

NAA

ARCHAEOLOGICAL SURVEY AND EXCAVATION REPORT



**HAWKESLEY HILL
COUNTY DURHAM**

**COMMUNITY ARCHAEOLOGY
PROJECT**

prepared for

The Architectural and
Archaeological Society of
Durham and Northumberland

NAA 16/19
April 2016



**ARCHAEOLOGICAL SURVEY
AND
EXCAVATION REPORT**

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NAA Document Authorisation

Project name		Hawkesley Hill, County Durham, Community Archaeology Project		Project number	
Report title		Archaeological survey and excavation report		1277	
Report No.		16-19			
Revision	Date	Filename	NAA_1277_Rpt_16-19.pdf		
v.1	14/04/16	Description	Final report for distribution		
			Prepared by	Edited by	Approved by
		Name	Gav Robinson	Penny Middleton	Dr Hannah Russ

This document has been approved for release by: 

HAWKESLEY HILL, COUNTY DURHAM
COMMUNITY ARCHAEOLOGY PROJECT
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Summary

A community archaeology project, developed as part of the Heart of Teesdale Landscape Partnership programme, was carried out in the autumn of 2015 by Northern Archaeological Associates (NAA) and a small team of dedicated volunteers. The project investigated two rock art panels (HH1 and HH2) previously discovered near Hawkesley Hill Farm by Paul and Barbara Brown. The carvings were located on a promontory to the south of the farm (NZ 03772069) and comprised a handful of eroded cup and ring marks and a few linear grooves on two flat areas of stone.

This document has been prepared by NAA for the Architectural and Archaeological Society of Durham and Northumberland (AASDN) and was funded by the Heritage Lottery Fund (HLF). The archaeological works were informed by an 'Archaeological Brief' set out in the Invitation to Tender document and were carried out in accordance with agreed methodologies stated within the tender application. All archaeological works were undertaken in accordance with relevant standards, guidance and best practice.

Professional archaeologists from NAA supervised and trained members of the local community in the various techniques used to investigate the rock art and their landscape setting. The aims of the project were to: expose and record all the carvings on the known panels; to search for any other carvings in the vicinity; to investigate the area around the panels for 'below ground' evidence; and to survey the surrounding 24ha field for 'above ground' evidence of potentially associated features.

After carefully removing turf from around the two panels, more carvings were identified on these and on another rock outcrop nearby (HH3). After cleaning away the vegetation the carvings were recorded using a series of high quality digital images and photo-processing software to produce accurate 3D images. Polynomial texture mapping (PTM) a type of reflectance transformation imaging (RTI) was also undertaken.

For a 'wider area survey', the NAA aerial drone was flown over the site taking high-level digital photographs. These geo-referenced images were then interpolated to produce a sub-centimetre accuracy 3D digital image of the field, akin to a LiDAR (Light Detection And Ranging) survey. This survey was used to produce detailed contour and earthwork surveys of the project area.

Former field boundaries, evidence of ridge and furrow ploughing, quarrying and disturbance relating to the use of the area as a military training ground in 1945 were identified. A walkover survey of the site and searches of the local Historic Environment Record (HER), aerial photography and historic mapping of the wider area were also carried out to aid interpretation.

The combination of these techniques confirmed that the majority of the visible archaeology in the project area related to medieval agriculture, post-medieval and later field systems, recent quarrying and features due to military activity (foxholes and wheel ruts). Amongst these, however, were some possibly of a prehistoric date including four more rocks with faint eroded carvings, a possible small cairn, three quarries or cut platforms and a sequence of terraces downslope of the Hawkesley Hill panels.

Following the recording and survey, turf and topsoil were removed from a small area around the two main carvings (HH1 and HH2) and one of the newly identified panels (HH3). This was done in order to investigate whether they were part of a complex of features and deposits or just isolated carvings on natural outcrops. The team investigated an area of some 100m² revealing the surface of a large area of outcropping sandstone that the carved panels were part of. This work clearly demonstrated that no associated intentionally placed deposits or cut features were present within the investigated area. Three irregular shallow bowl-shaped features (the remains of rotted tree or shrub root masses) were identified during the excavation; two samples of charcoal from one of these features were radiocarbon dated to the 11th to 12th centuries AD. A single worked flint fragment was also found next to the panel HH1. This item seemed to be a 'blade-shaped' removal from a core produced during an attempt to work around a natural imperfection within the flint.

The results of the survey and post-excavation analysis demonstrated high levels of disturbance within the surrounding area from medieval and later agriculture and modern military activity. This suggested that if there had been any upstanding prehistoric features in the vicinity these are likely to have been destroyed. The promontory on which five of the six panels were located seemed to have suffered less damage from later activity and the presence of undated terraces, quarries and a possible small cairn hinted that there may have been some form of contemporary activity in the vicinity of the rock art.

This pattern was mirrored within parts of upper Teesdale where later agriculture has had less of an impact upon the largely preserved prehistoric landscapes. Although it should be remembered that very few of these remains have actually been confidently dated. The rock art sites recorded to date within middle and upper Teesdale also demonstrated a strong correlation

with the underlying geology, the majority being located on the sandstones of the Millstone Grit Series. Even the exception, a concentration of carvings on Barningham Moor, located within the area of the Carboniferous Limestone Series, were mostly (if not all) etched into sandstone. This pattern of the distribution of rock art being linked to the underlying solid geology has previously been stated and raises important questions regarding the meaning of the carvings.

Acknowledgements

NAA would like to give thanks to the following individuals and organisations for their contributions to this project. First and foremost we extend our gratitude to David Mason and the team at the Architectural and Archaeological Society of Durham and Northumberland (AASDN) and Alex Sijpesteijn (and colleagues) of the Heart of Teesdale Landscape Partnership (HoTLP) whose co-operation and financial support made this project possible.

We would also like to thank the Durham County Council Design and Historic Environment Team for their guidance during the project including David Mason the Principal Archaeologist and Nick Boldrini Historic Environment Record Officer. Of no lesser importance were the contributions given by Kate Sharpe of Durham University and the England's Rock Art (ERA) website.

NAA wish to thank Raby Estates for their permission to access, survey and excavate on their land and Mr G Wilson, the tenant farmer, whose helpfulness and local knowledge was gratefully received. Gratitude is also due to Paul and Barbara Brown who not only discovered the rock art, but shared their expertise throughout the project.

The archaeological fieldwork was undertaken by a small team of volunteers who toiled through often horrific weather conditions and whose dedication and skill was crucial in undertaking the fieldwork. In alphabetical order they were: Barbara and Paul Brown, Denise Charlton, Lorraine Clay, Steve Eastmead, C Gill, Steve Hutchinson, Tony Metcalfe and F Tholzan.

Special thanks are also due to Richard Fraser (and the NAA drone), Kate Chapman (RTI) and Alistair Cross (RTI) for volunteering their time and expertise. Finally, we would like to thank the following people for their assistance during the various phases of the project: Penny Middleton (management), Dr Hannah Russ (post-excavation management), Damien Ronan (CAD, surveying and photogrammetry), Martyn Cooper (field archaeologist), Lynne Gardiner (palaeoenvironmental specialist), Frederick Foulds (flint specialist), Cath Chisman (CAD and illustration) and both the finds and environmental processing teams at NAA.

1.0 INTRODUCTION

- 1.1 This document presents the results of a community archaeology project carried out in the autumn of 2015 by Northern Archaeological Associates (NAA) and a small team of volunteers. The investigation was centred on two rock art panels previously discovered near Hawkesley Hill Farm by Paul and Barbara Brown on a promontory to the south of the farm (NZ 03772069; Fig. 1).
- 1.2 The project was commissioned by the Architectural and Archaeological Society of Durham and Northumberland (AASDN) under the auspices of the Heart of Teesdale Landscape Partnership (HoTLP), and was funded by the Heritage Lottery Fund (HLF). The archaeological works were informed by a project brief (NAA 2015) prepared by NAA in response to the requirements set out in the invitation to tender document (AASDN 2015). This was agreed in advance with David Mason, the Durham County Council (DCC) Principal Archaeologist, in order that the investigations constituted a scheme of works approved by the local planning authority.
- 1.3 All archaeological works were undertaken in accordance with relevant standards, guidance and best practice published by English Heritage (2007; 2008a; 2008b), Historic England (2015a; 2015b; 2015c; 2015d), the Archaeological Data Service (ADS 2011) and the Chartered Institute for Archaeologists (2014a; 2014b; 2014c; 2014d; 2014e; Brown 2011).
- 1.4 One of the main aims of the project was to provide hands-on archaeological training for local volunteers in the various techniques used to investigate the carved panels and their landscape setting. The objectives of the investigation were: to expose and record all the carvings on the known panels; to search for any other carvings in the vicinity; to investigate the area around the panels for 'below ground' evidence; and to survey the surrounding 24ha field for 'above ground' evidence of potentially associated features.

2.0 LOCATION, TOPOGRAPHY AND GEOLOGY

- 2.1 The 24ha project area (hereafter referred to as 'the site') was located on unimproved pasture, 4.5km north-west of the centre of Barnard Castle. It comprised an approximately triangular field adjacent to the B6278 halfway between Eggleston and Barnard Castle, and 0.9km to the south of Hawkesley Hill Farm.

- 2.2 The previously identified rock art panels were located on a small promontory (c.270m OD) to the east of the larger Bail Hill (c.280m OD). The ground sloped down towards the River Tees to the south-west; the steep northern river valley slope being approximately 0.8km from the site. To the south-east, the land sloped more gently towards several smaller valleys of the tributaries of Black Beck, which in turn fed into the River Tees. A narrow stream located on lower ground between the promontory and Bail Hill extended across the survey area from south-west to north-east before feeding into one of the tributaries of Black Beck. The source of this stream seemed to be located between the two hills.
- 2.3 The solid geology beneath the site was recorded as the Yoredale Group (Millstone Grit series) which comprises layers of sedimentary bedrock (including limestone, sandstone, siltstone and mudstone) that formed approximately 313 to 335 million years ago in the Carboniferous Period (BGS 1977; online). Overlying this is Diamicton tills that formed up to 3 million years ago in the Quaternary Period (BGS 1979; online). These later deposits were formed in cold periods when glaciers scoured the landscape and deposited moraines of till and outwash sand and gravel deposits from seasonal and post-glacial meltwaters (BGS online). Soils on the site were of the slowly permeable wet very acid upland soils with a peaty surface of the Wilcocks 1 Association (SSEW 1983; Jarvis *et al.* 1984, 307-10).

3.0 SUMMARY ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 3.1 As part of the project a Desk-Based Assessment of the heritage assets (HA) within a 2km radius of the site was undertaken. A brief review of the archaeology and history within the wider areas of middle (Heart of Teesdale) and upper Teesdale was also undertaken to inform the assessment. A detailed methodology for this is presented in the Methodologies section; a summary of the results are presented below.
- 3.2 Heritage assets recorded within the 2km study area are listed in Appendix A and their location is shown in Figure 2. Within this report these heritage assets are identified by a unique reference number (HA) specific to this text. Appendix A also provides Historic Environment Record (HER) Primary Record Numbers and National Monument Record (NMR) Unique Identifiers as appropriate. Appendix B lists the prehistoric sites recorded within middle and upper Teesdale; these sites are presented in Figure 3.

- 3.3 The only recorded (ADS online) developer-funded archaeological intervention previously undertaken within the study was during the construction of the Tees Valley Low Voltage Cable in 2002 (NAA 2002). The project comprised the excavation of five test pits along the route of an electric cable to the north of a Scheduled Ancient Monument at Marwood, (HA 6); no significant archaeological deposits were exposed.
- 3.4 A total of 13 heritage assets were recorded within the study area; these included two scheduled monuments and 11 non-designated sites considered to be of regional or local importance. The scheduled monuments comprised the deserted medieval village of Marwood (HA 6) and an Iron Age promontory fort (HA 10) near Cotherstone.

Early prehistoric activity (Palaeolithic to Bronze Age)

- 3.5 Previously recorded evidence of Palaeolithic and Mesolithic activity in upper Teesdale included findspots of artefacts, and indirect inferences from vegetational changes deduced from information obtained from pollen diagrams (Coggins 1984, 6). A single site at Towler Hill near Lartington produced an assemblage of Palaeolithic material (Fig. 3, no. 45; Coggins *et al.* 1989); early Mesolithic lithics were also recovered from Towler Hill and from a second findspot at Staple Crag (Fig. 3, no. 9), both in Teesdale (*loc. cit.*). Findspots and sites of a later Mesolithic character were more numerous, but Teesdale has been less productive than other dales (such as Weardale; Coggins 1986, 10; Petts and Gerard 2006, 16-7).
- 3.6 Within the 2km study area a Mesolithic flint (HA 12) was found on the summit of Knott Hill, c.1.2km to the south of the Hawkesley site. Assemblages of similar material have also been recovered further afield at Hindon Edge (Fig. 3, no 21), Blacton Beck (Fig. 3, no. 8) and during excavations at Middle Hurth (Fig. 3, no. 7; Coggins 1986, 108). Neolithic lithics and a quartzite macehead were recovered at Blacton Beck, and at Blake Hill (Fig. 3, no. 17), petit tranchet arrowheads and flint and chert tools and debitage were recovered.
- 3.7 A recent community excavation (not illustrated) undertaken by a team of volunteers from the North Pennines Area of Outstanding Natural Beauty Partnership's Altogether Archaeology Project discovered a large assemblage of Mesolithic worked flint. Approximately 1500 lithics were recovered on land belonging to Northumbrian Water in upper Teesdale, County Durham. The finds ranged from finished artefacts and blades through to debitage, and included flint and chert items (BAJR 2015).

- 3.8 Prior to the Hawkesley Hill project, no definitively Neolithic sites had been excavated in Teesdale. Furthermore, other than examples of rock art (e.g. HA 9) recorded in the area (Brown and Brown 2008), no indisputably Neolithic sites have been identified (Coggins 1984, 16; Petts and Gerrard 2006, fig. 13).
- 3.9 A considerable number of carved rocks sites have been recorded within middle Teesdale including those recorded at Hawkesley Hill. These sites included single carved rocks like those recorded at Eggleston (Fig. 3, no. 14), Cotherstone (no. 20) and at Knott Hill (Fig. 2, HA 9). Further afield, concentrations of rock art existed at Bracken Heads (Fig. 3, no. 6) and Hindon Edge (no. 21) to the north and north-west of Hawkesley Hill (Brown and Brown 2008, fig. 70). Amongst the other rock art sites recorded in the wider area, a concentration on Barningham Moor (Fig. 3, no. 43) was the most extensive (*op. cit.*, fig. 54). The latter site comprised concentrations of upstanding prehistoric remains and carved stones; one such site at Osmaril Gill (Fig. 3, no. 43; *op. cit.*, figs. 60 and 62) included a large round barrow (How Tallon), a stone circle, a burnt mound, three cairns and the remnants of settlement and field systems.
- 3.10 Three possible Neolithic sites were suggested by Coggins at Strands Gill, Middle Hurth and near Barney Byre (Coggins 1986, 18, 24). The Strands Gill site lay on the west bank of the Blackmea Crag Sike at the top of precipitous cliffs at Holwick Scars. It comprised a small field flanked by two even smaller irregular plots. These were enclosed by low clearance banks of stones over 2.0m broad in places (Coggins 1984, 16). A multi-phased monument, possibly including the truncated remains of a Neolithic long barrow (*op. cit.*, 25), was recorded occupying a limestone outcrop at Middle Hurth. The earliest phase of this site consisted of an irregular mound over 50m long by 6.0m wide and up to 0.5m high. Excavation produced a number of flints including microliths, but no evidence for the function of the mound. An intrusive Iron Age cremation was discovered near one end. The third site near Barney Byre, located immediately to the south of the fell wall, comprised a large oval mound. Though unexcavated it may have been the remains of a barrow possibly of a late Neolithic or early Bronze Age date (*loc. cit.*).
- 3.11 A number of Late Neolithic to Early Bronze Age flint tools have been found along the banks of the River Tees close to Barnard Castle. On the eastern side of the river a flint scraper was also discovered in Flatts Wood. Other finds of undated flint tools have been located within Barnard Castle. In addition to occasional lithics, finds of Bronze Age metalwork were recovered from the Tees river bank including two bronze swords

and a gold hair ornament found together on the banks of Gill Beck at Startforth (Fig. 3, no. 31). Also a bronze spear head was found close to a Bronze Age urn on the banks of the Tees at 'The Demesnes', to the south of Barnard Castle.

- 3.12 Bronze Age sites are more common within upper Teesdale, especially on open moorland where later farming has not impacted upon the upstanding remains of round barrows, burnt mounds, field systems and settlements. Though no such remains had previously been recorded within the 2km study area, two sites on moorland close by at Bracken Heads (at c.3.4km) to the north-west and Hindon Edge (at c.3.6km) to the north suggested wider utilisation of the area (Fig. 3, nos. 6 and 21). A cluster of cup and ring marked stones and clearance cairns were recorded at Bracken Heads (Brown and Brown 2008, fig. 70) and a cairnfield, wall remnants, a burial cist and rock art were identified at Hindon Edge (*loc. cit.*).
- 3.13 From this evidence, in combination with assessment of the remains in upper Teesdale (Coggins 1984; 1986) and that deduced from pollen diagrams, the general sequence of early farming in upper Teesdale can be extrapolated (Coggins 1984, 91). Though wooded the landscape was never a closed forest and from about 3000 BC onwards existing clearances were expanded by Neolithic farmers and a little cereal was grown (*loc. cit.*). This continued and intensified in the Bronze Age and it has been suggested that the pattern of later settlement and agriculture was not dissimilar to that of the 1990's (*op. cit.*, 92).
- 3.14 Together this evidence suggested that the area saw some level of activity throughout early prehistory. The distribution of the sites was, however, largely restricted to areas where later agriculture had not denuded the remains.

