, from the topsoil (**001**) and from contexts **244** and **301**, the fills of stone-holes **243** and **300**. One piece of clear glass was recovered from context **222**, the fill of stone-hole **221**.

All of the iron is modern in date but also highly corroded, making further identification difficult. The piece from the topsoil (**001**) appears to be wire. The pieces from context **305**, the fill of stone-hole **304**, appear to be part of the same broken strap.

4.2 Bog Iron Ore by Gemma Cruickshanks

Material tentatively identified in the field as bog iron ore was recovered from the fills (**270**, **274**, & **301**) of three stone-holes **269**, **273** and **300**. Material from contexts **270** and **301** displays typical characteristics of this bog iron ore, including iron-rich colour, nodular texture, rootlet holes/impressions and low magnetic attraction. Several fragments include black grainy areas of manganese, a mineral commonly found with bog iron ore, having formed in the same way.

Other material from contexts **270** and **274** was a dark brown/black friable mineral pan, likely to be very manganese-rich due to the colour. This mineral pan would be naturally occurring alongside bog iron.

Bog iron ore forms when iron minerals are leached out of bedrock and soils by water and then accumulate in areas of slow-moving water such as bogs or marshy areas around lochs. This type of ore was exploited during the Iron Age, Medieval and possibly later periods in Scotland for smelting into metallic iron. Bog ore would have

been roasted and crushed prior to smelting to drive out moisture and increase the surface area. The dark colour of the fragments from here hints at their having been roasted, though no melted or vitrified areas were identified so the dark colour may simply be due to the high manganese content.

The fragments were recovered from single-fill pit-like features **269**, **273** and **300**, so were dumps of fragments rather than coherent layers (which would be more likely to be an indicator of natural occurrence). The low-lying surroundings and a nearby farm named 'Boghead' perhaps indicating this area once had suitable conditions for bog iron ore formation. However, the context these lumps were discovered in indicates they are not a natural deposit.

Catalogue

(270) BT/003

Two small fragments of non-magnetic iron rich concretion; probably bog iron ore but not as dense or dark in colour as other fragments. There are many small quartz-like inclusions adhering to the surface.

(270) BT/003

Six fragments of non-magnetic black/brown mineral pan. The largest lump is quite dense in places but friable in others, while one of the smaller pieces has a root hole running through it. This material is likely to be an entirely natural mineral pan accumulation, with the black colour suggesting manganese forms a major component.

(274) BT/003

Seven fragments of non-magnetic black/brown mineral pan. This material is likely to be an entirely natural mineral pan accumulation, with the black colour suggesting manganese forms a major component.

(301) BT/003

A single fragment of bog iron ore. It is fairly dense but has the characteristic nodular texture with iron-rich bands and rootlet holes. The colour is dark reddish brown, which may suggest roasting, but with no sign of melting the dark colour may be due to a high manganese content.

4.3 Lithics by Ann Clarke

The lithic from the topsoil (**001**) is a flaked pebble of mottled brown/grey flint, with large flakes detached leaving scars with pronounced ripples indicating hard hammer. Flakes were detached from around its circumference in bipolar fashion.

ML 49mm; MW 50mm; MTh 14mm

4.4 Storage and Curation Policy

All processing, recording, storage and samples has been carried out in accordance with the Institute for Archaeologist's *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (2001, revised 2008).

Stable finds have been washed and dried and metal finds have been air-dried. All artefacts have been packaged as appropriate for long-term storage in accordance with the requirements of the recipient museum and the contract. Finds will be stored at CFA's secure storage facility until such time as the archive is ready to be deposited.

No finds have been identified as requiring conservation or special storage conditions.

The project archive, comprising all CFA identification sheets will be appended in the main archive and deposited with RCAHMS upon instruction from the Consultant following completion of fieldwork and any relevant post-excavation analyses. Finds will be subject to the Scots law of Treasure Trove and Bona Vacantia, and will be reported to the Crown Agent for disposal.

5. ASSESMENT OF ARCHAEOLOGICAL FINDINGS

A single pit (recorded herein as **259**) was uncovered in Trench BT126 during the evaluation phase (recorded then as **408/03**) (Moore 2013). This was interpreted as being of probable anthropogenic origin and it contained a deposit of bog iron ore. The evaluation trench was encompassed by the trench for the mitigation excavation.

Ditch **161** was a probable agricultural boundary ditch. On the Ordnance Survey *Aberdeen Sheet LVI.8* (1870), no boundary features are shown within the area of the trench but field boundaries which would be parallel to **161** are depicted on both sides of the minor road to the west of the trench. This suggests that the land boundaries in this area were on that general alignment.

The pit-like features were stone-holes where stones had been removed from the natural. In some instances this may have been as a by-product of ploughing but in others there was evidence of manual extraction as part of agricultural land improvement. In a few of the pits where large stones were still present, they showed evidence of having been broken up by the Plug and Feather technique. In this method, either an auger or a constantly rotated hand chisel is used to form one or more boreholes in the rock (Fig. 9). Shims or wedges (the feathers) are inserted in to the borehole and a wedge (the plug) is hammered downwards between them, creating an outward force capable of splitting the hardest rock.

The absence of rig-and-furrow cultivation remains in this trench suggests that the stone extraction and any associated land improvement may have taken place in this location after that agricultural system was abandoned during the 18th century.

The subsequent excavation in Trench BT/003 indicated that feature **259** was in fact created as a result of a stone or boulder being removed and that a large number of similar features occur in the vicinity. However, the backfill of this feature contained bog iron ore. Similar material was also recovered from other stone-holes (**269, 273 & 300**). It is thought that the bog iron ore could be naturally occurring in the area, however, some of the recovered material may have been partially processed and was not in a context where it could have naturally accumulated. The pits do not seem to have been dug for any reason associated with processing bog iron ore and no other features that could be interpreted as being associated with processing bog iron ore were found. Therefore, it is possible that the stone-holes were simply backfilled with this material as a way of disposing of waste or poor quality material, or that the material was being introduced to the area by agricultural manuring, and that the bog iron ore processing was taking place somewhere close to, but off site.

The overall results of this excavation and the other associated excavations along the route (Suddaby 2014a & b) indicate that the landscape through which the Balmedie to Tippetty portion of the AWPR route will pass was intensively improved and farmed from the post-medieval period onwards. Improvement features include extensive drainage works and stone clearance features. Pre-recent farming traces such as furrows from rig-and-furrow cultivation are widespread across the route.

Prehistoric activity in the general area is also attested to by the presence of residual flints in this trench, however, no prehistoric archaeological features were identified.

The soils in this area are classed by the Macaulay Institute for soil research as Brown Forest Soils with Gleying. This is indicative of the area having been poorly drained and potentially quite boggy until the recent period of agricultural improvement (hence the fairly intensive agricultural drainage present across the route). This would have rendered the area fairly unsuitable for earlier domestic occupation so a relative lack of archaeologically significant remains pre-dating this improvement period should not be seen as unusual or surprising.

6. CONCLUSION

A programme of archaeological works was carried out in advance of the construction of the Balmedie-Tipperty section (Lot 1) of the Aberdeen Western Peripheral Route/Balmedie-Tipperty. The programme of works consisted of the strip and map and feature excavation of Trench AWPR/B-T/BT/003 at Dabrae, Hill of Menie, following on from a trial trenching evaluation (Moore 2013).

The mitigation excavation identified sixty-seven pit-like features of varying size. These were identified as stone-holes created where stones had been removed from the natural. In some instances this may have been as a by-product of ploughing but in others there was evidence of manual extraction as part of agricultural land improvement. In a few of the pits where large stones were still present they showed evidence of having been broken up by drilling holes in to them. Given the lack of cultivation furrows in this area it is possible that this land improvement is post 18th century in date. There was also one linear ditch which is likely to represent a post 18th century agricultural boundary.

No further work in terms of post-excavation assessment or publication reporting is required.

The project archive, comprising all CFA record sheets, maps and reports, will be deposited with the National Monuments Record of Scotland (NMRS) and copies of reports will be lodged with the Aberdeenshire Council Sites and Monuments Record.

A summary statement will be submitted for publication in *Discovery and Excavation in Scotland* (See Appendix 5) and the project will be reported through *OASIS Scotland*.

7. REFERENCES

- Aberdeen City Council; Tender Document OJEU Reference Number 2012/S 235-387161 (2013).
- Bartlett et al, 2012 *A90 Balmedie to Tippetty Scheme Archaeological Geophysical Survey*. Headland Archaeology unpublished report. Reference AWPR-A90-006.
- Brown, D.H. 2007 *Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation*, Institute of Field Archaeologists.
- English Heritage 2005 *Management of Research Projects in the Historic Environment*.
- English Heritage 2006 *Management of Research Projects in the Historic Environment (MoRPHE)*, Project Managers' Guide.
- English Heritage 2008 *Investigating Conservation: Guidelines on how the detailed examination of artefacts from archaeological sites can shed light on their manufacture and use*.
- English Heritage 2011 *Environmental Archaeology: A Guide to the Theory and Practice of Method, from Sampling and Recovery to Post-Excavation*.
- Grontmij & Natural Capital 2007 *Chapter 12 (Archaeology and Cultural Heritage): Environmental Statement for A90 dualling, Balmedie to Tippetty Environmental Statement*.
- IfA 1994 *Standard and Guidance for Field Evaluation*, Institute for Archaeologists, Revised October 2008.
- IfA 2001 *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*, Institute for Archaeologists, Revised October 2008.
- Moore, P. 2013 *Aberdeen Western Peripheral Route/Balmedie-Tippetty, Lot 1 – Balmedie to Tippetty: Invasive Archaeological Investigations*. CFA Archaeology Ltd, Unpublished Report No. 3090.
- Ordnance Survey 1870 *Aberdeen Sheet LVI.8 (Belhelvie)*.
- RCAHMS 1996a *Publication and Archiving of Archaeological Projects*.
- RCAHMS 1996b *Guidelines for Archiving of Archaeological Projects*.
- Richards, J and Robinson, D 2001 *Digital Archives from Excavation and Fieldwork: Guide to Good Practice, Archaeology Data Service*.
- Scottish Government 2008 *Treasure Trove in Scotland: A Code of Practice*.

Scottish Museums Council 2000 *Minimum Standards for the transfer of archaeological assemblages to museums in Scotland.*

Suddaby, I. 2014a *Aberdeen Western Peripheral Route/Balmedie-Tipperty, Lot 1 – Balmedie to Tipperty, Invasive Archaeological Investigations, Mitigation Excavation AWPR/B-T/BT/001*, Report No. 3220.

Suddaby, I. 2014b *Aberdeen Western Peripheral Route/Balmedie-Tipperty, Lot 1 – Balmedie to Tipperty, Invasive Archaeological Investigations, Mitigation Excavation AWPR/B-T/BT/002*, Report No. 3221.

APPENDIX 1: Context Register

Note: Apart from topsoil, agricultural subsoil and natural context numbers start at 161 as contexts were numbered consecutively throughout the project which covered another two excavations (Suddaby 2014a & Suddaby 2014b).

Context	Fill of	Description
001		Topsoil
002		Peaty subsoil with stones and boulders
003		Natural subsoil
004		Buried topsoil at the western side of the trench
160		Palaeochannel
161		Cut for ditch
162	161	Fill of ditch 161 – mid Brown sandy clay
163		Rotary bore hole
164	163	Fill of bore hole 163 – not excavated
165		Rotary bore hole
166	165	Fill of bore hole 163 – not excavated
167		Rotary bore hole
168	167	Fill of bore hole 167 – not excavated
169		Black plastic piped Drain leading east from pond
170	169	Fill of 169 – not excavated
171		Water pipe
172	171	Fill of 171 – not excavated
173		Modern plastic drain
174	173	Fill of 173 – not excavated
175		Modern test trench
176	175	Backfill of modern test Trench 175 – not excavated
177		Modern test trench
178	177	Backfill of 177 – not excavated
179		Modern (CFA) trial trench
180	179	Backfill of 179 – not excavated
181		Stone-hole - dark brown silty sand
182	181	Fill of stone-hole 181
183		Stone-hole
184	183	Fill of stone-hole 183 - dark brown silty sand
185		Stone-hole
186	185	Fill of 185 – not excavated
187		Stone-hole
188	187	Fill of 187 – not excavated
189		Stone-hole
190	189	Fill of 189 - dark brown silty sand
191		Stone-hole
192	191	Fill of 191 – not excavated
193		Stone-hole
194	193	Fill of 193 – not excavated
195		Stone-hole
196	195	Fill of 195 – not excavated
197		Stone-hole
198	197	Fill of 197 – not excavated
199		Stone-hole
200	199	Fill of 199 – not excavated
201		Modern feature
202	201	Fill of 201 – greyish brown silty clay
203		Stone-hole
204	203	Fill of 203 dark brown silty sand
205		Stone-hole