Late Bronze Age and Iron Age

- 3.15 Few sites attributable to the Iron Age have been recorded in middle and upper Teesdale (Petts and Gerrard 2006, fig. 19). It is likely, however, that the largely undated upstanding remains of fields, settlement enclosures and structures recorded especially within the well-preserved landscapes of upper Teesdale include at least some remains of this period (Coggins 1984, 48; Harding 2004, 41; Petts and Gerrard 2006, 37). Most of the known later prehistoric settlement sites in the area included the foundations of circular stone-built houses (Coggins 1986, 39). Though much of these sites remain undated, excavations at Bracken Rigg (*op. cit.*, 85; Fig. 3 no. 25) and

Forcegarth Pasture (*op. cit.*, 97; Fig. 3, no. 27) suggested these site were occupied from at least 1200BC to AD 250.

- 3.16 Within the 2km study area the earthworks of a promontory fort (HA 9) of possible Bronze Age and/or Iron Age date was recorded overlooking the Tees, opposite Cotherstone (Challis and Harding 1975). This site (SM35955) comprised a defensive ditch cutting off the end of a steep-sided spur; the earthworks of a possible building were recorded within the interior. Although the date of this site is as yet unknown, its similarity to excavated sites in the north (Harding 2004, 58-66) suggested that it was occupied during later prehistory and/or the Iron Age.

Roman period

- 3.17 No sites of a Roman date were recorded within the 2km study area but activity of this date was apparent in the wider area. A Roman road is thought to have extended along Teesdale linking the Roman forts at Bowes and Binchester on Dere Street, Margary's road 820 (Margary 1973, 436). This road may have followed the route of the A67 on the west side of the River Tees and Galgate up to the A688 through and beyond Barnard Castle and may have crossed the Tees over a ford located south of the present weir. Finds of Roman coins and pottery have been recovered from Barnard Castle, specifically from Bridgegate and Newgate. Roman coins were also discovered in Startforth during the late 19th century, but their precise location is not known. These finds are suggestive of roadside activity or settlement at a relatively strategic point along the road (NAA 2012).
- 3.18 Away from the road and the river crossing few Roman period remains had previously been recorded close to Barnard Castle. An assemblage of Roman pottery was recovered to the east of Towler Hill and, although the settlement earthworks on Knott Hill (HA 6) are generally believed to be those of the deserted medieval village of Marwood, they are thought to include Romano-British remains.
- 3.19 Within upper Teesdale the evidence suggested that by the Roman period arable farming was more widespread and settlement sites were at lower altitudes than those of an earlier date (Coggins 1984, 92-3).

Early medieval

- 3.20 It is likely that there was a late Anglo-Saxon settlement at Startforth as the Manor of Startforth was establish by the late 10th century when it was part of the See of Durham

lands pledged to the Earl of Northumberland (Page 1914). The record for Marwood medieval village within the HER stated that the documented pre- Norman settlement was possibly located within the area now occupied by Barnard Castle, and that the earthworks on Knott Hill (HA 6) could be Roman in origin, with later medieval metalworking.

- 3.21 The farms of the immediate post-Roman period have not so far been identified in upper Teesdale (Coggins 1984, 94). However, it has been noted that there was no evidence in the upper dale for the abandonment of farms and for the forest regeneration which has been recorded elsewhere in the north-east. At Simy Folds (Fig. 3, no. 5) the eighth century farmers seemed to have continued in much the same way as their predecessors of the previous two thousand years (*loc. cit.*).

Medieval

- 3.22 During the medieval period the Hawkesley Hill site was likely on the edge of farmland associated with the settlement of Marwood. The site lay within the historic township of Marwood in the Parish of Gainford and surviving elements of the medieval landscape have been recorded in the 2km survey area (Fig. 2). These included earthworks of broad medieval ridge and furrow agriculture including in fields around Knott Hill (HA 6), the placename of Bail Hill (HA 5) and possibly an earthwork ditch and bank (HA 11) to the immediate north of the project boundary. Evidence of ridge and furrow ploughing was recorded within the area of the drone and walkover surveys (see below), however, this did not extend to the top of the promontory on which the rock art was located. This and the shallow soils encountered during the excavation phase of works suggested that most of the promontory was not ploughed during the medieval period.
- 3.23 Earthworks of a possible medieval date (HA 6) were recorded at the summit of Knott Hill, c.1.5km to the south of the survey area. The remains are scheduled (SM 31822) and contain the possible remains of a bloomery. A survey of the site by the Royal Commission on the Historical Monuments of England (RCHME) in 1991 noted that it was typified by enclosures but only three possible house platforms were identified (Pastscape online). This fact, along with Thomas Kitchen's map of 1775 showing a 'Wednesday Market', led the RCHME to the conclusion that the site was presumably more of a livestock market than permanent village.

Post-medieval and modern

- 3.24 The landscape within the 2km study area had changed very little from that portrayed on the earliest detailed plans of the mid-19th century. These plans showed a predominately post-medieval enclosure landscape with a network of isolated farms and the River Tees flanked by wooded banks as it is today. The land around Barnard Castle was enclosed during the mid-18th century.
- 3.25 Of relevance to the Hawkesley Hill survey area were three field boundaries and a large number of former quarries depicted on the First Edition OS map of 1859 (Fig. 2). The former boundaries once split the survey area into three fields and although the closest quarry was c.400m from the survey area, the sheer number of sites (21) in the study area highlighted the wide distribution of easily available stone.
- 3.26 Aerial images dated to 1945 (Google Earth) clearly indicated how extensively the survey area and the fields to the north were used for military training. The images (Plate 1) show tracks (presumably vehicle wheel ruts) crossing much of the area, in places completely eradicating any sign of what once lay beneath.



Plate 1: Aerial image of the site c.1945 (© Google Earth)

4.0 AIMS AND OBJECTIVES

4.1 The overall aim of the work was to involve volunteers from the local community in the detailed recording of the visible rock art features at Hawkesley Hill, and a search for additional examples in the vicinity both by surface inspection and by excavation.

4.2 The project included a Desk-Based Assessment (DBA), field survey, recording of known rock art, targeted excavation and post-excavation reporting. The principal objectives of the project were:

- to provide training in archaeological methods and techniques to local volunteers and to equip them with new skills;
- to locate, define and identify the nature of archaeological deposits or features in the vicinity of the visible examples of Rock Art on the site, and date these if and where possible;
- to attempt to characterise the nature of the archaeological sequence and recover as much information as possible about the spatial patterning of the features present on the site;
- to prepare an illustrated report on the results of the evaluation with copies deposited at the DCC Historic Environment Record (HER);
- to provide recommendations for any further archaeological or historic investigation, and
- to disseminate the results of the excavation as widely as possible through a variety of talks, articles and on digital media platforms.

Research objectives

North-East Regional Research Framework

4.3 In accordance with the North-East Regional Research Framework for the Historic Environment (NERRF) (Petts and Gerrard 2006, 127) the project research objectives were, primarily, to contribute to our understanding of the Neolithic and Early Bronze Age periods; in particular, increasing our knowledge of rock art, identified as a key research theme and priority (NB1, NBiv).

- 4.4 NERRF recognised the potential for small-scale excavations, like that at Hawkesley, to contribute to a greater understanding of the chronological development of rock art sites (NB1-i) (*op. cit.*, 128). The wide area survey (both DBA and field survey) also helped to place the Hawkesley rock art within the wider prehistoric landscape context (NB1-ii). The photogrammetric recording undertaken ensured the long-term preservation of each site (NB1-iii). The project also explored the application of new recording techniques (NB1-iii).
- 4.5 In addition, the project encouraged community engagement in the heritage of the region and local area, improving public communication and outreach; one of the core themes identified in NERRF (*op. cit.*, 234). In particular, professional training in basic archaeological techniques 'including field-walking, excavation recording, surveying, documentary research, finds identification and analysis, and publication' was provided (MG33).

5.0 METHODOLOGIES

- 5.1 The methodologies which were applied during each stage of the Hawkesley Community Archaeology Project are presented below; these included Desk-Based Assessment, drone survey, field survey, rock art recording and excavation.

Desk-based Assessment (Wide Area Survey Phase 1)

- 5.2 The assessment was prepared in accordance with guidance published by the Chartered Institute for Archaeologists (ClfA 2014e), Historic England (formerly English Heritage) (EH 2008b; 2011a; 2011b) and a regional statement of good practice compiled by West Yorkshire Archaeology Advisory Service (WYAAS 2009).
- 5.3 The study area was defined as an area within a radius of 2km centred on the survey area. The assessment consisted of a comprehensive desk-based review of published and readily accessible documentary, cartographic, academic and aerial photographic information relating to heritage assets within the study area.
- 5.4 The principal aims of the historic environment assessment were to identify known heritage assets within or immediately adjacent to the survey area. The following sources were consulted for the assessment:
- Tees Archaeology Historic Environment Record (TAHER);

- English Heritage National Monuments Record (NMR);
- Google Earth imagery;
- Archaeological Data Service website;
- Pastscape website;
- England's Rock Art website;
- cartographic sources (including Tees Commissioners, Tithe and historic Ordnance Survey maps);
- National Library of Scotland Map Collections website; and
- historic and modern geological and geotechnical records.

5.5 Three previous developer-funded studies (NAA 2002; 2006; 2012) had also examined the heritage assets of this area; where relevant the results of these earlier projects were incorporated. Furthermore, the archaeology of upper Teesdale (Coggins 1984; 1986) and the rock art of the region (Brown and Brown 2008) were both subject to comprehensive study; these studies informed the Hawkesley Hill assessment.

Health and safety

5.6 All stages of the archaeological groundworks complied with the 1974 Health and Safety Act and its subsequent amendments. Safety guidelines set out within the Federation of Archaeological Managers and Employers (FAME 2010) manual were followed. A risk assessment complying with the Management of Health and Safety at Work Regulations (1999) was prepared in advance of the commencement of site works. This and a first aid box, an accident book and a safety manual were made available on site. The work was supervised by a competent member of staff who had all necessary first aid training. Appropriate PPE (reflective jackets, gloves, poor weather gear and safety boots) was worn as directed within the risk assessments and safety plan.

Drone survey

5.7 The NAA aerial drone (Plate 2) was flown over the site on two separate days, taking high level digital photographs using a Canon EOS digital camera. Both oblique and

vertical photographs were taken. The geo-referenced vertical images were then interpolated, using imaging software, to produce a 3D sub-centimetre accurate digital image of the site, akin to a LiDAR (Light Detection And Ranging) survey. This was used to enhance the baseline data.



Plate 2: Launching the NAA aerial drone

Field survey (wide area survey Phase 2)

- 5.8 After the baseline information from the DBA and drone survey was collated, archaeological features identified within the 24ha field were 'ground truthed' by a walkover survey. During this survey the features were visited, recorded and photographed. Notes were also made on the condition of the features and any potential management threats such as erosion and animal disturbance. A handheld GPS was used to check location and to record any new sites.
- 5.9 Furthermore, the area around the previously recorded panels (HH1 and HH2) was extensively investigated. This included careful peeling back of turf from around areas of exposed rock and gentle probing (with plastic tools) in search of other partially overgrown panels (Plate 3).



Plate 3: Field survey in the immediate vicinity of panels HH1 and HH2

Rock art recording

5.10 The following methodology was used to record the previously identified rock art (HH1 and HH2) and the new carvings identified during the wide area survey (HH4, 5 and 6) and the excavation (HH3). It was based on the techniques established by the Northumberland and Durham Rock Art Pilot Project (NDRAPP, Sharpe and Barnett 2008) and was designed to create a permanent record of the assets, assess any potential future threats, and serve as a baseline for future monitoring of rates of deterioration.

5.11 In all cases the following elements were recorded (*op. cit.*, 4):

- content and micro-context (individual motifs, overall design, panel surface topography);
- macro-context (physical landscape, archaeological and contemporary cultural remains); and
- condition (rock art and panel surface).

5.12 Each carved rock was:

- recorded on a pro forma sheet (based on the NDRAPP recording sheets) including information on location, geological identification, drawing, motif identification, condition and threat recording;
 - digitally photographed - both detailed photographs and context photographs were taken including a landscape panoramic for each site; and
 - recorded digitally in 3D by Photogrammetry (see below).
- 5.13 Actual grid references for the recorded rock art panels were measured by handheld GPS with a measured accuracy of $\pm 3\text{m}$ and were checked against geo-located high quality aerial photography.
- 5.14 In addition, selected carvings were investigated using Polynomial Texture Mapping (PTM), a form of Reflectance Transformation Imaging (RTI) (Plate 4). This technique (PTM) was developed at Hewlett Packard Laboratories by Tom Malzbender. A polynomial texture map is composed of multiple photographs taken from one stationary position while the surface of the object is illuminated from different angles. Using a specially developed algorithm, the images are compiled into one file. Dedicated viewing software is then used to artificially light the digital object from different angles, revealing surface detail (EH 2013).
- 5.15 All photographs (record, photogrammetry and PTM) were taken using a digital camera with a resolution of at least 10 megapixels. Each record photograph contained a graduated photographic scale of appropriate dimensions as well as a north arrow and identification board where appropriate. Photographs were clearly named, numbered, catalogued, and cross referenced.



Plate 4: Recording panel HH4 via Polynomial Texture Mapping

Photogrammetry

- 5.16 Using a Canon EOS digital camera, one set of vertical (or near vertical) stereo-photographs were taken of each panel, and four sets of oblique stereo-pairs from equally distanced points around the rock. Additional overlapping photographs were taken for larger area coverage where required.
- 5.17 The camera was positioned at a maximum distance of 1.5 m away from the carved rock, with the lens on its widest setting, to ensure accurate scaling of the stereo-photographs for each panel. Two one-metre scales were positioned perpendicular to one another to provide the x-y dimensions and an IFRAO colour scale was attached to one of the scales. All cameras used were appropriately calibrated.

Excavation

- 5.18 Once the Wide Area Survey and recording work was completed excavation around three of the carved panels (Area A) was undertaken. The methodology for this stage of work was discussed and agreed with David Mason, the DCC Principal Archaeologist and former president of the AASDN.

- 5.19 At least two suitably qualified and experienced archaeological personnel supervised the on-site work at all times, and volunteers worked alongside NAA field staff to ensure that an appropriate standard of work and safety was maintained throughout the duration of the project.
- 5.20 Turf and topsoil were removed manually and stored appropriately to allow for reinstatement. These were removed down to a level at which significant archaeological deposits or natural geology was first identified. The turf over and around the rock carvings were removed by hand and/or with plastic hand tools; no metal tools were used where they may have caused damage to the rock art (Plate 5).



Plate 5: De-turfing

- 5.21 Where archaeological remains were exposed, surfaces were cleaned by hand (Plate 6) and all identified features were planned and photographed. Following this a 100% sample of the different types of archaeological features encountered was hand-excavated and recorded to determine character, dimensions and preservation and to facilitate recovery of sufficient artefactual and environmental evidence to fulfil the objectives of the fieldwork. In particular, hand-excavation concentrated on potential cut features but deposits around the rock art and within erosion crevices were investigated.



Plate 6: Hand cleaning of the trench

5.22 Written descriptions of all archaeological contexts were recorded on pro-forma sheets using the NAA context recording system. Drawn records of all archaeological features were produced at appropriate scales. Sections and elevations were drawn at a scale of 1:10. Plans were drawn at a scale of 1:20. The trench (post-excavation) was also digitally recorded in 3D using photogrammetry (Plate 7).



Plate 7: Planning the trench with photogrammetry

- 5.23 The trench was located within the National Grid using a Topcon GRS 1 RTK GPS system. Information was transferred to AutoCAD software and reproduced for incorporation within this report. All levels were tied into Ordnance Datum. A black and white print record of features at a minimum format of 35mm was made. In addition, a general photographic record of the site was undertaken using a digital SLR camera at a minimum resolution of 12 megapixels.
- 5.24 All rock art identified was recorded using the methodology in the section above. Artefacts were collected as bulk samples; finds were appropriately recorded and processed using the NAA system and submitted for post-excavation analysis.

6.0 RESULTS

- 6.1 The results of each stage of work informed the next phase of work. The majority of the data compiled was in the form of digital images which will be deposited with the archive on completion of the project. Summary descriptions of the main interpretations are presented below.

Desk-Based Assessment

- 6.2 The assessment of previously known archaeological remains within the survey area, the surrounding 2km (Fig. 2) and the wider regions of middle and upper Teesdale (Fig. 3) highlighted the following important points:
- the survey area had suffered considerable disturbance during the medieval to modern periods (see Plate 1);
 - the promontory on which the previously recorded rock art (HH1 and HH2) was located had suffered less disturbance;
 - within a radius of 2km of the site most of the land and potential archaeological remains had also suffered similar levels of later disturbance;
 - very few archaeological excavations had previously been undertaken within the 2km assessment area; and
 - in the wider region, especially in unenclosed open moorland areas, considerable evidence of early prehistoric activity existed.

6.3 These findings indicated that although very few early prehistoric remains had previously been recorded at Hawkesley Hill and the surrounding 2km, this was unlikely to be an accurate measure of past activity. The evidence in areas where prehistoric remains were still extant and had not been denuded by later agriculture, such as the preserved landscapes recorded on Barningham Moor (Fig. 3, no. 43), Bracken Rigg (no. 25), Forcegarth Pasture (no. 27) and Noon Hill (no. 39), showed extensive prehistoric occupation. The dating of the elements within these landscapes was, however, uncertain (Coggins 1986) as few had been subject to large scale archaeological excavation. Scatters of lithics indicated some level of activity within middle and upper Teesdale during the Palaeolithic to Bronze Age and excavations at Middle Hurth (Coggins 1986, 108; Coggins and Fairless 1997), Dubby Sike (Gidney and Coggins 1988), Forcegarth Pastures (Fairless and Coggins 1986; Coggins 1986, 97), Simy Folds (Coggins 1986, 115-6) and Bracken Rigg (Coggins and Fairless 1983) provided evidence of Mesolithic, (possibly also Neolithic) Bronze Age, Iron Age and Roman-period activity (Coggins 1986, fig. 53).