Context	Fill of	Description
206	205	Fill of 205 – not excavated
207		Not a feature
208	207	Not a feature
209		Stone-hole
210	209	Fill of 209 – not excavated
211		Stone-hole
212	211	Fill of 211 – not excavated
213		Stone-hole
214	213	Fill of 213 – not excavated
215		Stone-hole
216	215	Fill of 215 – not excavated
217		Stone-hole
218	217	Fill of 217 – not excavated
219		Stone-hole
220	219	Fill of 219 - dark brown silty sand
221		Stone-hole
222	221	Fill of 221 - dark brown silty sand
223		Stone-hole
224	223	Fill of 223 – not excavated
225		Stone-hole
226	225	Fill of 225 – not excavated
227		Stone-hole
228	227	Fill of 227 – not excavated
229		Stone-hole
230	229	Fill of 229 - dark brown silty sand
231		Stone-hole
232	231	Fill of 231 – not excavated
233		Stone-hole
234	233	Fill of 233 – not excavated
235		Stone-hole
236	235	Fill of 235 – not excavated
237		Stone-hole
238	237	Fill of 237 – not excavated
239		Stone-hole
240	239	Fill of 239 – not excavated
241		Stone-hole
242	241	Fill of 241 – not excavated
243		Stone-hole
244	243	Fill of 243 - mottled peaty subsoil and re-deposited natural subsoil
245		Stone-hole
246	245	Fill of 245 – not excavated
247		Stone-hole
248	247	Fill of 247 – not excavated
249		Stone-hole
250	249	Fill of 249 – not excavated
251		Stone-hole
252	251	Fill of 251 - dark brown silty sand
253		Stone-hole
254	253	Fill of 253 – not excavated
255		Stone-hole – peaty soil
256	255	Fill of 255
257		Stone-hole
258	257	Fill of 257 – not excavated
259		Stone-hole
260	259	Fill of 259 – not excavated
261		Stone-hole
262	261	Fill of 261 – not excavated

Context	Fill of	Description
263		Stone-hole
264	263	Fill of 263 – not excavated
265		Stone-hole
266	265	Fill of 265 – not excavated
267		Stone-hole
268	267	Fill of 267 – not excavated
269		Stone-hole
270	269	Fill of 269 – reddish brown silty sand
271		Stone-hole
272	271	Fill of 271 – not excavated
273		Stone-hole
274	273	Fill of 273 – dark brown silty sand
275		Stone-hole
276	275	Fill of 275 – not excavated
277		Stone-hole
278	277	Fill of 277 – not excavated
279		Stone-hole
280	279	Fill of 279 – not excavated
281		Stone-hole
282	281	Fill of 281 - mottled peaty subsoil and re-deposited natural subsoil
283		subsoil
284		Stone-hole
285	284	Fill of 284 – not excavated
286		Stone-hole
287	286	Fill of 286 – not excavated
288		Stone-hole
289	288	Fill of 288 – not excavated
290		Stone-hole
291	290	Fill of 290 – not excavated
292		Stone-hole
293	292	Fill of 292 – not excavated
294		Stone-hole
295	294	Fill of 294 – not excavated
296		Stone-hole
297	296	Fill of 296 – not excavated
298		Stone-hole
299	298	Fill of 298 – not excavated
300		Stone-hole
301	300	Fill of 300 – greyish brown silty clay
302		Stone-hole
303	302	Fill of 302 – not excavated
304		Stone-hole
305	304	Fill of 304 – greyish brown clayey silt
306		Stone-hole
307	306	Fill of 306 – not excavated
308		Clay pipe field drain cut
309	308	Fill of 308 – not excavated
310		Stone filled field drain cut
311	310	Fill of 310 – not excavated
312		Clay pipe field drain cut
313	312	Fill of 312 – not excavated
314	160	Fill of palaeochannel
315	160	Fill of palaeochannel
316	161	Buried ploughsoil above 162 and sealed by soil from the excavation of the ponds, ditch 161, Slot 4
317	161	Dark brown silty sand beneath 162, Slot 4
318		Not used

Context	Fill of	Description
319		Not used
320		Stone-hole
321	320	Fill of 321 –dark brown silty peat
322		Stone-hole
323	322	Fill of 322 – not excavated
324		Stone-hole
325	324	Fill of 324 – not excavated
326		Stone-hole
327	326	Fill of 326 – not excavated
328		Stone-hole
329	328	Fill of 328 – not excavated
330		Stone-hole
331	330	Fill of 330 – not excavated
332		Stone-hole
333	332	Fill of 332 – dark brown silty sand
334		Stone-hole
335	334	Fill of 334 – not excavated
336		Stone-hole
337	336	Fill of 336 – not excavated
338	273	Primary gravelly fill of stone-hole
339	161	Fill of ditch 161 – yellowish orange silty sand

APPENDIX 2: Photograph Register

Note: Numbers start at 179 as photos were numbered consecutively throughout the project which covered another two excavations (Suddaby 2014a & Suddaby 2014b).

Shot	Description	From	Conditions
179-192	BT/003, machine excavation working shots	Various	Overcast
193	BT/003, Stone-hole 281 stone with drill hole	SE	Overcast
194-197	BT/003, palaeochannel 160	Various	Overcast
198-199	BT/003, Ditch 161	S	Overcast
200	BT/003, rotary borehole 165	S	Overcast
201	BT/003, Stone-hole 181	S	Overcast
202	BT/003, Stone-hole 183 on the left and Stone-hole 185 on the right	W	Overcast
203	BT/003, Stone-hole 187	N	Overcast
204	BT/003, Stone-hole 189	S	Overcast
205	BT/003, Stone-hole 191	S	Overcast
206	BT/003, Stone-hole 193	S	Overcast
207	BT/003, Stone-hole 195	S	Overcast
208	BT/003, Stone-hole 197	S	Overcast
209	BT/003, Stone-hole 199	W	Overcast
210	BT/003, Modern feature 201	SE	Overcast
211	BT/003, Stone-hole 203	S	Overcast
212	BT/003, Stone-hole 205	S	Overcast
213	BT/003, Non feature	E	Overcast
214	BT/003, Stone-hole 209	S	Overcast
215	BT/003, Stone-hole 211	S	Overcast
216	BT/003, Stone-hole 213	S	Overcast
217	BT/003, Stone-hole 215	S	Overcast
218	BT/003, Stone-hole 217	S	Overcast
219	BT/003, Stone-hole 219	S	Overcast
220	BT/003, Stone-hole 221	S	Overcast
221	BT/003, Stone-hole 223	S	Overcast

Shot	Description	From	Conditions
222	BT/003, Stone-hole 225	W	Overcast
223	BT/003, Stone-hole 227	W	Overcast
224	BT/003, Stone-hole 229 on the left and Stone-hole 231 on the right	NW	Overcast
225	BT/003, Stone-hole 233	S	Overcast
226	BT/003, Stone-hole 235	S	Overcast
227	BT/003, Stone-hole 237 on the left and Stone-hole 239 on the right	W	Overcast
228	BT/003, Stone-hole 241	S	Overcast
229	BT/003, Stone-hole 243	S	Overcast
230	BT/003, Stone-hole 245	S	Overcast
231	BT/003, Stone-hole 247	S	Overcast
232	BT/003, Stone-hole 249	S	Overcast
233	BT/003, Stone-hole 251	S	Overcast
234	BT/003, Deposit 283 (later removed to reveal Stone-holes 320-326)	W	Overcast
235	BT/003, Stone-hole 255	S	Overcast
236	BT/003, Stone-hole 257	S	Overcast
237	BT/003, Stone-hole 259	S	Overcast
238	BT/003, Stone-hole 261	S	Overcast
239	BT/003, Stone-hole 263	S	Overcast
240	BT/003, Stone-hole 265	S	Overcast
241	BT/003, Stone-hole 267	W	Overcast
242	BT/003, Stone-hole 269	W	Overcast
243	BT/003, Stone-hole 271	W	Overcast
244	BT/003, Stone-hole 273	W	Overcast
245	BT/003, Stone-hole 275	W	Overcast
246	BT/003, Stone-hole 277	W	Overcast
247-248	BT/003, Stone-hole 279 on the left and Stone-hole 281 on the right around stone with drill hole	NW	Overcast
249	BT/003, Deposit 283 around stones	W	Overcast
250	BT/003, Stone-holes 284, 286, 288, 290	W	Overcast
251	BT/003, Stone-hole 292 on the left and Stone-hole 294 on the right	S	Overcast
252	BT/003, Stone-hole 296	W	Overcast
253	BT/003, Stone-hole 298	S	Overcast
254	BT/003, Stone-hole 300	S	Overcast
255	BT/003, Stone-hole 302 and Stone-hole 304	SE	Overcast
256	BT/003, Stone-hole 306	S	Overcast
257	BT/003, Section		Overcast
258	BT/003, Stone-hole pre-ex		Overcast
259-260	BT/003, section		Overcast
261	BT/003, Section		Overcast
262	BT/003, 161 Slot 1 pre-ex		Overcast
263-264	BT/003, section		Overcast
266-268	BT/003, general views	E	Overcast
269-271	BT/003, general views	N	Overcast
272	BT/003, Ditch 161, Slot 1, section	N	Overcast
273-274	BT/003, Ditch 161, Slot 1 section	S	Overcast
275	BT/003, Ditch 161, Slot 1 general view	E	Overcast
276	BT/003, Stone-hole 183 section	SW	Overcast
277	BT/003, Stone-hole 183 plan view	SW	Overcast
278	BT/003, Stone-hole 181 section	SE	Overcast
279	BT/003, Stone-hole 181 plan view	SE	Overcast
280	BT/003, Stone-hole 229 section	NE	Overcast
281	BT/003 Stone-hole 229 plan view	NE	Overcast
282-284	BT/003, Stone-hole 300 section	W	Overcast

Shot	Description	From	Conditions
285-287	BT/003, Stone-hole 300 plan view	W	Overcast
288	BT/003, Stone-hole 259 section	E	Sunny
289	BT/003, Stone-hole 259 plan view	E	Sunny
290-291	BT/003, Stone-hole 300 close-up of drill/auger/chisel hole	W & E	Sunny
292-295	BT/003, Stone-hole 221 section	SE	Sunny
296-298	BT/003, Stone-hole 221, close-up of drill hole	SE	Sunny
299-300	BT/003, Ditch 160, Slot 2 section	S	Overcast
301	BT/003, Ditch 160, Slot 2 section	N	Overcast
302-303	BT/003, Ditch 160, Slot 3 section	N	Overcast
304-305	BT/003, Stone-hole 251 section	S & SE	Overcast
306-308	BT/003, Stone-hole 243 section	SW, SSW & S	Sunny
309	BT/003, Stone-hole 243 general view	ESE	Sunny
310	BT/003, Stone-hole 243 section	SSW	Overcast
311	BT/003, modern feature 201 section with Stone-hole 203 on left	SW	Overcast
312	BT/003, modern feature 201 section	SW	Overcast
313	BT/003, Stone-hole 203 section with Stone-hole 201 on right	S	Overcast
314	BT/003, Stone-hole 203 section	S	Overcast
315-318	BT/003, Ditch 161 Slot 4, section	N	Overcast
319-320	BT/003, Ditch 161 Slot 4, section	S	Overcast
321-322	BT/003, Soil deposit removed by hand at the south-east corner	W & E	Overcast
323-324	BT/003, Stone-hole 332 section	SW	Overcast
325-326	BT/003, Stone-hole 320 on the right and Stone-hole 334 on the left sections	SE	Overcast
327-328	BT/003, Stone-hole 304 section	SW	Overcast
329-330	BT/003, Stone-hole 300 and Stone-hole 304 general view	ESE & E	Overcast
331-332	BT/003, Stone-hole 259 full excavated	E & S	Overcast
333	BT/003, Stone-hole 269 section	N	Overcast
334-335	BT/003, Stone-hole 273 section	NW	Overcast
336-337	BT/003, Stone-hole 273 plan view	NW	Overcast
338-340	BT/003, Ditch 161 Slot 5 and Stone-hole 189 section	S	Overcast
341-342	BT/003, Ditch 161 Slot 5, section	N	Overcast
343	BT/003, Stone-hole 281 section	SW	Overcast
344-346	BT/003, Stone-hole 281 from the SE and a close-up of the drill hole	SE	Overcast
347-348	BT/003, Stone-hole 281 close-up and general views of second drill hole	S	Overcast
349	BT/003, Stone-hole 255 section	SW	Overcast
350	BT/003, Stone-hole 255 plan view	SW	Overcast
351-356	BT/003, final panorama photos from the northern bund	N	Overcast