6.4 Broad dating of some elements within these landscapes was possible by reference to excavated examples in other regions (for instance Petts and Gerrard 2006, 23-31; Coggins 1986). Identifiable early prehistoric elements included potential Neolithic rock art sites (Brown and Brown 2008), and Bronze Age burnt mounds, cairns, cairnfields, round barrows, settlements, boundary systems and stone circles.

Drone survey

6.5 The drone survey enabled a sub-centimetre accurate 3D plan of the 24ha field to be compiled (Fig. 4). This plan indicated the presence of linear earthworks that previously divided the area into three fields. Also identified were the remnants of ridge and furrow ploughing and natural topographical features. The latter included a small promontory on which the majority of the Hawkesley Hill panels were located (Plate 8). Also apparent was a stream running between the promontory and the larger Bail Hill to the west; the source of this stream seemed to be located between the two hills.

6.6 Many of these features were clearly shown in the oblique photographs (Plate 9), where shadows highlighted upstanding earthworks. Also identified within these images, and confirmed during the walkover survey (see below), were three possible terraces to the south-east of the rock art.



Plate 8: The Hawkesley Hill promontory

6.7 The data collated during processing of the aerial photographs enabled the composition of a detailed contour plan of the survey area (Fig. 5). This plan clearly showed the promontory and enabled the results of the other stages of work to be understood within their local topographical landscape.



Plate 9: Oblique aerial photograph showing furrows in the background

Walkover survey

- 6.8 During the archaeological groundworks archaeologists from NAA led the volunteers in walkover surveys across the field. These were informed by the DBA and drone survey and enabled close inspection and interpretation of the identified earthworks (Fig. 6). Further features not previously identified or visible within the drone survey were also identified including: three faint and eroded possible carvings (HH4-6); a possible cairn and 12 quarries or areas of disturbance.
- 6.9 The combination of observations during the walkover survey and data gathered during the DBA and drone survey allowed broad dating of many of these features. The former field boundaries were depicted on historic mapping so were likely of post-medieval date. The ridge and furrow ploughing was medieval or post-medieval and the majority of the quarries or areas of disturbance were likely to be of recent origin.
- 6.10 The rock art panels were likely to be of a Neolithic or Bronze Age date (Sharpe *et al.* 2008, 4-5) and a cluster of earthwork features on the promontory whilst undated may also have related to prehistoric activity. These included a low turf-covered cairn approximately 4m in diameter with visible stones protruding from beneath the vegetation. This feature could have been of any date, however, it was similar to clearance cairns that are often representative of early prehistoric farming (Petts and Gerrard 2006, 25). Alternatively, the feature may be the denuded remains of a burnt mound or a round barrow, though no evidence of burning was apparent.
- 6.11 To the east, three low (c.0.5m high) terraces were visible, possibly constructed to prevent soil-loss from the slope due to sustained agriculture. These terraces may have been part of the medieval or later ploughing regimes apparent as ridge and furrows to the south, but a prehistoric origin could not be discounted (*loc. cit.*).
- 6.12 An area to the north of these terraces was obscured by dense vegetation (see Plate 10) including juniper, gorse and tall grasses which prevented close inspection. This lay in a gently sloping area, protected from the prevailing wind by the summit of the promontory and hence would have been a favoured location for occupation. A few scoops or quarries, possibly of some antiquity, were identified to the west where the vegetation was less dense (Fig. 6). It is therefore possible that further remains lay hidden within the dense vegetation.



Plate 10: Oblique aerial photograph showing area of dense vegetation

- 6.13 A quarry dug into the break of slope to the north-east of the two main panels was heavily overgrown with a dense growth of nettles and thistles. This feature could not be inspected closely and may have originally been of any date, though it had apparently been disturbed during recent times.

Rock art recording

- 6.14 The carved panels including those identified during excavation (HH3 – see below) and the walkover survey (HH4-6) were digitally recorded using photogrammetry. Interestingly due to the uneven surfaces of the rocks and the presence of natural features such as eroded-out inclusions, striations, ‘ripples’ and cracks the carved features were not always easily discernable by this technique. During the project it was felt that a combination of conventional photography in angled light (Plate 11) and close inspection on site by eye and touch allowed for a better interpretation of the rock surfaces. The photogrammetry, however, provided a ‘permanent’ digital record of the rock surface upon which interpretations could be plotted.



Plate 11: HH1 taken with the sun low in the sky (low raking light conditions)

- 6.15 Figure 7 shows panel HH1 alongside an image with the identified carvings indicated including eight larger cups, three possible smaller cups and six 'peck-marks.' Also visible on this panel were intersecting linear grooves and two cups with eroded rings. Panel HH2 (Fig. 8) was located approximately 1m to the north (Fig. 9) and had two large cups, three smaller cups and a single groove carved onto its surface.
- 6.16 During the excavation (see below) two small eroded cup marks were identified on a section of protruding bedrock (Plate 12) approximately 6m to the west of panel HH2.
- 6.17 Three other possible faint carvings (HH4-6) were identified on boulders or exposed bedrock in the wider area during the walkover survey. The first of these (HH4) was located c.30m to the west on the northern edge of the promontory and comprised a partly overgrown panel with a single cup mark (Fig. 9).
- 6.18 To the east of panels HH1-3 an earthfast boulder may have been carved with a single cup and a groove (HH5); these were very faint and eroded and may have been natural in origin (Fig. 10).
- 6.19 On the opposite side of the stream on the lower slope of Bail Hill a final possible carved rock was identified (Fig. 11). This comprised an exposed area of rock with two parallel lines joining small cups.



Plate 12: Panel HH3

6.20 During the project experimental recording using PTM was also undertaken upon some of the rock art panels. The results of these experiments were broadly similar to the photogrammetry where the uneven surfaces and presence of natural features hindered interpretation.

6.21 All the carved rocks were located with a handheld GPS with an accuracy of $\pm 3\text{m}$; the summary information for each panel is presented in Table 1 below.

Table 1: Summary records of the six carved rocks

HH	HER NGR grid ref.	Actual NGR grid reference	Summary carving description	Type of stone	Present condition
1	NZ 0377 2069	NZ 03821 20672	Eight larger well defined cups, two smaller cups with eroded rings, linked with 'F'-shaped grooves. Also 3 small possible cups/peck marks and at least 6 peck-marks	Exposed bedrock	Exposed
2	NZ 0377 2069	NZ 3821 20676	Five cup marks, one with a linear groove	Exposed bedrock	Exposed
3	n/a	NZ 03815 20676	Two eroded cups	Exposed bedrock	Re-buried
4	NZ 0377 2069	NZ 03794 20658	A single eroded cup	?exposed bedrock	Exposed
5	n/a	NZ 03853 20678	A single eroded possible cup with a linear groove. Could be natural erosion	Boulder	Exposed
6	NZ 0377 2069	NZ 03582 20681	Four small cups with two parallel joining linear grooves	?Exposed bedrock	Exposed

Excavation

- 6.22 The trench (Area A) excavated around panels HH1-3 (Fig. 12) revealed large areas of exposed sandstone bedrock in the north-eastern quadrant and the south-eastern and north-western corners. A layer of glacial till lay within the areas between these outcrops. Sections of the exposed sandstone formed large broadly flat sub-oval panels with sloping edges, but the areas in the north-eastern and north-western corners were crossed by linear erosion features that formed sharp edges. Such a fissure also ran between the western edge of panel HH1 and a small area of outcrop to the immediate west.
- 6.23 Only two of the flat panels (HH1 and HH2) and one of the more angular outcrops (HH3) exposed within the trench had carvings upon them. A large flat outcrop to the east of HH1, another to the south and smaller panels to the immediate west and north of HH2 were devoid of carvings. This pattern of selection was interesting as it may have been due to decisions made by the prehistoric carvers and hence may have been linked to why the carvings were made.
- 6.24 The pattern may indicate that the blank areas of the panels were covered by soil or vegetation during early prehistory. The blank areas were slightly lower than the raised portions of HH1-3, however, some of the carvings were at a similar elevation to blank areas. The surfaces of the blank panels, especially the example to the east of HH1, were flat and smooth and in general were less affected by natural features. It could be that the carvers of the rocks favoured the rippled surfaces rich in natural features rather than the flatter areas such as the southern section of HH1 (see Fig. 7). Alternatively, these smoother areas may indicate that soil and/or vegetation once protected them from erosion.
- 6.25 The majority of the crevices were investigated and contained layers of weathered sandstone overlain by layers of loose dark soil derived from rotted roots. In most areas these layers produced small amounts of modern spent shotgun shells and fragments of clay pigeons. The fissure next to panel HH1, however, produced a single worked flint from a layer of weathered sandstone (Appendix F).
- 6.26 This lithic was a fragmented midsection of a blade, with transverse breaks at both the proximal and distal ends. The blade had patination along these breaks, suggesting that the breaks occurred prior to deposition. It is possible that the blade was produced during attempts to work around imperfections within the flint, suggesting some skill

on the part of the knapper. No retouch was present, and the edges were only lightly marked with damage. A single pressure flake removal was visible on the ventral surface that, in the absence of any other working, is likely to have been caused by crushing.

- 6.27 Blades are known to have been produced within the region during the Mesolithic and Neolithic, but production also extended into the Bronze Age (Young 1987). However, the occurrence of blades within the later Neolithic and Bronze Age is generally considered rare (Butler 2005). Also the skill of the apparent knapping upon the blade suggested earlier technologies. It should, however, be remembered that although the blade was found next to a cup-marked stone, the two were not necessarily of a similar date.
- 6.28 Within the area of glacial till to the south of panel HH1 three irregular and shallow discrete features containing dark fills were recorded. The irregular nature of these features suggest that they were the remains of rotted tree or shrub root masses (root boles); two samples of charcoal (potentially heather – *Calluna vulgaris*) recovered from one of these features were submitted for radiocarbon dating and returned date ranges spanning the 11th to late 12th or very early 13th centuries (Appendix F).

7.0 DISCUSSION

The rock art in its local setting

- 7.1 The majority of the carved panels (HH1-4) were located along the northern edge of a promontory overlooking a stream that ran from its source to the south-east towards the north-west. These panels were close to the steep edge of the escarpment where sandstone outcrops were exposed. The main panels (HH1-3) were within a cluster close to an undated quarry; panels HH4, 5 and 6 were faint and eroded and may have been of natural (or accidental) origin.
- 7.2 The location of this cluster commanded a view of the landscape to the north with the higher ground of Langleydale Common being visible on clear days. This moor was where both the Bracken Heads (Fig. 3, no. 6) and Hindon Edge (no. 21) sites were located. It should be noted, however, that during early prehistory, this area is unlikely to have been as open as it was during the project and the inter-visibility of these sites may have been blocked by woodland (Simmons 2003, 21-5, 47-50; Coggins 1986, 11-12, 16, 20-2; Petts and Gerrard 2006, 14). It is possible, however, that during this

- period the steeper slopes, rocky outcrops and the potentially waterlogged basin through which a stream now flows at Hawkesley Hill may have represented a natural clearance or at least an area of more open woodland (Simmons 2003, table 2.2).
- 7.3 The excavation clearly demonstrated that no intentionally placed deposits or cut features associated with the rock art were present within the investigated area. This was in opposition to the deposits and features recorded during excavations at Drumirril, Iniskeen, Co. Monaghan, Ireland (O'Connor 2003) and Torbhlaren, near Kilmartin, mid-Argyll, Scotland (Jones and O'Connor 2007).
- 7.4 This lack of embellishments to the settings of the flat carved panels was, however, similar to that recorded during investigations undertaken on the Ben Lawers Estate in the southern Highlands of Scotland (Bradley *et al.* 2010). This project was carried out by a team led by Richard Bradley, Aaron Watson and Alex Brown and comprised excavation of 1m² test pits around a selection of carved rocks within the estate.
- 7.5 These excavations identified that deposits of worked and broken quartz were closely associated with some of the carved rocks and were rare further away from the panels. Furthermore, the concentrations of artefacts and a cobbled surface were associated with prominent decorated outcrops and were not found around those on flat surfaces.
- 7.6 The excavation undertaken at Hawkesley Hill, however, represented a very small area and it cannot be ruled out that associated and/or contemporary remains exist beneath the turf in the wider vicinity. The excavated trench represented less than 0.5% of a 19200m² area on the promontory (and to the east) that may have been a focus for prehistoric activity (Fig. 13).
- 7.7 The results of the DBA and drone/walkover surveys indicated a landscape with little evidence of contemporary prehistoric activity, suggesting that the carved rocks were located within a lonely natural place (Beckensall and Laurie 1998, 110) with a water source and (possibly) good views (*op. cit.* 108-9), possibly of special meaning (*op. cit.*, 110; Sharpe *et al.* 2008, 8-9). However, extensive evidence of later disturbance and a lack of archaeological excavation in the area clearly demonstrated that this absence was not necessarily representative of the actual distribution of early prehistoric activity.
- 7.8 This was further suggested by the presence of undated earthwork remains on the promontory which had suffered less damage from medieval and later ploughing and

seemed to have been largely avoided during military training during 1945 (see Plate 1).

The rock art in its wider setting

- 7.9 Within the wider area of middle Teesdale rock art has often been recorded in areas rich in evidence for early prehistoric and later activity (see Fig. 3). These preserved landscapes of upstanding remains and sometimes flint scatters are, however, limited to areas not subjected to the damaging effects of medieval and later agriculture and development and hence probably do not represent a true distribution of prehistoric activity. Furthermore, few of these sites have been excavated or definitively dated and many potentially contain a palimpsest of the remains of Mesolithic to medieval activity (see Coggins 1986).
- 7.10 It has been suggested through the study of similar remains in other areas (for instance Petts and Gerrard 2006, 23-31; Coggins 1986) and assessments of pollen evidence through the wider region (*loc. cit.*; Simmons 2003) that middle and upper Teesdale saw: temporary occupation and human-alteration of the landscape during the Mesolithic period; clearance of woodland, agriculture, ritual activity and occupation during the Neolithic; and more extensive activity during the Bronze Age.
- 7.11 The potential for contemporary remains associated with the creation and 'use' of rock art sites in these areas is therefore high, suggesting they may not have been located within empty natural landscapes after all.

Towards an understanding?

- 7.12 A strong correlation of recorded rock art sites with the underlying geology has previously been noted (Beckensall and Laurie 1998, 110; Sharpe *et al.* 2008, 8); Figure 14 demonstrates this point for the rock art sites recorded with the wider vicinity of Hawkesley Hill. Almost all of these sites were limited to the area of the Millstone Grit series and were carved on sandstone; none had been recorded on the Carboniferous Limestone series of upper Teesdale. The two areas of rock art located at Bragg House and on Barningham Moor (Fig. 14, nos. 42 and 43) whilst being beyond the area of Millstone Grit were also carved on sandstone.
- 7.13 This pattern is both startling and puzzling, such a strong correspondence could only have been produced by an equally strong causal factor (or group of factors). Was this

distribution created by choices made by the prehistoric carvers, and hence does it provide evidence of why the rock was carved?

- 7.14 The distribution could not be a function of later disturbance as the areas where rock art has not been found included the well-preserved landscapes of sites such as Bracken Rigg (Fig. 3, no. 25), Forcegarth Pasture (no. 27) and Noon Hill (no. 39). It may, however, be a function of the 'softness' of the limestones of upper Teesdale and its propensity to be eroded by water (ERA online).
- 7.15 Alternatively, if the prehistoric carvers were deliberately choosing to only mark sandstone outcrops and boulders (in this area – see Beckensall and Laurie 1998, 110; Sharpe *et al.* 2008, 8) then this may have been a function of the meaning of the carvings. Were the Millstone Grits considered of special significance? Sandstone (and more specifically Millstone Grit) is known to have been used to make saddle querns during later prehistory (Heslop 2008, 17-8, table 6) and presumably also during the Neolithic and Bronze Ages (*op. cit.* 17; Darvill 1987, 71). Were the carvings therefore linked to the quarrying of stone?
- 7.16 Interestingly, such a direct association of rock art with quarrying was recorded during excavations at Hunterheugh, Northumberland (Waddington *et al.* 2005).
- 7.17 At present this association is, however, tenuous; the distribution of rock art within the wider area could entirely be a result of the different hardness of sandstone as opposed to limestone. Equally the current distribution may be skewed by later disturbance in lowland areas and indeed different levels of accessibility and uneven coverage by those seeking the art. Further investigation of such patterns is obviously required (Petts and Gerrard 2006, 133).

8.0 CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER INVESTIGATION

- 8.1 Although the results of the excavation were largely negative in terms of dating the rock art and discovering associated deposits and features, the project as a whole was successful in its primary objectives.
- 8.2 Members of the local community were trained and indeed were integral to the success of the project. New carvings were discovered as were earthwork features in the vicinity. Furthermore, the multidisciplinary approach undertaken to gain a better understanding of the wider landscape context of the site demonstrated high levels of

later disturbance but also the potential for the presence of prehistoric remains upon the promontory.

8.3 Several questions that could lead onto further investigation became apparent during the analysis associated with the compilation of this report:

- is the potential associations of rock art with other prehistoric remains in the wider area accurate and does this represent the norm? Hence, is the apparent isolated setting of some sites the product of the destruction of above ground prehistoric remains by later disturbance, or an accurate interpretation?
- is the association of rock art with sandstone a true measure of their distribution and if so was this linked to quarrying?
- can the root cause of the lack of rock carvings in upper Teesdale be discovered?