APPENDIX 3: Drawing Register

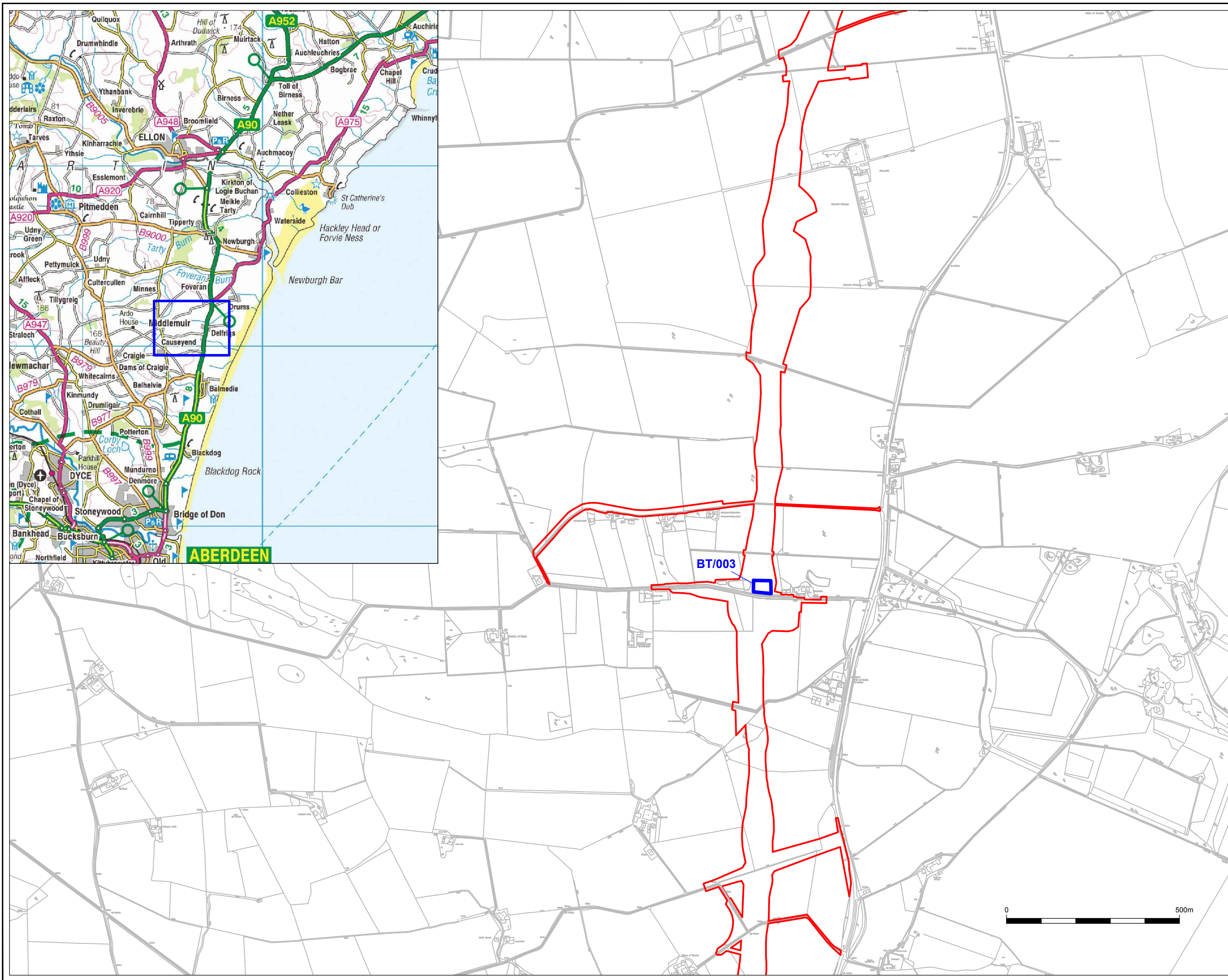
Drawing No.	Sheet No.	Description/Contexts	Section/Plan	Scale
34	6	North-east-facing section of Stone-hole 183	Section	1:10
35	6	Plan of Stone-hole 183	Plan	1:20
36	6	North-east-facing section of Stone-hole 181	Section	1:10
37	6	Plan of Stone-hole 181	Plan	1:20
38	7	N-facing section of Ditch 161	Section	1:10
39	7	Section of Ditch 161 running through 161 Slot 1	Section	1:10
40	7	Plan of section through 161 and 160 Slot 1	Plan	1:20
41	6	Section of Stone-holes 229 and 230	Section	1:10
42	6	Plan of Stone-holes 229 and 230	Plan	1:20
43	8	Plan of Stone-hole 300 with half section	Plan	1:20
44	8	North-west-facing section of Stone-hole 300	Section	1:10
45	8	North-east-facing section of Stone-hole 219	Section	1:10
46	8	Plan of Stone-hole 219	Plan	1:20
47	6	North-east section of Stone-hole 259	Section	1:10
48	6	Plan of Stone-hole 259	Plan	1:20
49	10	Plan of Stone-hole 221 with half section	Plan	1:20
50	10	South-east-facing section Stone-hole 221	Section	1:10
51	7	N-facing section of Ditch 161 Slot 3	Section	1:10
52	7	N-facing section of Ditch 161 Slot 2	Section	1:10
53	7	S-facing section of Ditch 161 Slot 2	Section	1:10
54	7	Plan of Slot 2 in Ditch 161	Plan	1:20
55	7	Plan of Slot 3 in Ditch 161	Plan	1:20
56	9	S-facing section of Stone-hole 251	Section	1:10
57	9	Plan of Stone-hole 251	Plan	1:20
58	9	SSW-facing section of Stone-hole 243	Section	1:10
59	9	Plan of Stone-hole 243	Plan	1:20
60	11	South-facing section of Ditch 161 Slot 4	Section	1:10
61	11	N-facing section of Ditch 161 Slot 4	Section	1:10
62	11	Plan of Slot 4 of Ditch 161	Plan	1:20
63	10	South-west-facing section of Stone-hole 201	Section	1:10
64	10	S-facing section of Stone-hole 203	Section	1:10
65	12	Plan of features Stone-holes 201 and 203	Plan	1:20
66	9	North-west-facing section of Stone-hole 332	Section	1:10
67	9	Plan of Stone-hole 332	Plan	1:20
68	11	Section of Stone-holes 320 and 334	Section	1:10
69	11	Plan of Stone-holes 334, 320 and 336	Plan	1:20
70	12	South-west-facing section of Stone-hole 269	Section	1:10
71	12	Plan of Stone-hole 269	Plan	1:20
72	13	Stone-hole 304	Plan	1:20
73	13	South-west-facing section Stone-hole 304	Section	1:10
74	12	South-west-facing section of Stone-hole 273	Section	1:10
75	12	Plan of Stone-hole 273	Plan	1:20
76	14	N-facing section of Ditch 161, Slot 5 and stone-hole 189	Section	1:10
77	14	S-facing section of ditch 161, Slot 5 Stone-hole 189	Section	1:10
78	14	Plan of Slot 5 in ditch 161 and stone-hole 189	Plan	1:20
79	14	North-east-facing section of Stone-hole 255	Section	1:10
80	14	Plan of Stone-hole 255	Plan	1:20
81	13	South-west-facing section of Stone-hole 281	Section	1:10
82	13	Plan of Stone-hole 281	Plan	1:20