8.4 With regard to the Hawkesley Hill panels, further excavation across the recorded earthwork features, primarily the possible cairn, terraces and scoops/quarries, would help assess the presence of contemporary features. The quarry next to the rock art (though undated) was heavily overgrown. Careful investigation of this feature could investigate its possible association with the rock art. This investigation could include searching for data regarding its antiquity within documentary evidence and local knowledge and a carefully planned programme of excavation.

8.5 Also, due to the lower levels of later disturbance across the promontory the potential for the survival of below ground remains and flint scatters is considered to be high. Due to the evidence suggesting the area has not been ploughed shallow features associated with early prehistoric camps and/or structures or ritual sites, if present, would have suffered little damage.

8.6 A programme of test-pitting for flints, geophysical survey followed by targeted trenching across the promontory would be an efficient way to investigate this as the combination of these techniques has a greater potential to identify the presence of such sites than random trenching alone.

8.7 Considering the topography in the vicinity of the carved panels, the prime location for prehistoric settlement was heavily overgrown. If this vegetation could be cleared without impacting upon the potential ecological significance of the area, this would

allow an intensive survey of this area for potential prehistoric remains. If any such features were identified (by drone, walkover or geophysical survey) then targeted trenching could be undertaken to characterise and date the remains.

REFERENCES

- Archaeology Data Service (ADS)/Digital Antiquity (2011) *Guides to Good Practice*.
Archaeology Data Service, University of York, UK
- Architectural and Archaeological Society of Durham and Northumberland (AASDN) (2015)
Invitation to tender for undertaking a community archaeology project at Hawkesley Hill, Marwood, near Barnard Castle, County Durham. Grid Reference (centred on) NZ 03772069
- Beckensall, S. and Laurie, T. (1998) *Prehistoric rock art of County Durham, Swaledale and Wensleydale*. Co. Durham Books
- Bradley, R., A. Brown, and A. Watson (2010) 'The archaeology and environment of prehistoric rock carvings on Ben Lawers'. *PAST* **65**, 11-14.
- British Archaeological Jobs Resource (BAJR) (2015) *Mesolithic campsite uncovered in Upper Teesdale, County Durham* Ba.nr British Archaeology News Resource [Online]
Available at: <http://www.bajrfed.co.uk/bajrpress/mesolithic-campsite-uncovered-in-upper-teesdale-county-durham/> (Accessed on 29.2.16)
- British Geological Society (BGS) (1977) *Geological Survey, Ten Mile Map, South Sheet (Solid)*
- British Geological Society (BGS) (1979) *Geological Survey, Ten Mile Map, South Sheet (Quaternary)*
- Brown, D. H. (2011) *Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation. Second Edition*. Published by IfA on behalf of the Archaeological Archives Forum (AAF).
- Brown, P. and Brown, B. (2008) *Prehistoric Rock Art in the Northern Dales*. Tempus: Stroud
- Butler, C. (2005) *Prehistoric Flintwork*. Stroud: Tempus Publishing.
- Challis, A. J. and Harding, D. W. (1975) *Later Prehistory from the Trent to the Tyne*. British Archaeological Reports, British Series 20 (i)
- Chartered Institute for Archaeologists (CIfA) (2014a) *Standard and guidance for archaeological excavation*

- Chartered Institute for Archaeologists (CIfA) (2014b) *Standard and guidance for archaeological field evaluation*
- Chartered Institute for Archaeologists (CIfA) (2014c) *Standard and guidance for the collection, documentation, conservation and research of archaeological materials*
- Chartered Institute for Archaeologists (CIfA) (2014d) *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*
- Chartered Institute for Archaeologists (CIfA) (2014e) *Standard and guidance for historic environment desk-based assessment*
- Coggins, D. (1984) *The archaeology of early settlement in upper Teesdale, co. Durham, Durham theses, Durham University.* [Online] Available at Durham E-Theses Online: <http://etheses.dur.ac.uk/7222/>
- Coggins, D. (1986) *Upper Teesdale: the archaeology of a North Pennine Valley* British Archaeological Reports, British Series 150
- Coggins, D. and Fairless, K. (1983) 'The Bronze Age settlement site of Bracken Rigg, Upper Teesdale, Co. Durham, 1978-79,' *Durham Archaeological Journal* **1**, 5-21
- Coggins, D. and Fairless, K. (1997) 'Ritual succession? Excavations at the multi-period site of Middle Hurth, Upper Teesdale, Co. Durham, 1978-79.' *Durham Archaeological Journal* **13**, 1-19
- Coggins, D. Laurie, T. and Young, R. (1989) 'The Late Upper Palaeolithic and Mesolithic of the North Pennine Dales in the light of recent discoveries,' in C. Bonsall (ed) *Mesolithic in Europe*, Edinburgh, 164-74
- Darvill, T. (1987) *Prehistoric Britain*. Batsford
- English Heritage (2007) *Understanding the Archaeology of Landscapes: a guide to good recording practice.*
- English Heritage (2008a) *MoRPHE Project Planning Note 3 Archaeological Excavations.*
- English Heritage (2008b) *Conservation Principles, Policies and Guidance for the Sustainable management of the Historic Environment*

- English Heritage (2011a) *Seeing the History in the View: A Method for Assessing Heritage Significance Within Views*
- English Heritage (2011b) *The Setting of Heritage Assets: English Heritage Guidance*
- English Heritage (2013) *Multi-light Imaging for Heritage Applications*
- Fairless, K. J. and Coggins, D. (1986) 'Excavations at the early settlement site of Forcegarth Pasture south 1974-5,' *Durham Archaeological Journal* **2**, 25-40
- Federation of Archaeological Managers and Employers (FAME) (2010) *Health and Safety in Field Archaeology*
- Gidney, L. J. and Coggins, D. (1988) 'A late prehistoric site at Dubby Sike, Upper Teesdale, County Durham,' *Durham Archaeological Journal* **4**, 1-12
- Harding, D. W. (2004) *The Iron Age in Northern Britain: Celts and Romans, natives and invaders*. Routledge
- Heslop D. H. (2008) *Patterns of Quern Production, Acquisition and Deposition: A Corpus of Beehive Querns from North Yorkshire and Southern Durham*, YAS Occ Paper No 5 (Leeds)
- Historic England (2015a) *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' guide*.
- Historic England (2015b) *Aerial Reconnaissance: Management of Research Projects in the Historic Environment: PPN 5*
- Historic England (2015c) *Traversing the Past: The Total Station Theodolite in Archaeological Landscape Survey*
- Historic England (2015d) *Where on Earth Are We? The Role of Global Navigation Satellite Systems (GNSS) in Archaeological Field Survey*
- Jarvis, R. A., Bendelow, V. C., Bradley, R. I., Carroll, D. M., Furness, R. R., Kilgour, I. N. L. and King, S. J (1984) *Soils and their Use in Northern England* Harpenden: Soil Survey of England and Wales Bulletin No. 10

Jones, A. M. and O'Connor, B. (2007) 'Excavating art: Recent excavations at the rock art sites at Torbhlaren, near Kilmartin, Mid-Argyll, Scotland.' *PAST* **55**, 4.

Management of Health and Safety at Work Regulations (1999) Available at: http://www.legislation.gov.uk/ukxi/1999/3242/pdfs/ukxi_19993242_en.pdf (Accessed on 14.4.16)

Margary, I. D. (1973) *Roman Roads in Britain*, Baker, London

Northern Archaeological Associates (NAA) (2002) *Tees Valley Low Voltage Cable, Marwood, Barnard Castle, Co. Durham: Archaeological Evaluation Report* NAA report **02/37**

Northern Archaeological Associates (NAA) (2006) *Stainton Quarry, County Durham: Archaeological Desk-Based Assessment*. NAA Report **06/70**

Northern Archaeological Associates (NAA) (2012) *Teesdale Suspension Bridge, Barnard Castle, Co. Durham: Historic Environment Assessment and Heritage Statement* NAA report **12/55**

Northern Archaeological Associates (NAA) (2015) *Hawkesley Moor, County Durham: Tender for Community Archaeology Project*

O'Connor, B. (2003) 'Recent Excavations in a Rock Art Landscape'. *Archaeology Ireland* **17(4)**, 14-16.

Page, W. (1914) *A History of the County of York, North Riding: Vol. 1*

Petts, D. and Gerrard, C. (2006) *Shared Visions: The North-East Regional Research Framework for the Historic Environment*.

Sharpe, K. and Barnett, T. (2008) *Recording England's Rock Art: A Handbook For Project Officers*

Sharpe, K., Barnett, T. and Rushton, S. (2008) *The Prehistoric Rock Art of England: Recording, managing and enjoying our carved heritage*. English Heritage and Northumberland County Council

Simmons, I. G. (2003) *The Moorlands of England and Wales: An Environmental History 8000BC-AD2000*. Edinburgh University Press

Soil Surveys of England and Wales (1983) *Soils of England and Wales 1:250 000: Sheet 1 – Northern England*

Waddington, C., Johnson, B. and Mazel, A. (2005) 'Excavation of a rock art site at Hunterheugh Crag, Northumberland'. *Archaeologia Aeliana* **34** (5th Series), 29–54.

West Yorkshire Archaeology Advisory Service (WYAAS) (2009) *Yorkshire, Humber and the North-East: A Regional statement of Good Practice for Archaeology in the Development Process*

Young, R. (1987) *Lithics and Subsistence in North-Eastern England: aspects of the prehistoric archaeology of the Wear Valley, Co. Durham, from the Mesolithic to the Bronze Age*. British Archaeological Reports, British Series 161.

Online resources

Archaeological Data Service (ADS) University of York [online] Available at: <http://archaeologydataservice.ac.uk/> (accessed on 8.3.16)

British Geological Survey (BGS) [online] Available at: <http://www.bgs.ac.uk> (accessed on 8.3.16)

England's Rock Art (ERA) [online] Available at: <http://archaeologydataservice.ac.uk/era/> (accessed on 8.3.16)

National Library of Scotland Map Collections [online] Available at: <http://maps.nls.uk/index.html> (accessed on 8.3.16)

Pastscape: Marwood, monument number: 19878 [online] Available at: http://www.pastscape.org/hob.aspx?hob_id=19878 (accessed on 8.3.16)

APPENDIX A
HERITAGE ASSETS IN 2KM

HA	HER no.	NMR no.	NGR grid ref.	Description	Period	Grade
1	5685		NZ03772069	Cup and ring marked stone	Prehistoric	3
2	10327		NZ03772069	Cup and ring marked stone	Prehistoric	3
3	10328		NZ03772069	Cup and ring marked stone	Prehistoric	3
4	10329		NZ03772069	Cup and ring marked stone	Prehistoric	3
5	3360		NZ033208	Bail Hill, Marwood. The place name was applied to a prominent hill ideally suited for wind powered smelting operations. There is no evidence of smelting.	Medieval	3
6	1971	19878	NZ040190	Deserted medieval settlement of Marwood and or Romano-British settlement. SM 31822	Roman/Medieval	1
7	36495		NZ0308520279	High House Farmhouse. Dated 175? over door	Post-medieval	3
8			NZ04001975	Stone Cross Farm. c. 19th century farm	Post-medieval	3
9	3944		NZ039191	Cup and ring marked stone	Prehistoric	3
10	1969	19872	NZ02471951	Earthwork of a probable Iron Age promontory fort. SM 35955	Prehistoric	1
11	20068	NZ02SW9	NZ03312116 to NZ 03342081	Earthwork visible on aerial photography. The much weathered remains of an earthen bank with shallow ditch on its E. Not on same alignment as boundaries on first edition OS	Prehistoric, Roman or medieval	3
12	19916		NZ 0377 1930	Find spot: Mesolithic flint	Prehistoric	3
13		1375641	NZ02471815 to NZ01251909	Tees Valley Railway. Opened in 1868 and closed in 1965	Post-medieval	3

APPENDIX B
PREHISTORIC SITES IN MIDDLE AND UPPER TEESDALE

Site no.	Site Name	Date	Type	Description	References	Grid reference
1	Valley Bog	n/a	Pollen core		Coggins 1986	
2	Weelhead Moss	n/a	Pollen core		Coggins 1986	
3	Fox Earth Gill	n/a	Pollen core		Coggins 1986	
4	Dufton Moss	n/a	Pollen core		Coggins 1986	
5	Simy Folds	n/a	Pollen core		Coggins 1986	
6	Bracken Heads	N/BA	Cup and Ring; Cairnfield	7+ cup and ring marked stones and cairnfield on bluff to south-east of Stobgreen Plantation	Brown and Brown (2008), 136	NZ 015 233
7	Middle Hurth	M/N/BA/IA	Long Barrow; Meso flint site	A possible EN Long barrow as part of Cairn and enclosure . Also mesolithic flints found	Coggins 1986, fig. 34, 108	NY 867307
8	Blacton Beck	M/N	Flint site	Polished quartzite hammerstone, 8 arrowheads, 3 saws, approx 40 scrapers and lots of flakes	ADS	NZ 0015 2538
9	Staple Crag	M	Flint site	Found eroding out of river bank.	ADS	NY935255
10	Stobgreen Plantation	N/BA	Cup and Ring	Four cup and ring marked stones dispersed through plantation. Next to Bracken heads	Brown and Brown (2008), 136	NZ010230
11	Brier Dykes	N/BA/IA	Cup and ring; enclosure	Palisaded hilltop polygon enclosure with a cup and ring stone in bank. Excavated in 1982 (?Durham). Palisade and probable hut circle. Scheduled no. 1214379	Brown and Brown (2008), 150 fig. 79B.	NY9482 1991
12	East and West Loups Farm	N/BA	Cup and Ring; enclosure; burnt mound	Two clusters on Cotherstone moor. 10 marked stones circular enclosure at West Loup. Square enclosure? At East Loup	Brown and Brown (2008), 158-161. fig. 86	NZ 970175
13	Howgill Grange	N/BA	Cup and Ring; burnt mounds; cairnfield	13+ cup and ring marked stones over approx 400m2 on ridge next to How Gill. Also a small cairnfield (4) and 3 burnt mounds	Brown and Brown (2008), 151-3 fig. 80	NY955204
14	Thorsgill stone	N/BA	Cup and ring marked stone	Near Bow Bridge/ Egglestone Abbey	Brown and Brown (2008), 165 fig. 94	NZ 06081520
15	The Rigg, Lartington	N/BA	Cup and Ring	15+ cup and ring marked stones on spur off cragg hill	Brown and Brown (2008), 162-5 fig. 90	NZ00971650
16	Goldsborough Rigg	N/BA	Cup and Ring	11 cup and ring marked stones on Goldsborough Rigg	Brown and Brown (2008), 155-61 fig. 84	NY957 177
17	Blake Hill	N/BA	Cup and Ring; findspot	5cup and ring marked stones on Blake Hill. Also petit tranchet arrows, flint and chert tools and waste recovered	Brown and Brown (2008), 153-4 fig. 84;	NY 939 206
18	Scaletree Plantation	N/BA	Cup and Ring	2 cup and ring marked stones on Blake Hill.	Brown and Brown (2008), 153-4 fig. 79D	NY9630 2105

Site no.	Site Name	Date	Type	Description	References	Grid reference
19	Mill Hill fort	BA/IA	promontory fort	Earthwork on promontory on east bank of Tees. Undated. Within the enclosure are the remains of a rectangular building, visible as a slight depression. This is believed to represent later occupation of the site, probably in the early medieval period. Traces of possible ridge and furrow survive to the east of the building. Scheduled	Challis & Harding 1975, 51	NZ 025 195
20	Thwaite Hall, Cotherstone	N/BA	Cup and Ring	This carved boulder is set within a cairn on a natural ridge overlooking the confluence of the rivers Balder and Tees	ADS	
21	Hindon Edge	N/BA	Cup and Ring; Cairnfield; field system; cist; burnt mound; meso flint site	Cluster of cairns some with connecting walls near top of Hindon edge, Langleydale common. Also a possible early mesolithic flint scatter and a cist burial as well as a nearby burnt mound. 4 cup and ring marked stones dispersed through area	Brown and Brown (2008), 136, 139-143	NZ 050 240
22	East and West Rows Sike	N/BA	Cup and Ring	4 cup and ring marked stones	Brown and Brown (2008), 153-4 fig. 79E	NY 972 212
23	Mere Beck	N/BA	Cup and Ring	1 cup and ring marked stone	Brown and Brown (2008), 154-5 fig. 82	
24	Marwood	N/BA	Cup and Ring	1 cup and ring marked stone	Brown and Brown (2008) fig. 76	NZ 039192
25	Bracken Rigg	BA	Settlement	Enclosure and roundhouse. Roundhouse excavated.	Coggins 1986, 85, figs. 21 and 22;	NY 8666282
26	Crossthwaite Common	BA/IA	field systems; enclosures; and cairnfields	area of field systems, enclosures and cairnfields	Coggins 1986 fig. 9	NY 925245
27	Forcegarth Pasture	BA/IA	field systems; enclosures; and cairnfields	area of field systems, enclosures and cairnfields	Coggins 1986 fig. 9	NY 876 284
28	Holwick Barrow	BA	Barrow	Site of a Bronze Age round barrow excavated by Greenwell in 1867	ADS	NY 90 26
29	Kirkcarrion	BA	Cairn and cist	Tumulus on top of Kirkcarrion (shown on OS 1" 7th Ser 1964 and as Kirk Arran on OS 6" 1953) containing a square stone cist with burial urn holding bones. The urn was originally at Streatlam but is now lost. Cist stones are built into Crossthwaite pasture wall. (3) NY 93912380. A slightly raised circular area of stones 3.5m diameter with a hollowed centre and with no trace of kerb or cist. The removed stone content of the cairn lies 4m to the south. (See GP from the North)	ADS	NY 939238
30	Goldsborough ring	BA	Cairn	Bronze Age ring cairn on Goldsborough, Cotherstone	ADS	NY 9547 1769