APPENDIX 4: Finds Quantification

Context	Find type	No.	Wt (g)	Notes	Spot date
Topsoil	Glass	2	179	Green bottle	Modern
Topsoil	Iron	1	39	Very corroded. Wire?	Modern
Topsoil	Pottery	4	45		Post-med/Modern
Topsoil	Lithic	1	40		Prehistoric
001	CBM	3	57	Tile	Post-med/Modern
001	Pottery	5	36		Post-med/Modern
222	Glass	1	2	Clear	Modern
244	Glass	1	10	Green bottle	Modern
270	Mineral Pan	6	201		
270	Bog Iron Ore	2	29		
274	Mineral Pan	7	299		
301	Glass	3	55	Green bottle	Modern
301	Bog Iron Ore	1	167		
305	Pottery	1	2		Modern
305	Iron	2	115	Strap broken. Very corroded	Modern

APPENDIX 5: Discovery & Excavation in Scotland Entry

LOCAL AUTHORITY:	Aberdeenshire
PROJECT TITLE/SITE NAME:	Aberdeen Western Peripheral Route/Balmedie-Tipperty. Lot 1 – Balmedie to Tipperty. Invasive Archaeological Investigations
PROJECT CODE:	ABBY
PARISH:	Belhelvie, Foveran
NAME OF CONTRIBUTOR:	Ian Suddaby
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Strip and map, and mitigation excavation
NMRS NO(S):	N/A
SITE/MONUMENT TYPE(S):	N/A
SIGNIFICANT FINDS:	N/A
NGR (2 letters, 10 figures)	NJ 96570 20720
START DATE (this season)	April 2014
END DATE (this season)	April 2014
PREVIOUS WORK (incl. DES ref.)	N/A
MAIN DESCRIPTION: (NARRATIVE) (May include information from other fields)	<p>Following the evaluation the area was identified for further work. A programme of strip and map followed by limited mitigation excavation was undertaken.</p> <p>The mitigation excavation identified sixty-seven pit-like features of varying size. These were identified as stone-holes created where stones had been removed from the sub-soil. In some instances this may have been as a by-product of ploughing but in others there was evidence of manual extraction as part of agricultural land improvement. In a few of the pits where large stones were still present they showed evidence of having been broken up by drilling holes in to them. Given the lack of cultivation furrows in this area it is possible that this land improvement is post 18th Century in date. There was also one linear ditch which is likely to represent a post 18th Century agricultural boundary.</p>
PROPOSED FUTURE WORK:	N/A
CAPTION(S) FOR ILLUSTRS:	N/A
SPONSOR OR FUNDING BODY:	Aberdeen City Council
ADDRESS OF MAIN CONTRIBUTOR:	The Old Engine House, Eskmills Park, Musselburgh, EH21 7PQ
EMAIL ADDRESS:	cfa@cfa-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	<p>Royal Commission on the Ancient and Historical Monuments of Scotland</p> <p>Aberdeenshire Council Sites & Monuments Record</p>



Key:

- LMA
- Trench



CFA ARCHAEOLOGY LTD
 CFA ARCHAEOLOGY LTD
 Old Engine House
 Eskmills Park
 Musselburgh
 East Lothian, EH21 7PQ
 T: 0131 273 4380
 F: 0131 273 4381
 info@cfa-archaeology.co.uk
 www.cfa-archaeology.co.uk

Fig. No: 1 Report No: 3222

Title:
 Location of Trench BT/003

Project:
 Aberdeen Western Peripheral
 Route/Balmedie-Tipperty,
 Lot 1 - Balmedie-Tipperty,
 Archaeological Mitigation,
 Excavation Trench BT/003

Client:
 Aberdeen City Council

Scale at A3:
 1:10,000

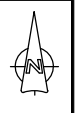


Drawn by: TB Checked: BG Date: 24/11/14

Reproduced with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown copyright. CFA Archaeology Ltd, Old Engine House, Eskmills Park, Musselburgh EH21 7PQ AL100034785