Site no.	Site Name	Date	Type	Description	References	Grid reference
	cairn			Moor 840 metres south of Pitcher House. The cairn consists of a sub-circular bank of earth and stone 11 metres in diameter 0.3 metres high and 2 metres wide which is grass covered and terraced into a natural bank to the west. Scheduled		
31	Gill Beck findspot	BA	findspot	Two broken Late Bronze Age swords and a gold hair ornament were found together on the banks of Gill Beck, 150 yds south east of West Wood Farm, Startforth in 1955. In The Bowes Museum, Barnard Castle. The finds are individually described as: (i) Leaf-shaped bronze sword, 53cm long with blade 4.3cm maximum width and seven rivet holes in handle. Acc No 1958.1842. (ii) Leaf-shaped bronze sword, 55.5cm long with blade 4cm maximum width. The handle has slight flanges and four rivet holes. Acc No 1958. 1841. (iii) Gold penannular hair ornament, 3.9cm external diameter, with beaded decoration around edges and incised decoration on one side. Acc No 1958.1864. Jones comments that all three finds seem to lie firmly in the Heathery Burn tradition (see NY 94 SE 3). (1)	ADS	NZ 037 156
32	Bowes possibly barrows	BA	Barrows	Four turf-covered earthen mounds, probably round barrows. 'A' and 'B' are 11.0m and 12.0m in diameter respectively, with maximum heights of 0.3m and 0.6m. 'C' and 'D', approximately 18.0m and 16.0m in diameter and 0.8m and 0.6m high, have both been mutilated, which results in their present slightly elongated appearances.	ADS	A - NY 9871 1334; B - NY 9864 1331; C - NY 9874 1329; D - NY 9865 1325
33	Standing stones farm stone circle (now destroyed)	BA	Stone circle	Site of a Bronze Age stone circle containing a cairn, used as source of building material in the 18th century. No visible remains. Geophysical survey in 2001 located potential socket pits and a circular ditch at Standing Stones Farm.	ADS	NY 9829 2522
34	Swinkley knoll barrow	BA	Barrow	Swinkley Knoll barrow. A grass covered undisturbed, valley barrow situated at the west end of an east to west orientated natural sandhill, the mound itself consisting of rounded river worn stones and dark soil. On the south west side are the possible remnants of a retaining kerb of larger stones. The hummocky appearance on the top of the mound is probably due to rabbit activity.	ADS	NY 98332421

Site no.	Site Name	Date	Type	Description	References	Grid reference
35	Ravock field systems and cairns/roundhouse	BA/IA	Field systems; roundhouse and cairnfield	Two areas of prehistoric field system, including cairns and an enclosure, on Ravock. The two areas of field system lie on either side of a nameless beck. The western system comprises a complex of rubble banks, some enclosing narrow rectangular strips, others forming large oval fields. There are at least 14 cairns within this field system, several forming part of the rubble banks. The eastern system consists of a series of low rubble banks enclosing small rectangular plots, and an enclosure. Further to the east is another cairn, surviving to a height of 0.4 metres. Scheduled. (1)	ADS	NY 963 147; NY 967 146
36	Upper eel beck, Holwick	BA/IA	Burnt mound; cairnfield; enclosure	A burnt mound with an associated small cairnfield and enclosure, and a medieval bloomery iron smelting site on the upper Eel Beck, Holwick Fell. The burnt mound is on the north bank of the beck, at a sharp bend. It is visible as a low crescent-shaped mound 7.5 metres by 6 metres. Overlooking the burnt mound, south of Eel Beck, is a small cairnfield. This consists of three cairns up to 4 metres in diameter and about 0.5 metres high. The enclosure is a little east of the cairns. It is an oval 14 metres long and 9 metres wide. Although its function is uncertain, it is thought to be contemporary with the cairnfield. The enclosure walls consist of rubble banks, about 1 metre wide and 0.3 metres high. The bloomery is between the cairnfield and Eel Beck. It is visible as a conspicuous grass covered heap of iron slag, 12 metres by 8 metres, and about 1 metre high. The site of the bloomery hearth is not visible as a surface feature, but is probably located in the level area south of the slag heap. Scheduled.	ADS	NY 8953 2623
37	Rowton beck burial cairns	BA	Burial cairns	Bronze Age burial cairns. One lies on the crest of a ridge about 100 metres south of Sand Force, on Rowton Beck and the other on a knoll between Rowton Beck and Easter Beck. The first measures 4 metres in diameter and 0.3 metres high, while the second is 6 metres in diameter and 0.2 metres high. Scheduled.	ADS	NY 909 259
38	Knott well burnt mounds	BA	Burnt mounds	A group of 4 burnt mounds located at Knott Well, a spring north-east of Stotley Grange. They are all now grass covered, and all 4 mounds contain a hollow, representing	ADS	NY 9715 2655

Site no.	Site Name	Date	Type	Description	References	Grid reference
				the original position of the trough. Scheduled.		
39	Settlement (Noon Hill)	BA	Settlement; enclosures; burnt mounds	Bronze Age hut circle settlement and adjacent burnt mounds. The settlement consists of at least two hut circles. The largest is 13 metres in diameter with walls 2.5 metres wide and 0.6 metres high. To the south west is another hut circle 5 metres wide. There are other walls and enclosures including a rectangular enclosure which may be contemporary or the result of the reuse of the site in the post medieval period (see NY 82 NE 23). The burnt mounds are two grass covered heaps of burnt and cracked stones with a hollow between them 2 metres wide. The mounds measure 15 metres by 6 metres and 1 metre high and 6 metres by 3 metres and 1 metre high. Scheduled.	ADS	NY 8729 2737
40	Cronkley scar burnt mound	BA	Burnt mound	A burnt mound of the Tees floodplain below Cronkley Scar, upper Teesdale. The mound lies on the south side of the Tees, near the south edge of the floodplain, adjacent to a small sike. The burnt mound is visible as a circular, grass and heather covered bank of burnt stone and charcoal, around a central hollow. It is 13 metres in total diameter. The bank of burnt stone is up to 5 metres wide and 1 metre high. There are two breaks in the bank, one in the south side and one in the west. Scheduled.	ADS	NY 8429 2970
41	Gaping stone burnt mound	BA	Burnt mound	A Bronze Age burnt mound, surviving as a low, charcoal-rich earth and stone mound, standing 0.6 metres above the surrounding ground surface. Scheduled.	ADS	NY 978 253
42	Bragg house cup and ring stone	N/BA	Cup and Ring	A carved sandstone rock, 0.9 metres by 0.5 metres by 0.8 metres. It is situated on Barningham Moor, north of the road and 380 metres east-north-east of Bragg House. The carving consists of at least ten cups, at least four of which have a groove leading downwards towards the south edge of the rock. Scheduled.	ADS	NZ 0749 0992
43	Barningham moor	N/BA	Cup and Ring stones; cairns; settlement; burnt mound; enclosure	The monument includes a variety of prehistoric sites on Barningham Moor distributed across Eel Hill and Cross Gill along a natural terrace. The prehistoric sites include a stone circle, three cairns, 44 carved rocks, a complex unenclosed settlement, a burnt mound, an enclosure and a boulder wall. The stone circle is located at the head of Osmaril Gill. The unenclosed settlement is on a north facing terrace at the foot of a steep slope, east of Osmaril	Brown and Brown 2008, 107-31, fig. 54	NZ 0550 0773

Site no.	Site Name	Date	Type	Description	References	Grid reference
				Gill. The burnt mound is north of the settlement and consists of a pile of heat-reddened and cracked small stones. The enclosure, located north of Eel Hill, is sub-rectangular, 25 metres by 15 metres. The enclosure is likely to have been used in prehistoric times to contain stock. Scheduled. Rock art panels were recorded as part of the Northumberland and Durham Rock Art Project (NADRAP) 2005-2008.		
44	Osmaril Gill Stone circle	N/BA	Stone circle	The stone circle is located at the head of Osmaril Gill. A circular arrangement of six gritstone rocks, 14 m in diameter, are visible at the head of Osmond's Gyll (Osmaril Gill on OS 6" 1955) with a seventh rock situated slightly beyond the circle. The site appears to represent the remains of a cairn circle or alternatively a stone circle in the usual sense.	ADS	NZ 0516 0751
45	Towler Hill	Pal/M	Findspot	A number of prehistoric flint tools were found close to the river including Creswellian points and blades. Also found were early mesolithic lithics.	Coggins et al. 1989. Petts and Gerrard 2006, 14-5	NZ 0380 1790

Key: Pal=Palaeolithic; M=Mesolithic; N=Neolithic; BA=Bronze Age; IA=Iron Age

APPENDIX C
CONTEXT AND FINDS CATALOGUE

Context	Phase	Interpretative description	Relationships	Trench	Finds and sample information
1	Modern	Turf/topsoil			
2	Prehistoric	Cup-marked stone	To west of Area A		
3	Prehistoric	Cup-marked stone	To east of Area A		
4	Prehistoric	Cup-marked stone	To north-west of Area A		
5	Prehistoric	Cup-marked stone	In centre of Area A	Area A	
6	Prehistoric	Cup-marked stone	To north of 5	Area A	
7	Prehistoric	Cup-marked stone	To north-west of 5	Area A	
8	n/a	Cleaning layer		Area A	Shotgun cartridges
9	n/a	Cleaning around stone 5		Area A	One worked flint
10	Medieval	Cut of tree-throw		Area A	
11	Medieval	Upper soily fill of tree-throw 10		Area A	30 litre environmental sample taken.
12	Medieval	Lower mixed fill of tree-throw 10		Area A	
13	Medieval	primary fill of tree-throw 10		Area A	0.5 litre environmental sample taken.

APPENDIX D
FLINT ASSESSMENT

Frederick Foulds

INTRODUCTION

This report concerns the analysis and description of a single worked stone artefact, recovered during the 2015 excavation at Hawkesley. The artefact was found while cleaning around Stone 5, within Area A, and in association with cup-marked panels.

METHODOLOGY

All material was inspected by eye and logged in a spreadsheet using Microsoft Excel.

RAW MATERIAL

The worked stone artefact has been produced using flint. The raw material is a light grey colour with no cortex visible. The colour is probably the result of patination and more recent damage near the proximal end evidences a translucent grey, which was probably the original colouration of the stone. At the distal end, an inclusion is clearly visible, especially within the ventral surface. This may have presented the knapper with a challenge (see Technology, below).

Flint does not occur naturally within County Durham outside of infrequent derived deposits (Young 1987). Although the North Sea Drift has been suggested to be a source of flint for the region, (see Rankine 1952; Fell and Hildyard 1953), Young states that North-east Yorkshire should be the more accepted source. This is agreed within the context of this artefact, given that North-east Yorkshire produces the grey flint that is commonly used in lithic assemblages within County Durham, and this is in keeping with the raw material utilised in this particular case.

TECHNOLOGY

The artefact is a fragmented midsection of a blade, which has a transverse break at both the proximal and distal ends. Given the patination along these breaks, these probably occurred prior to deposition. However, these breaks mean that the bulb of percussion is missing, making it difficult to ascertain the hammer technique used, and the type of termination cannot be determined. However, the ventral surface displays no pronounced ripple marks. This suggests a soft hammer may have been used during its production.

The dorsal surface displays a number of previous removals, several of which terminate in small step/hinge fractures. The cause of this is suggested to be the inclusion seen at the distal end. Further flaws in the raw material can be evidenced by the strange fracture pattern seen along one edge. It is possible that this blade was produced during the correction of these mistakes and attempt to remove the inclusion, suggesting some skill on the part of the knapper.

No retouch is present, and the edges are only lightly marked with damage. There is one pressure flake removal on the ventral surface that, in the absence of any other working, is likely to have been caused by crushing.

In terms of assigning a period, this is inconclusive. Blades are known to be produced within the region during the Mesolithic and Neolithic, but can also extend into the Bronze Age (Young 1987). However, the occurrence of blades within the later Neolithic and Bronze Age are generally considered rare (Butler 2005). Archaeology associated with all of these periods has been found within the local area. Although the blade was found within the excavation area around the cup marked stone, this association cannot provide a definite date.

CONCLUSIONS

Although the artefact is an interesting find that provides a small glimpse at a knappers ability to negotiate raw material, the fact that it is a single artefact and cannot be accurately placed within any specific period, precludes any definitive statement about its origins. In addition, it falls within the commonly understood exploitation of lithic raw material within the county.

RECOMMENDATIONS

The artefact is knapped and should be curated. However, further analysis is not recommended - given this is a single find and lack of any features to assign it to a definitive period, any additional gains would be limited. Illustration is not necessary.

BIBLIOGRAPHY

Butler, C. (2005) *Prehistoric Flintwork*. Stroud: Tempus Publishing.

Fell, C. I. and Hildyard, E. J. W. (1953) 'Prehistoric Flints from Weardale, a new survey.' *Archaeologia Aeliana, fourth series*, **34**, 131-7.

Rankine, W. F. (1952) 'Implements of coloured flint in Britain: their distribution and the derivation of raw material.' *Archaeological Newsletter* **4**, 145-9.

Young, R. (1987) *Lithics and Subsistence in North-Eastern England: aspects of the prehistoric archaeology of the Wear Valley, Co. Durham, from the Mesolithic to the Bronze Age*. British Archaeological Reports, British Series 161.

APPENDIX E

CHARCOAL ASSESSMENT

Lynne F Gardiner

INTRODUCTION

Two bulk environmental samples were taken during the course of an archaeological community excavation at Hawkesley Moor, County Durham. Sample details can be found in Table 2.

This report presents the results of the assessment of the palaeobotanical and charcoal remains recovered from these samples in accordance with Campbell *et al.* (2011) and English Heritage (2008).

METHODOLOGY

The bulk environmental samples were processed at NAA. The colour, lithology, weight and volume of each sample was recorded using standard NAA pro forma recording sheets. cf. Table 2. The samples were processed using 500 micron retention and flotation meshes using the Siraf method of flotation (Williams 1973). Once dried, the residues from the retention mesh were sieved to 4mm and sorted to recover any artefacts and ecofacts. The smaller fractions were also examined for artefacts and ecofacts, with the <4mm residues from sample 11 AA being re-floated in order to maximise recovery of any charcoal or charred plant remains.

The flots, including any plant macrofossils and charcoal, were retained and scanned using a stereo microscope (up to x50 magnification). Any non-palaeobotanical finds were noted on the pro forma.

Any plant remains and charcoal were identified to species where possible, using Cappers *et al.* (2006), Cappers and Bekker (2013), Cappers and Neef (2012), Hather (2000), Jacomet (2006), Schoch *et al.* (2004) and the NAA reference collection. Nomenclature for plant taxa followed Stace (2010) and cereals followed Cappers and Neef (2012).

RESULTS (TABLE 3)

No artefacts were recovered from either of the samples. Ecofactual remains were limited to charcoal, and are discussed in more detail below.

Sample 11 AA

Sample 11 AA yielded no charred plant remains other than charcoal. The charcoal fragments observed were all small (between 2-5mm) and vitrified. The majority were small twig fragments (approximately 1-2mm in diameter) with pore arrangement similar to heather (*Calluna vulgaris*). However, due to fragment size this identification cannot be stated with any certainty. There were very few larger fragments, and those present were vitrified which, again, prevented absolute identification. The ring curvature observed in the larger fragments suggested that they originated from a small branch-size piece of wood. It can be stated with certainty what they were not; these fragments were not juniper (*Juniperus communis*) or hawthorn (*Crataegus monogyna*), two species which are prevalent on Hawkesley Moor today. They were also not gorse (*Ulex europeaus*) or oak (*Quercus* sp.).

Sample 13 AA

This sample yielded tiny fragments of charcoal that were too small to allow identification to species.

DISCUSSION

The charcoal fragments are too few and too small to offer any further discussion.

STATEMENT OF POTENTIAL AND RECOMMENDATIONS

Charcoal from 11 AA has the greater potential for AMS radiocarbon dating, see Table 3. Charcoals from 13 AA were too small to allow an AMS date to be determined.

The lack of palaeoenvironmental data (including palynological research) currently available for the lower Pennines makes the recovery of palaeo-data in this region extremely important. To address this gap in our understanding of the environmental conditions in which people lived in the past, a targeted program of environmental sampling should be undertaken if any further archaeological interventions are considered. This should include bulk environmental sampling of archaeological features and, where appropriate, column or core sampling of any sediment sequences for pollen. The absence of plant remains and paucity of suitably sized charcoal fragments in the two samples taken during excavations at Hawkesley Moor should not inhibit robust palaeoenvironmental strategies being implemented in the future.

REFERENCES

- Campbell, G., Moffett, L. and Straker, V. (2011) *Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition)*, English Heritage, Portsmouth
- Cappers R. T. J., Bekker R. M. and Jans J. E. A. (2006) *Digitale Zadenatlas Van Nederland: Digital Seed Atlas of the Netherlands*, Barkhuis Publishing, Groningen
- Cappers R. T. J and Bekker R. M. (2013) *A Manual for the Identification of Plant Seeds and Fruits*, Barkhuis Publishing, Groningen
- Cappers R. T. J. and Neef R. (2012) *Handbook of Plant Palaeoecology*, Barkhuis Publishing, Groningen
- English Heritage (2008) *MoRPHE Project Planning Note 3 Archaeological Excavations*
- Hather J. G. (2000) *The Identification of the Northern European Woods: A Guide for Archaeologists and Conservators*, Archetype, London

Jacomet S. (2006) *Identification of cereal remains from archaeological sites (2nd Ed.)*, Archaeobotany Lab, IPAS, Basel University

Stace C. (2010) *New Flora of the British Isles (3rd Ed.)*, C.U.P., Cambridge

Schoch W., Heller I., Schweingruber F. H. and Kienast F. (2004) *Wood anatomy of central European Species* [Online] Available at: www.woodanatomy.ch (Accessed on 19/11/15)

Williams D. (1973) 'Flotation at Siraf', *Antiquity*, **47**, 198-202

Table 2: Sample information

C	SC	TN	CP	TP	MP	PW	PV	CS	TS	Components (sorting)	A	SA	SR	R	SW	SV	>SW	>SV	<4C	D
13	AA	1	Black	Loose	Sandy silt	0.5	0.5	Dark brown	Loose	Quartz 50%: sand 50%	-	yes	-	-	60	50		0	yes	yes
11	AA	2	Dark blackish brown	Loose	Silty sand	14	30	Black	Loose	Stone>1cm 5%: stone<1cm 55%: sand 40%	-	-	yes	-	3095	2900	595	900	yes	yes

Key: C= context, SC= sample code, CP= colour of pre-processed sediment, TP= texture of pre-processed sediment, MP= matrix of pre-processed sediment, PW= weight (kg) of pre-processed sediment, PV= volume (l) of pre-processed sediment, CS= colour of pre-processed sediment, TS= texture of pre-processed sediment, shape of stone majority in sediment (A=angular, SA= sub-angular, SR= sub-rounded, R= rounded), SW= weight (g) of dried residues, SV= volume (ml) of dried residues, >SW= weight (g) of >4mm residues, >SV= volume (ml) of >4mm residues, <4C= <4mm residues checked, D= discarded

Table 3: Recovered ecofacts

C	SC	Wt flot (g)	CPR	AMS?	Charcoal ID	Components	EWC
11	AA	19.7	-	Yes	1.04g	Very fine rootlets 100%	1
13	AA	0.4	-	No	<0.01g	Very fine rootlets 30%: sand 70%	-

Key: C=context, SC= sample code, CPR=charred plant remains, AMS?- any material suitable for AMS dating?, EWC= earthworm capsules

APPENDIX F
RADIOCARBON DATING

SUERC

INTRODUCTION

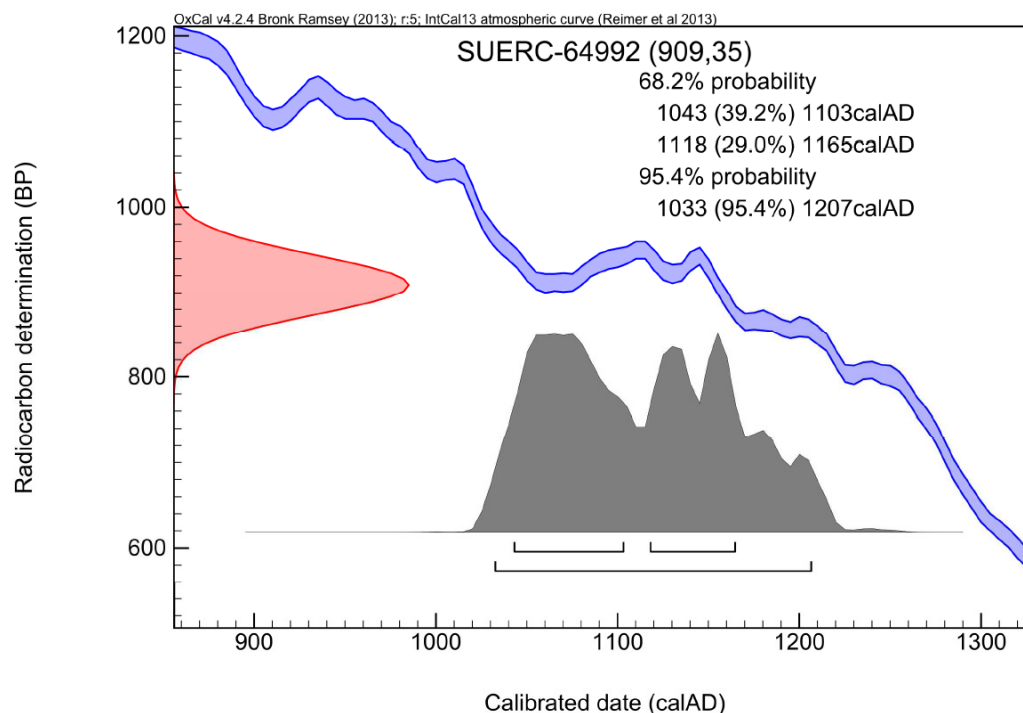
Two samples both from context 11, the fill of tree-throw 10 were submitted for radiocarbon dating.

The samples were processed at the Scottish Universities Environmental Research Centre (SUERC) Accelerator Mass Spectrometry (AMS) facility. The measured ¹⁴C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4). Unless stated otherwise calibrated radiocarbon date ranges have been quoted within the text at a probability range of 95.4%.

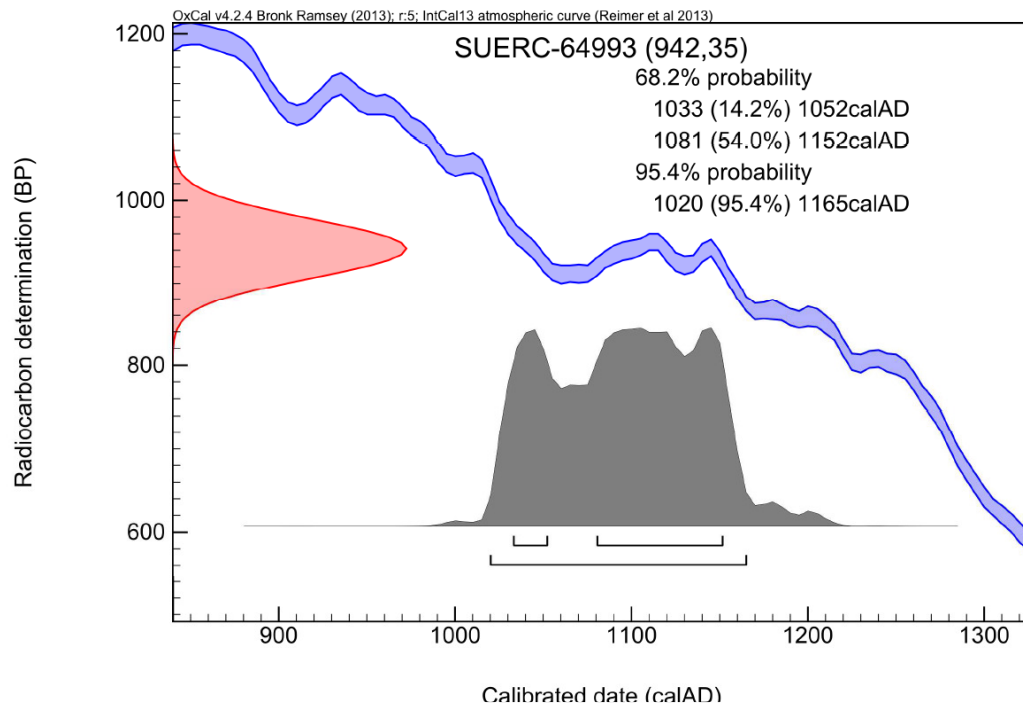
Table 4: Radiocarbon dating results

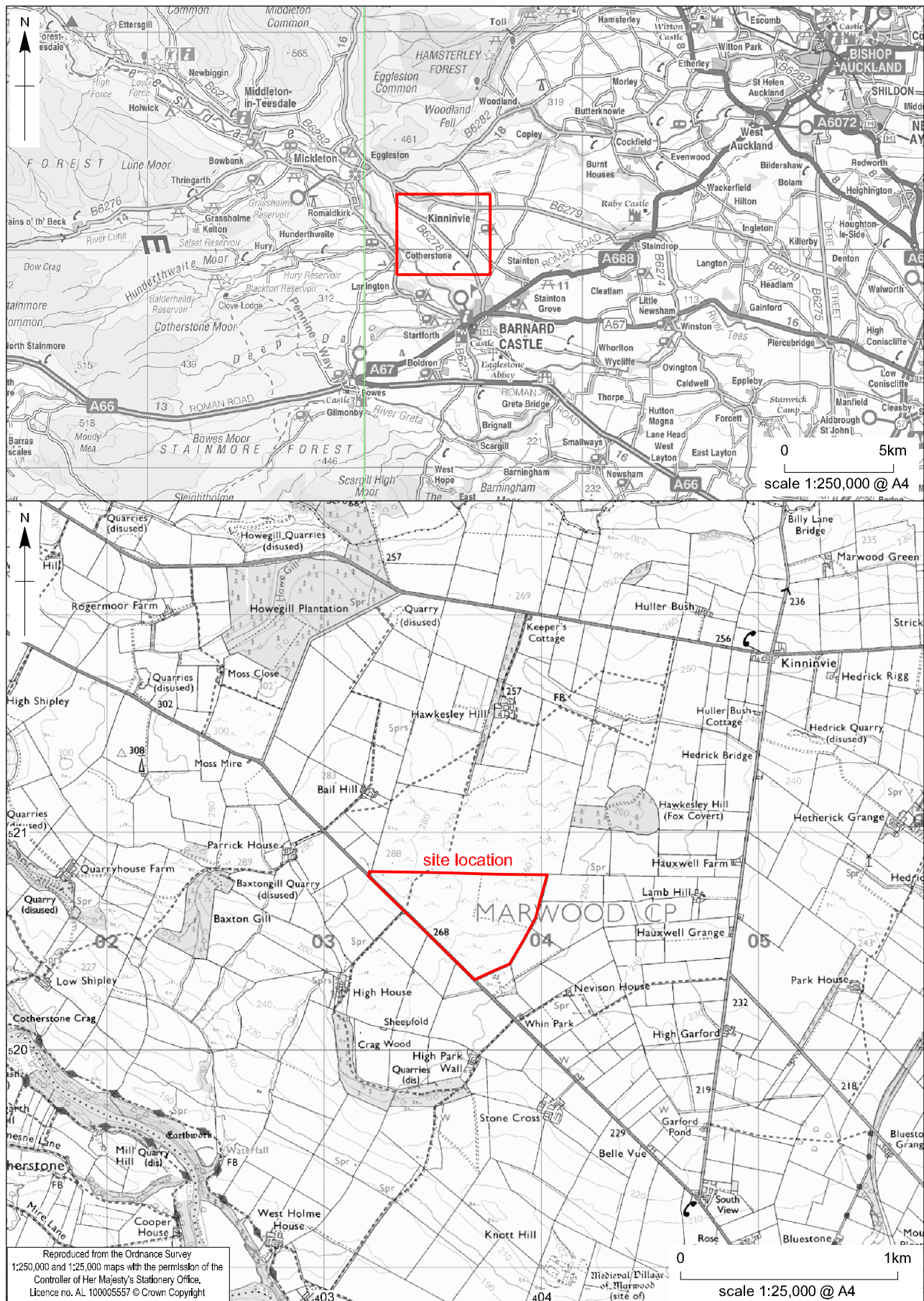
Context	Lab Code	Feature	Material	δ ¹³ rel to VPDB (‰)	Radiocarbon result BP	95.40%
11	SUERC-64992	Tree throw 10	Charcoal: roundwood	-27.5	909± 35	cal. AD 1033 (95.4%) 1207
11	SUERC-64993	Tree throw 10	Charcoal: roundwood	-27.3	942± 35	cal. AD 1020 (95.4%) 1165