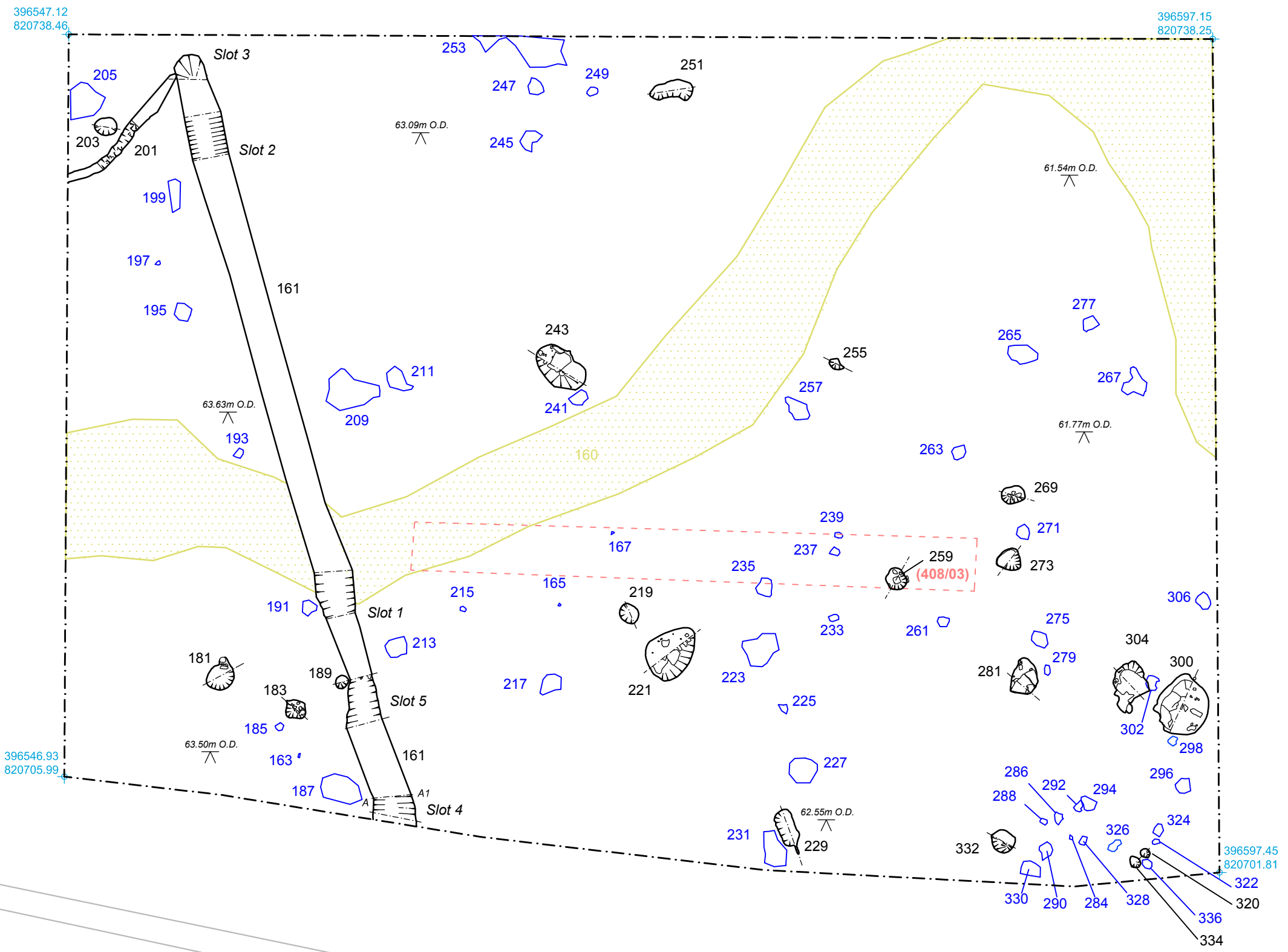
The copyright in this document (including its electronic form) shall remain vested in CFA Archaeology Ltd (CFA) but the Client shall have a licence to copy and use the document for the purpose for which it was provided. CFA shall not be liable for the use by any person of this document for any purpose other than that for which the same was provided by CFA. This document shall not be reproduced in whole or in part or relied upon by third parties for any use whatsoever without the express written authority of CFA.





Key:

- Excavation Area
- Evaluation Trench
- Excavated Features
- Features from Evaluation
- Unexcavated Features
- Palaeochannel



CFA ARCHAEOLOGY LTD
 Old Engine House
 Eskmills Park
 Musselburgh
 East Lothian, EH21 7PQ
 T: 0131 273 4380
 F: 0131 273 4381
 info@cfa-archaeology.co.uk
 www.cfa-archaeology.co.uk

Fig. No: 2 Report No: 3222

Title:
 Site Plan of Trench BT/003

Project:
 Aberdeen Western Peripheral
 Route/Balmedie-Tipperty, Lot
 1 - Balmedie-Tipperty,
 Archaeological Mitigation,
 Excavation Trench BT/003

Client:
 Aberdeen City Council

Scale at A3:
 1:200



Drawn by: TB Checked: BG Date: 24/11/14

Reproduced with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown copyright. CFA Archaeology Ltd, Old Engine House, Eskmills Park, Musselburgh EH21 7PQ AL100034785

The copyright in this document (including its electronic form) shall remain vested in CFA Archaeology Ltd (CFA) but the Client shall have a licence to copy and use the document for the purpose for which it was provided. CFA shall not be liable for the use by any person of this document for any purpose other than that for which the same was provided by CFA. This document shall not be reproduced in whole or in part or relied upon by third parties for any use whatsoever without the express written authority of CFA.