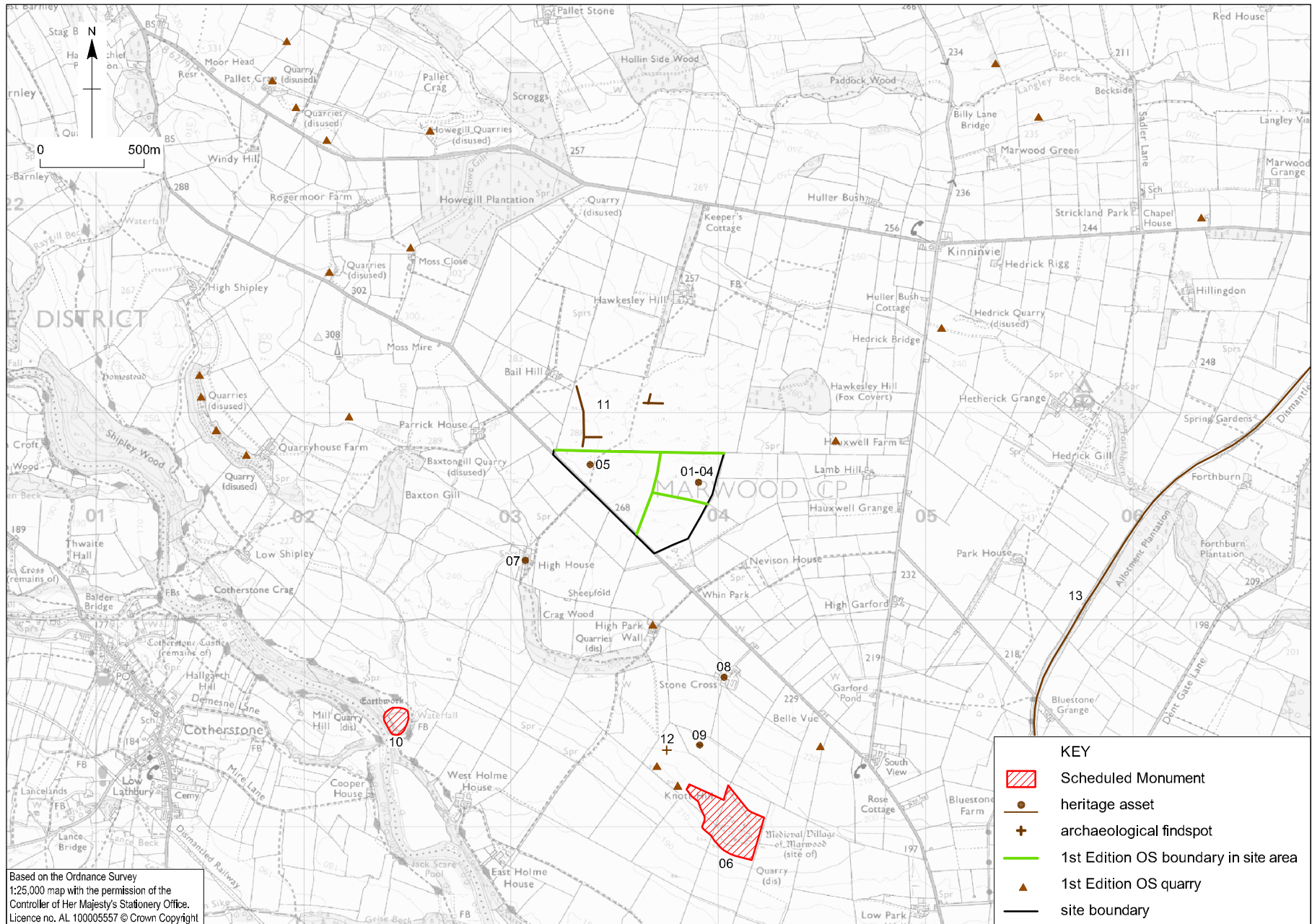
Calibration Plot



Calibration Plot

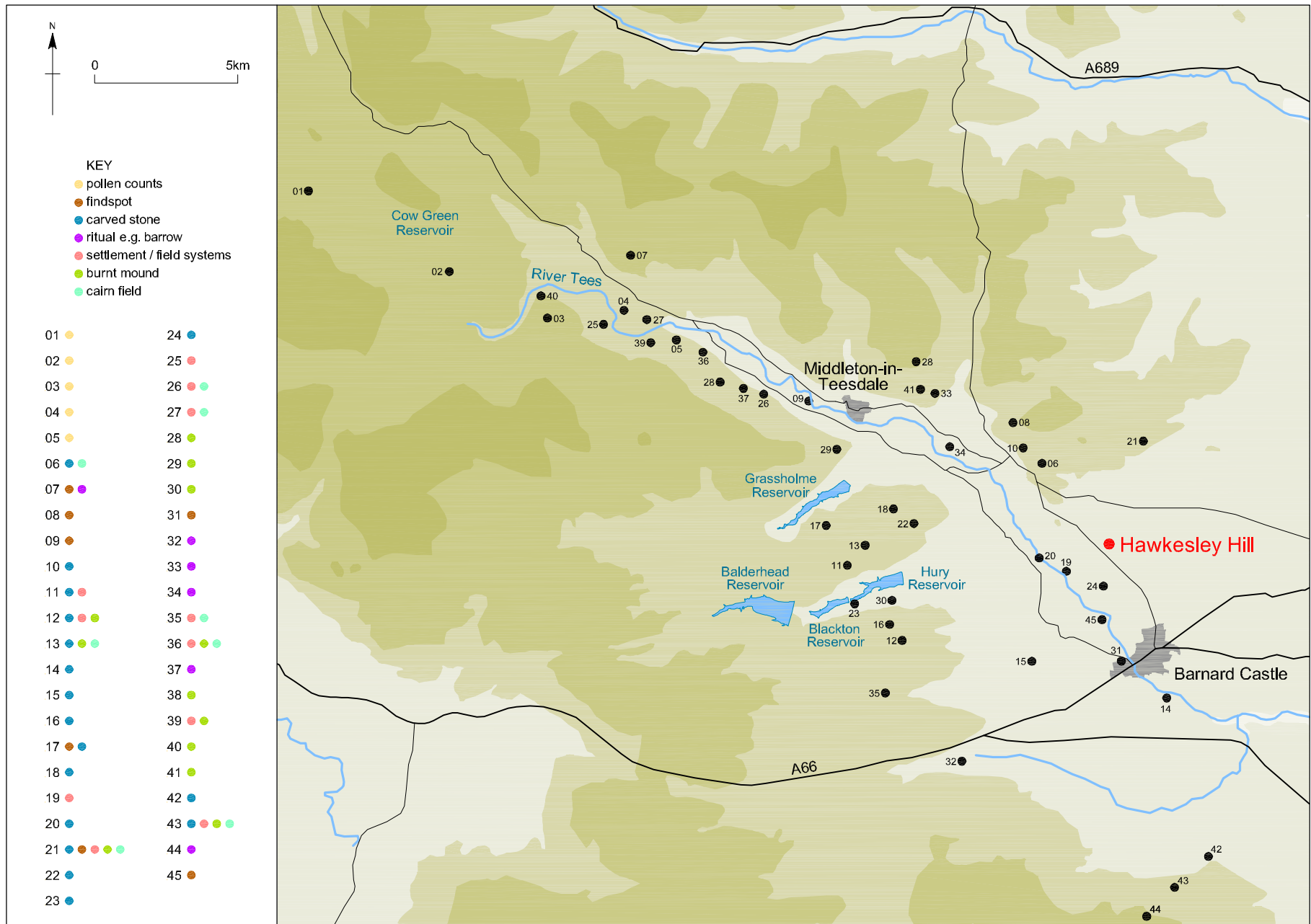


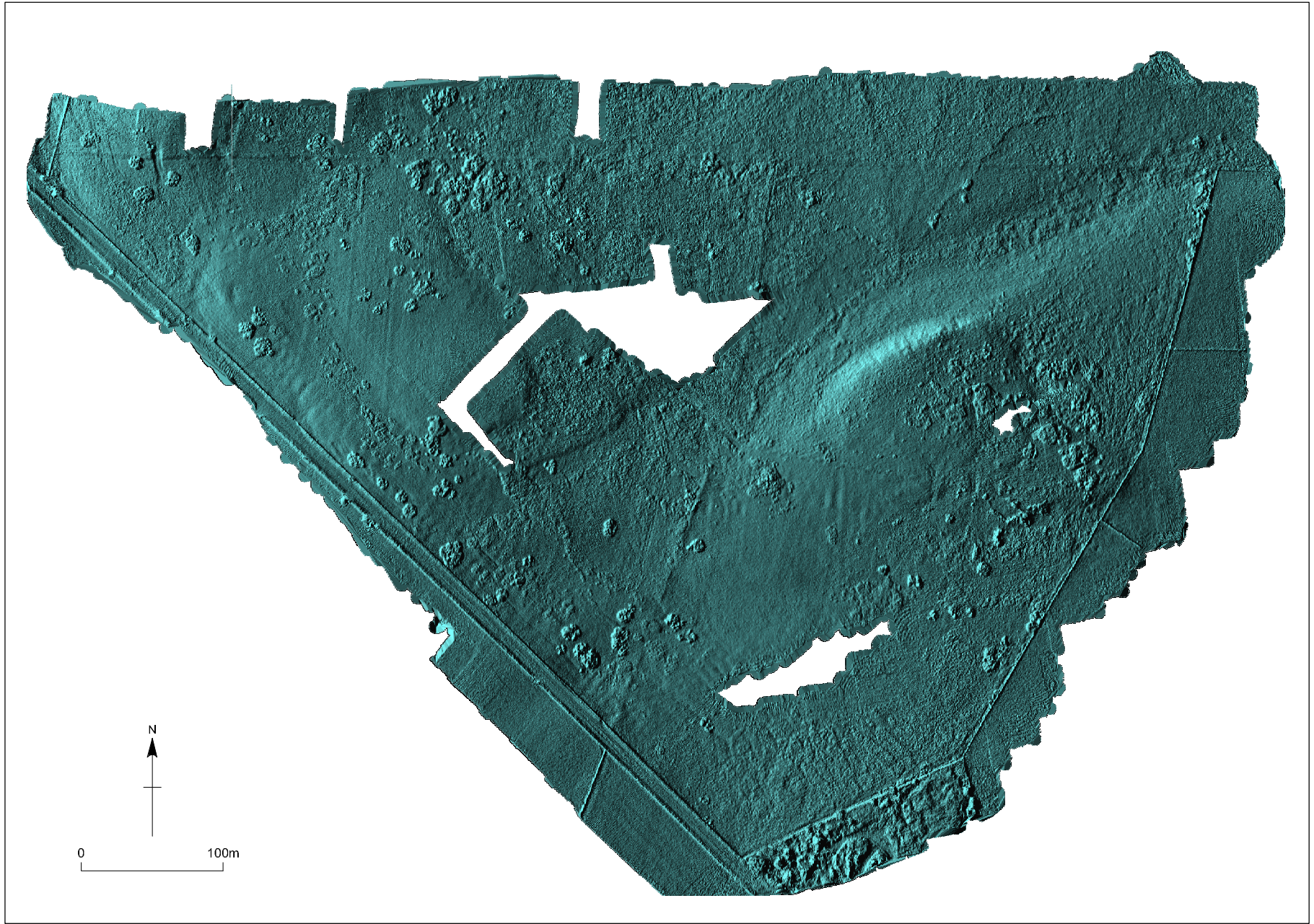


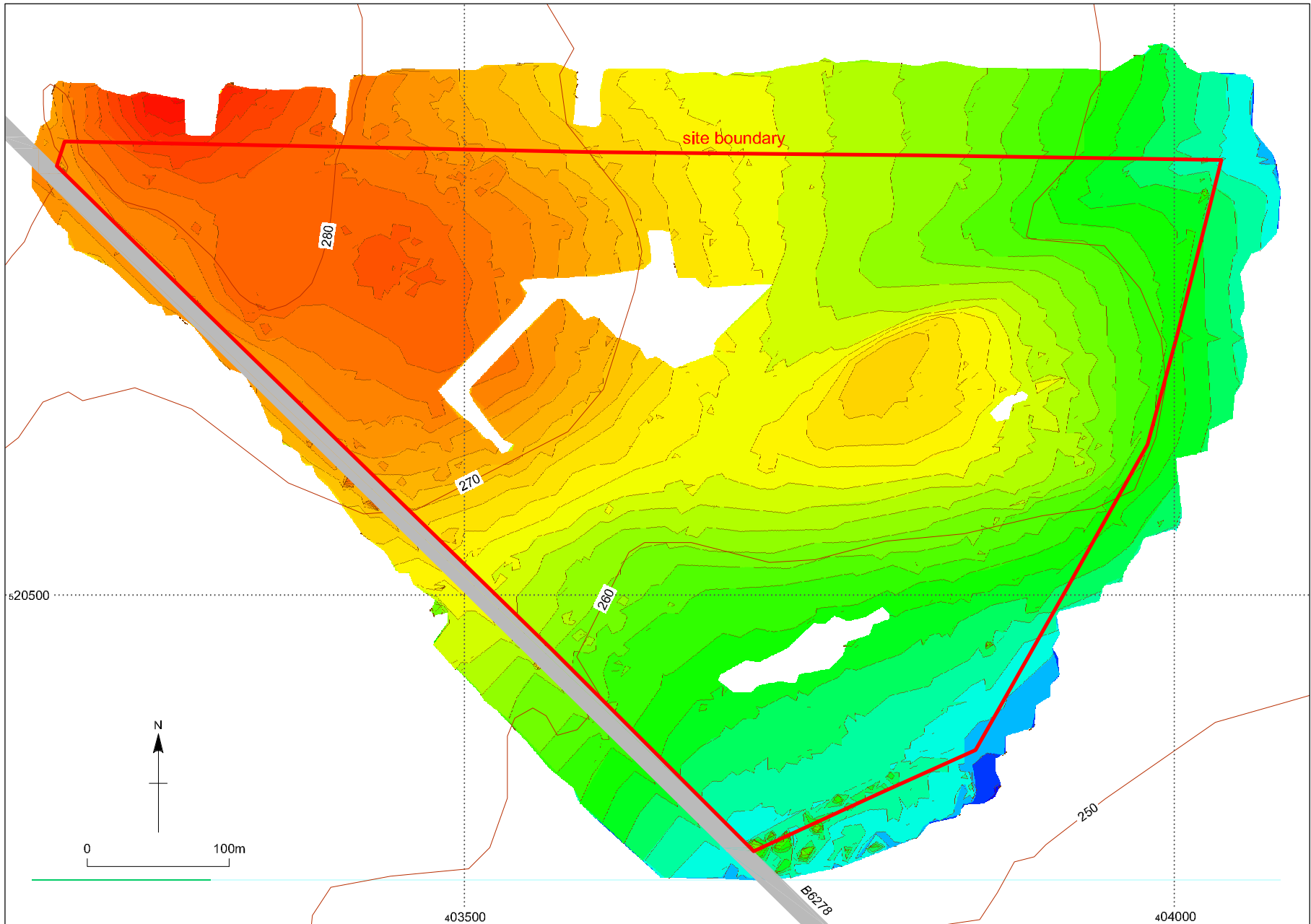


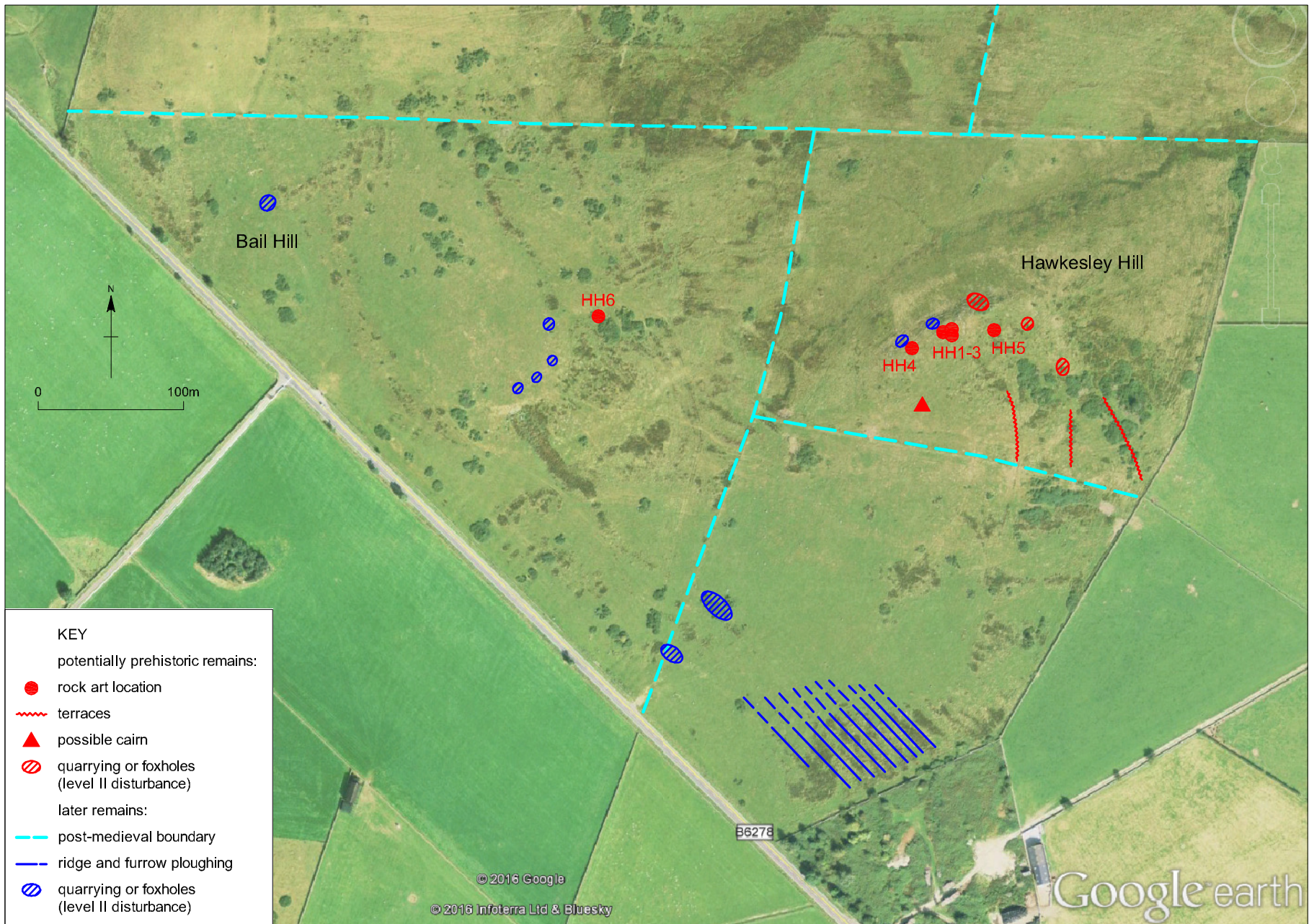
Hawkesley Hill Community Project: heritage assets in the vicinity (Appendix A)

Figure 2





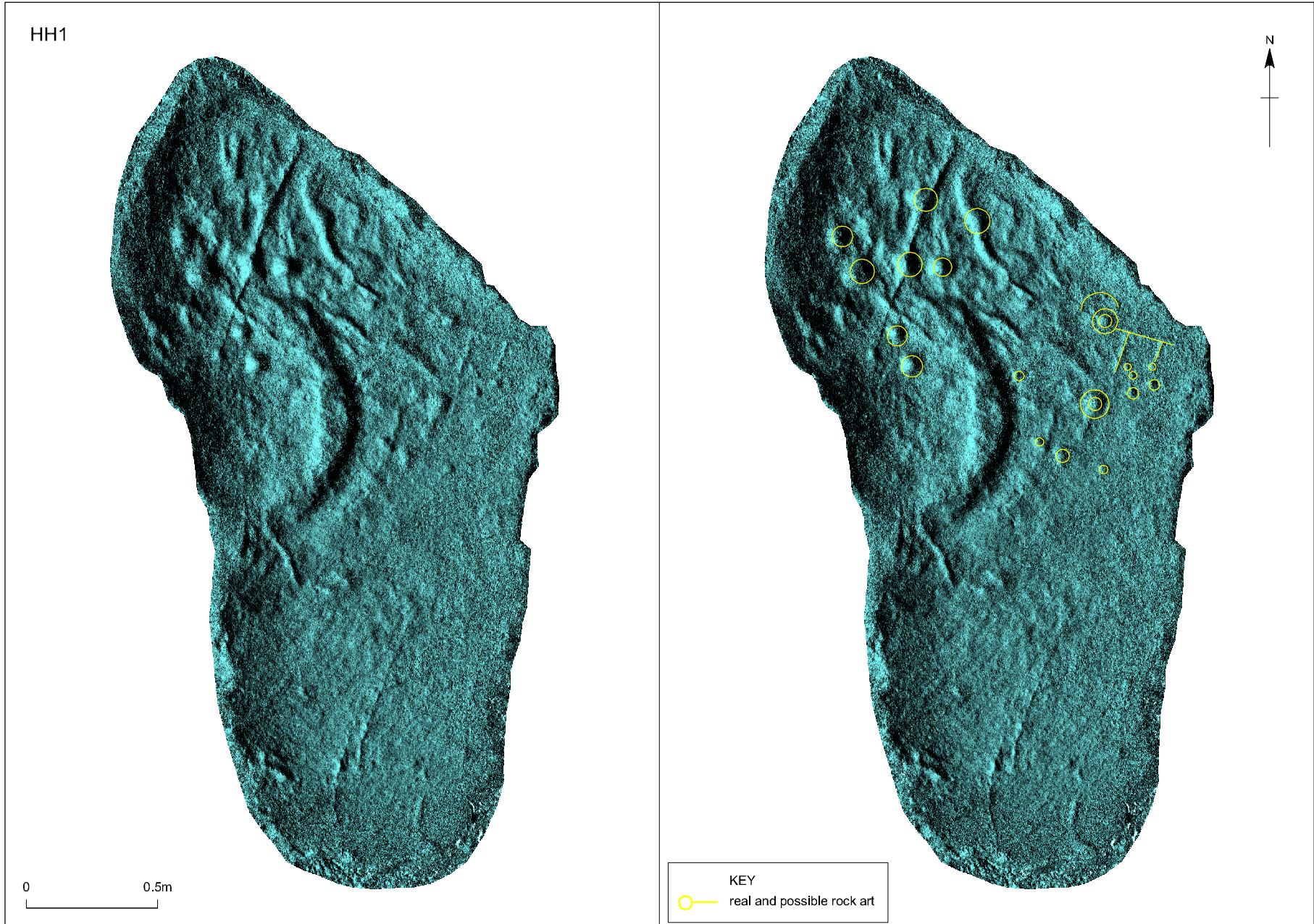


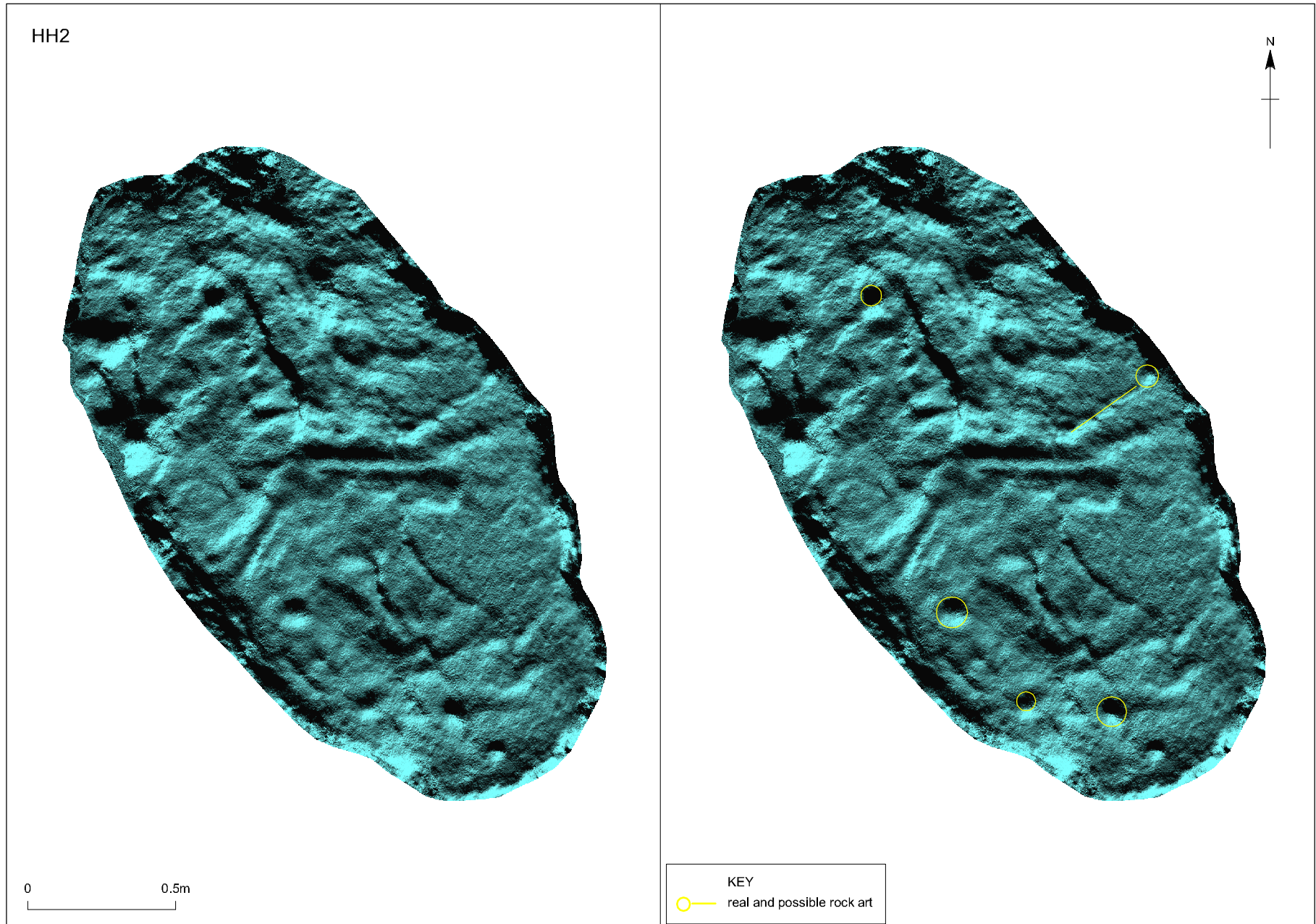


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Hawkesley Hill Community Project: features identified by aerial survey and walkover survey

Figure 6





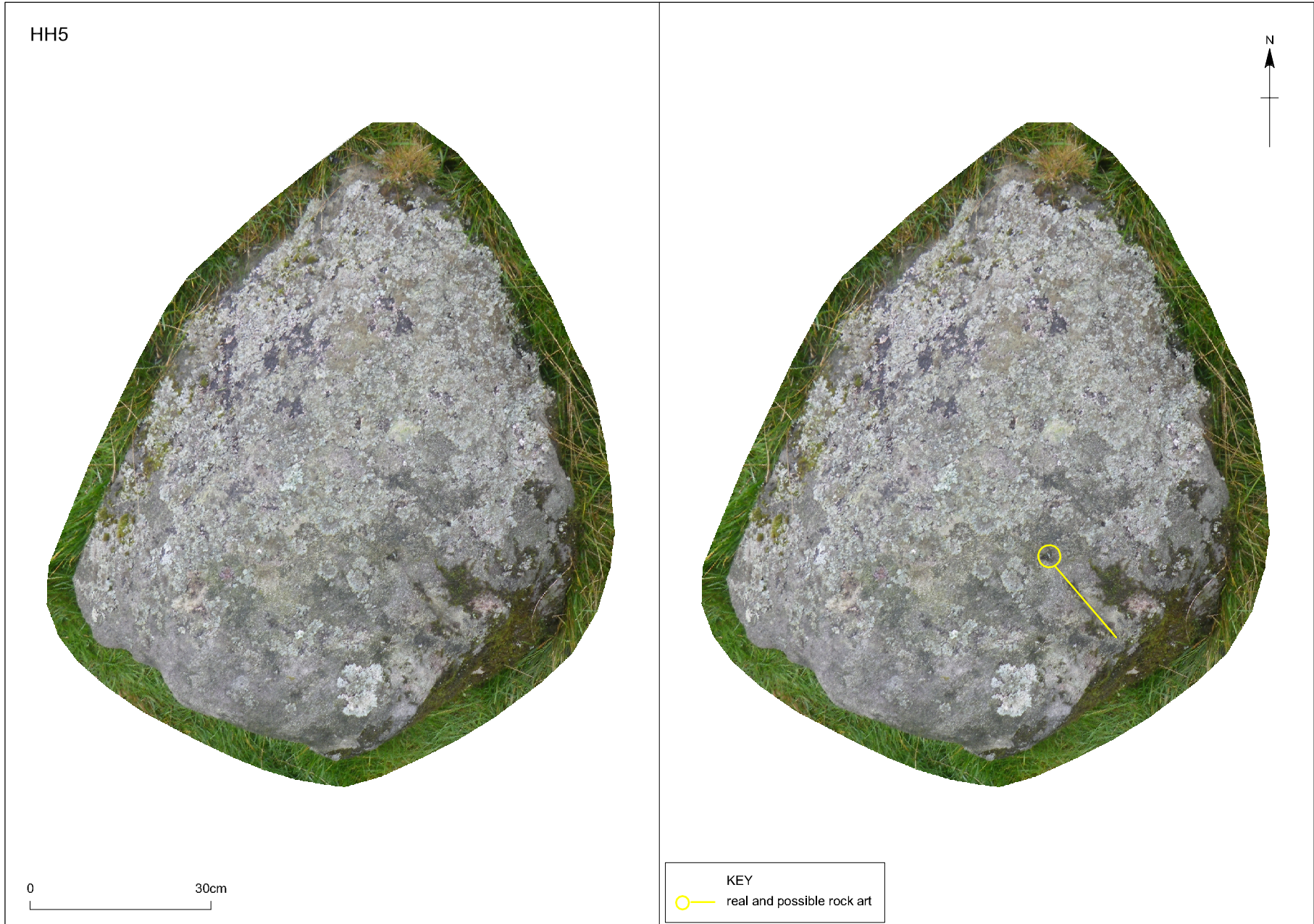
HH4

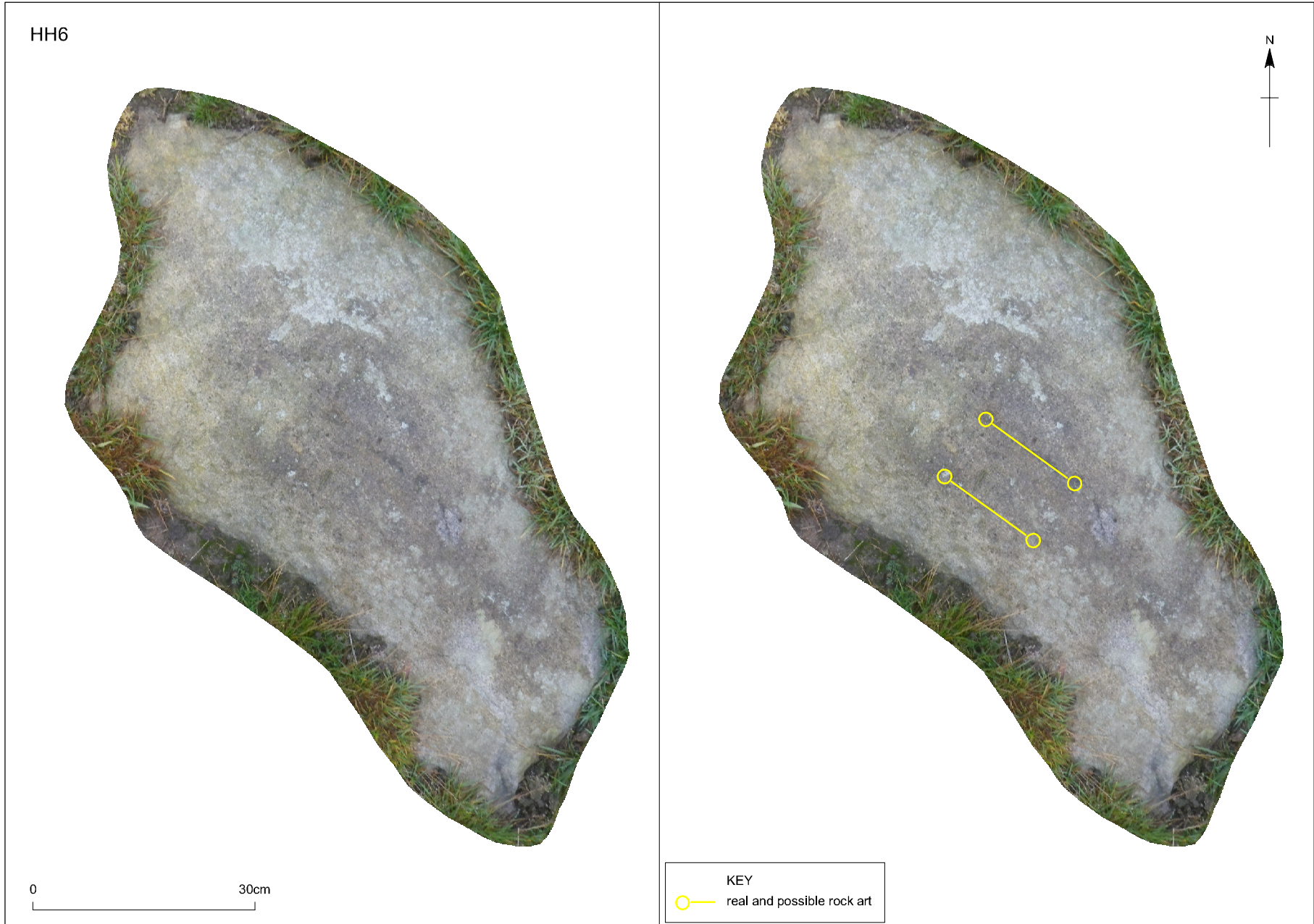


0 30cm



KEY
real and possible rock art



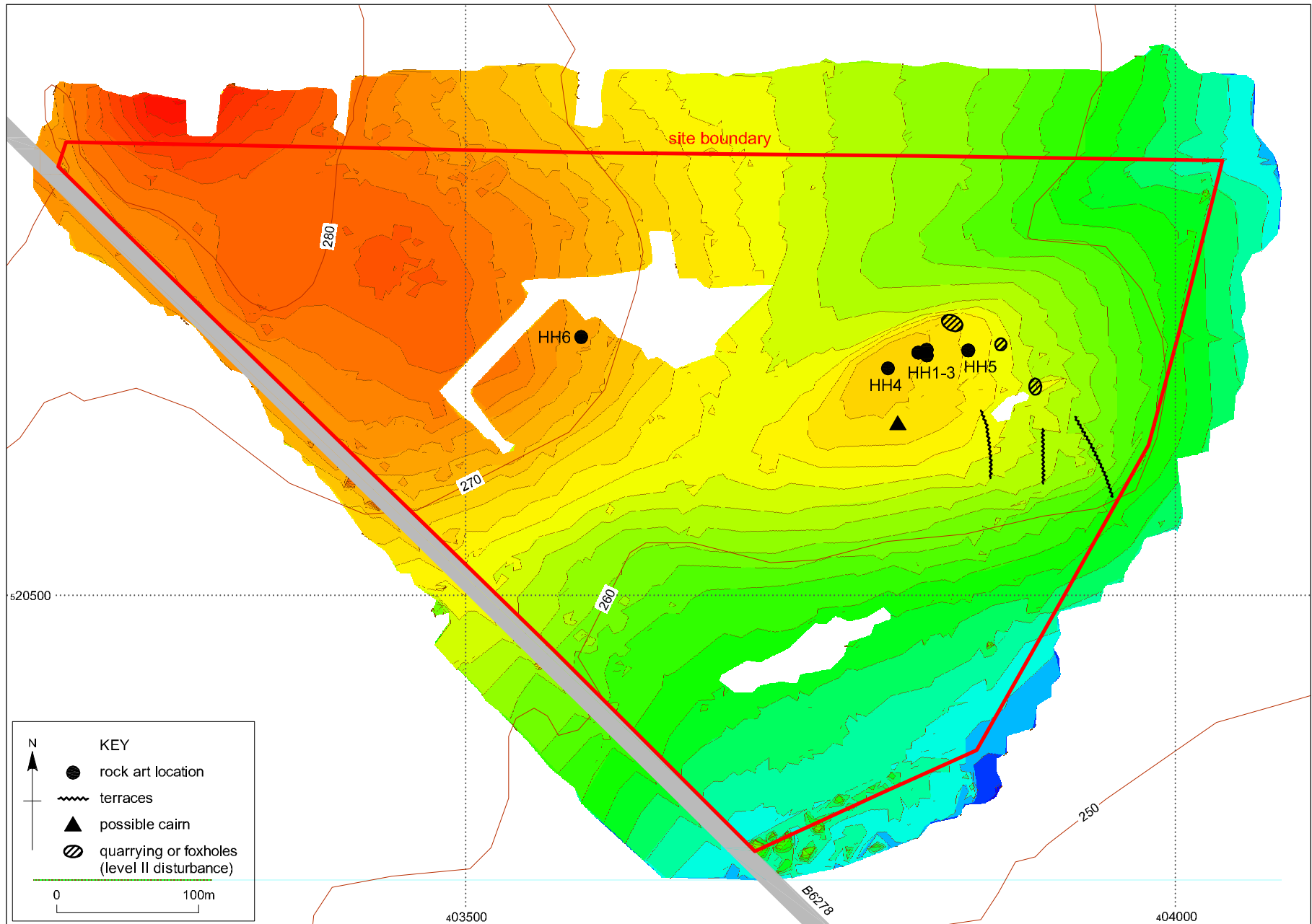




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Hawkesley Hill Community Project: excavated trench

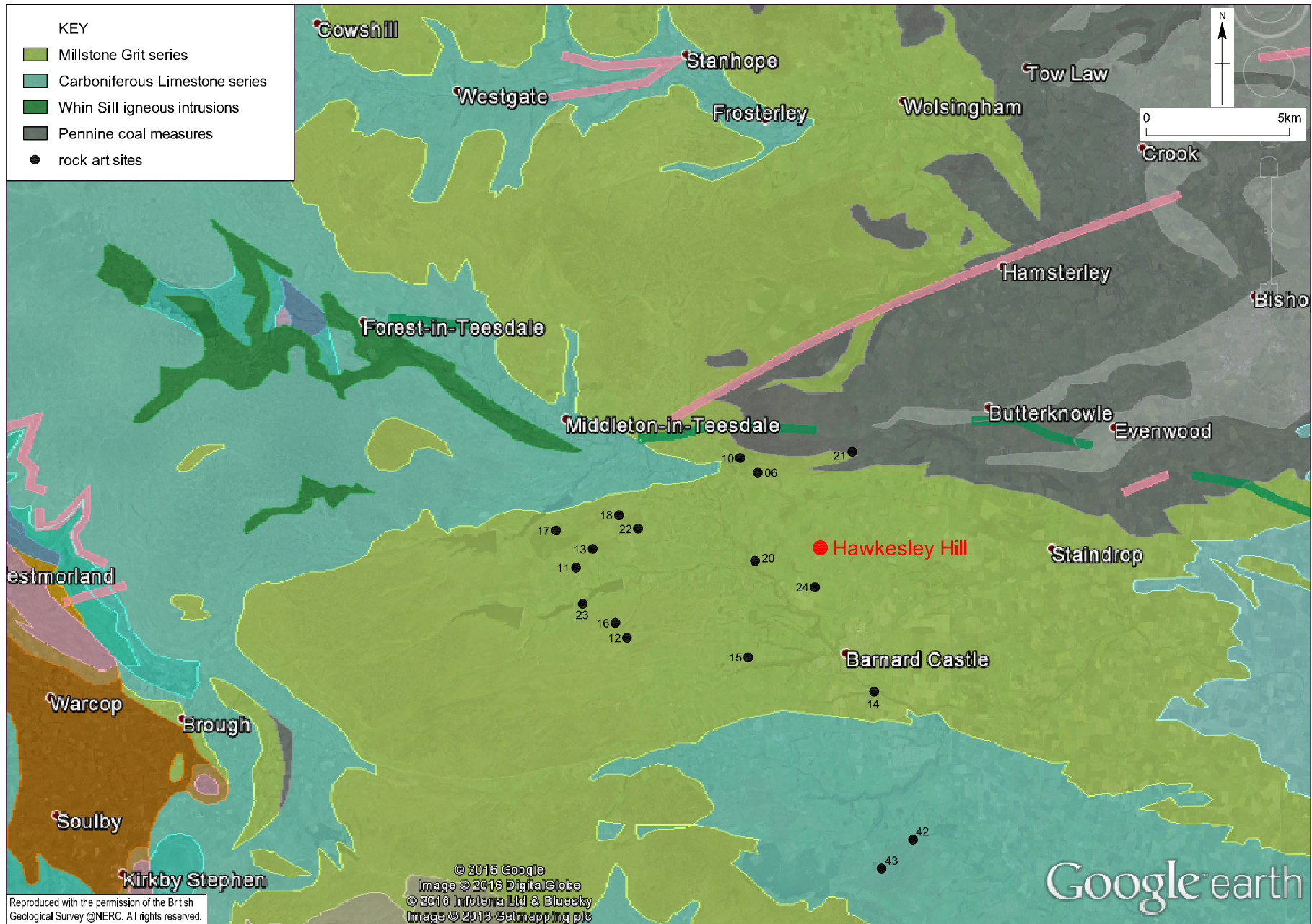
Figure 12



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Hawkesley Hill Community Project: potential prehistoric remains on contour survey

Figure 13



Hawkesley Hill Community Project: rock art sites on geology (solid)

Figure 14