Key



Fig. 3 - General view of Trench BT/003 from the east

CFA ARCHAEOLOGY LTD
 Old Engine House
 Eskmills Park
 Musselburgh
 East Lothian, EH21 7PQ
 T: 0131 273 4380
 F: 0131 273 4381
 info@cfa-archaeology.co.uk
 www.cfa-archaeology.co.uk

Fig. No:	3	Report:	A
----------	---	---------	---

Title
General view of Trench BT/003 from the east

Project
Aberdeen Western Peripheral Route/Balmedie-Tipperty, Lot 1 - Balmedie-Tipperty, Archaeological Mitigation, Excavation Trench BT/003

Client
Aberdeen City Council

Scale at A3



Drawn by:	Checked by:	Date:
TB	BG	30/10/14

The copyright in this document (including its electronic form) shall remain vested in CFA Archaeology Ltd (CFA) but the Client shall have a licence to copy and use the document for the purpose for which it was provided. CFA shall not be liable for the use by any person of this document for any purpose other than that for which the same was provided by CFA. This document shall not be reproduced in whole or in part or relied upon by third parties for any use whatsoever without the express written authority of CFA.



Fig. 4 - General view of Ditch 161 looking south



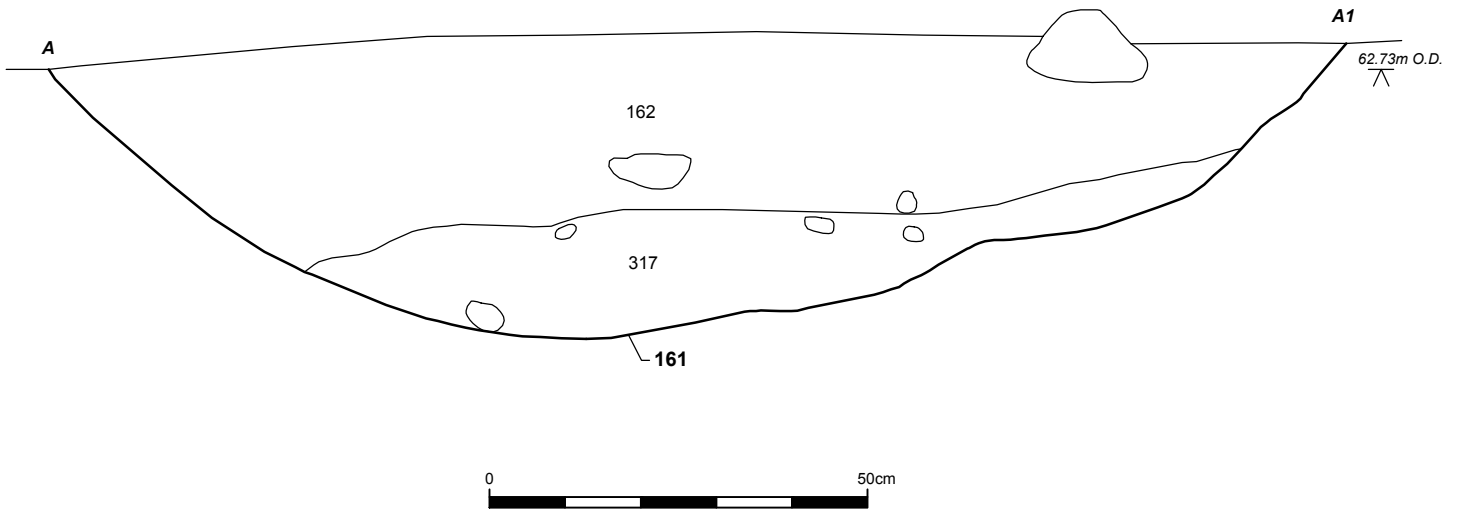
Fig. 5 - Ditch 161, section in the southern trench baulk



CFA ARCHAEOLOGY LTD
 Old Engine House
 Ekmills Park
 Musselburgh
 East Lothian, EH21 7PQ
 T: 0131 273 4380
 F: 0131 273 4381
 info@cfa-archaeology.co.uk
 www.cfa-archaeology.co.uk

Title: Site Photographs	Fig. 4-5	Report: 3222	Drawn: TB	CKD: BG	Date: 24/11/14
	Client: Aberdeen City Council				
Project: Aberdeen Western Peripheral Route/Balmedie-Tipperty, Lot 1 - Balmedie-Tipperty, Archaeological Mitigation, Excavation Trench BT/003					





CFA
ARCHAEOLOGY LTD

CFA ARCHAEOLOGY LTD
The Old Engine House
Eskmills Park
Musselburgh
East Lothian, EH21 7PQ

T: 0131 273 4380
F: 0131 273 4381
info@cfa-archaeology.co.uk
www.cfa-archaeology.co.uk

Title: Section of 161 , Slot 4	Fig No:	6	Report:	3222	Drawn by:	TB	CKD:	BG	Date:	24/11/14
	Client: Aberdeen City Council									
Project: Aberdeen Western Peripheral Route/Balmedie-Tipperty, Lot 1 - Balmedie-Tipperty, Archaeological Mitigation, Excavation Trench BT/003	Scale: 1:10									





Fig. 7 - Example of stone-holes, pre-excitation



Fig. 8 - Section of stone-hole 332 from the south-west



CFA ARCHAEOLOGY LTD
 Old Engine House
 Ekmills Park
 Musselburgh
 East Lothian, EH21 7PQ
 T: 0131 273 4380
 F: 0131 273 4381
 info@cfa-archaeology.co.uk
 www.cfa-archaeology.co.uk

Title: Site Photographs	Fig. 7-8	Report: 3222	Drawn: TB	CKD: BG	Date: 24/11/14
	Client: Aberdeen City Council				
Project: Aberdeen Western Peripheral Route/Balmedie-Tipperty, Lot 1 - Balmedie-Tipperty, Archaeological Mitigation, Excavation Trench BT/003					





Fig. 9 - A large boulder exhibiting drill holes



Fig. 10 - Section of stone-hole **300** showing evidence that this boulder has been chiselled away to subsoil level



CFA ARCHAEOLOGY LTD
 Old Engine House
 Ekmills Park
 Musselburgh
 East Lothian, EH21 7PQ
 T: 0131 273 4380
 F: 0131 273 4381
 info@cfa-archaeology.co.uk
 www.cfa-archaeology.co.uk

Title: Site Photographs	Fig. 9-10	Report: 3222	Drawn: TB	CKD: BG	Date: 24/11/14
	Client: Aberdeen City Council				
Project: Aberdeen Western Peripheral Route/Balmedie-Tipperty, Lot 1 - Balmedie-Tipperty, Archaeological Mitigation, Excavation Trench BT/003					

