

POST-EXCAVATION ASSESSMENT REPORT

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# DUNHOUSE QUARRY, STAINDROP, COUNTY DURHAM PHASE 4 EXTENSION

prepared for

Dunhouse Quarry Co Ltd

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# DUNHOUSE QUARRY, STAINDROP, COUNTY DURHAM PHASE 4 EXTENSION

#### POST-EXCAVATION ASSESSMENT REPORT

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## DUNHOUSE QUARRY, STAINDROP, COUNTY DURHAM PHASE 4 EXTENSION

#### POST-EXCAVATION ASSESSMENT REPORT

#### Summary

This report presents a post-excavation assessment of the results of a programme of 'strip, map and record' undertaken during the Phase 4 extension to the Dunhouse Quarry development near Staindrop in County Durham. The document also includes recommendations for further analysis and reporting. It has been prepared by Northern Archaeological Associates (NAA) for Dunhouse Quarry Co Ltd.

The Phase 4 extension consisted of an area of some 1.8ha located to the south-west of the existing quarry development. Consent for the extension (Application No DM/14/00305/FPA) was granted by Durham County Council on 12 March 2015, with Condition 41 relating to Items of Archaeological Interest.

Removal of topsoil revealed a potential early prehistoric pit, as well as two enclosures (A and B) and two gullies that were probably of a later prehistoric date. The first phase of Enclosure A comprised a palisade and pottery of an Early Neolithic or Late Bronze Age/Iron Age date had been placed close to one of its termini. Both enclosures extended beyond the investigated area; therefore, the recorded features were obviously parts of more extensive areas of activity. These prehistoric features were cut by a series of plough furrows that may have been medieval in date.

Only a few artefacts were recovered, including the lower stone of an Iron Age beehive quern and a fragment from a Roman-period glass bangle. However, a ceramic vessel recovered from the palisade trench is of considerable regional importance.

Reference to the regional research framework indicates that, due to the rarity of excavated examples of palisaded enclosures, and the potential for obtaining associated radiocarbon dates, further analysis and the publication of the results is required.

#### 1.0 INTRODUCTION

- 1.1 This report presents a post-excavation assessment of the results of a programme of 'strip, map and record' undertaken during the Phase 4 extension to the Dunhouse Quarry development near Staindrop in County Durham. The document also includes recommendations for further analysis and reporting. It has been prepared by Northern Archaeological Associates (NAA) for Dunhouse Quarry Co Ltd.
- 1.2 The Phase 4 extension consisted of an area of some 1.8ha located to the south-west of the existing quarry development. Consent for the extension (Application No DM/14/00305/FPA) was granted by Durham County Council on 12 March 2015, with Condition 41 relating to Items of Archaeological Interest:

'No development within Phase 4 area shall take place until a programme of archaeological mitigation in accordance with a written scheme of investigation (WSI) document that has been submitted to, and approved in writing, by the local planning authority. The strategy shall include details of the following

*i)* Measures to ensure the preservation by record of archaeological features of identified importance within the area identified on the submitted plans as Phase 1 [sic] by means of a strip, map and record strategy.

*ii)* Methodologies for the recording and recovery of archaeological items including artefacts and ecofacts.

*iii) Post-fieldwork methodologies for assessment and analyses.* 

*iv)* Report content and arrangements for dissemination, and publication proposals.

v) Archive preparation and deposition with recognised repositories.

vi) A timetable of works in relation to the proposed development, including sufficient notification and allowance of time to ensure that the site work is undertaken and completed in accordance with the strategy.

vii) Monitoring arrangements, including the notification in writing to the Councils Archaeology Team of the commencement of archaeological works and the opportunity to monitor such works.

*viii)* A list of all staff involved in the implementation of the strategy, including subcontractors and specialists, their responsibilities and qualifications.

Thereafter a copy of any analysis, reporting and publication or archiving required as part of the mitigation strategy shall be deposited at the County Durham Historic Environment Record. This may include full analysis and final publication. Reporting and publication must be within one year of the date of completion of the development hereby approved by this permission.

Reason: In the interests of archaeology. (Adopted County Durham Minerals Local Plan (December 2000) Policy M33 Archaeology).'

1.3 In response to this condition, a programme of 'strip, map and record' was undertaken by NAA between 29 April 2020 and 26 May 2020 in line with the methodologies detailed within a Written Statement of Investigation (WSI) prepared by Peter Cardwell (archaeological and heritage consultant) (Cardwell 2015). This WSI had been agreed in advance with Durham County Council Archaeological Section (DCCAS) and the archaeological excavation was undertaken in accordance with relevant standards and guidance published by English Heritage (now Historic England) (EH 2008a; HE 2015a), the Chartered Institute for Archaeologists (ClfA) (2014a; 2014b; 2014c; 2014d; 2014e) and DCCAS (2019). All work was also undertaken in compliance with the Regional Statement of Good Practice (South Yorkshire Archaeology Service 2018).

### 2.0 LOCATION, TOPOGRAPHY AND GEOLOGY

- 2.1 The Phase 4 Dunhouse Quarry extension (centred at NZ 1112 1909), hereafter 'the site', was approximately 1.6km to the south-west of Staindrop and 0.6km to the north-west of Cleatlam (Fig. 1). The quarry lies within the civil parish of Cleatlam in the Heart of Teesdale, County Durham, and is to the south of the A688 between Barnard Castle and Staindrop. The development area was approximately 1.8ha in size comprising a sub-rectangular field to the immediate south of the current quarry workings as well as part of the field to the immediate west. The investigated area was entirely within the first field and the stripped area measured c.100m by 80m.
- 2.2 The site was located c.4.5km to the north of the River Tees on a gentle north-east facing slope of a broad east-to-west aligned ridge between the valleys of Newsham Beck to the south and Sudburn Beck to the north. Both of these becks run eastwards into a stream that runs north to south (Langley Beck). This Beck feeds into Alwent Beck then the River Tees at c.4.9km to the south-east of Dunhouse Quarry and c.1km to the north-west of Gainford. The south-western corner of the investigated area was c.156m above Ordnance Datum (aOD) and gradually fell to c.151m aOD towards the south-east. The area to the immediate north formed part of the earlier quarry workings of the 19th and 20th centuries; it had been infilled and this had altered the natural topography. Inspection of historic mapping indicates that there were largely unrestricted views of the gently undulating landscape to the north.

2.3 The underlying solid geology is Carboniferous sandstone of the Yoredale Group overlain by Devensian/Diamicton till (boulder clay) of the Quaternary period (BGS 2020). The soils in this area are mapped as the Wick 1 Association deep, well-drained, coarse, loamy brown earths and the Brickfield 3 Association, slowly permeable fine loam over clay (Jarvis *et al.* 1984; SSEW 1983). The field was under pasture at the time of the investigation.

#### 3.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 3.1 A description of the archaeological sites known to exist within the vicinity of the development was presented in a desk-based assessment (Sidebottom 2013) and within the WSI (Cardwell 2015). A summary of that description, with additional relevant sites in the local region, is presented below as a setting for the recorded archaeological remains.
- 3.2 A total of 13 heritage assets of archaeological or architectural interest were identified within the immediate vicinity of the quarry extension (Table 1). The majority of these were of a medieval or later date and largely related to post-medieval farms or houses. A single 4th-century coin findspot was also identified. The local area and the wider northern region, however, are rich in evidence that indicates Teesdale was occupied from (at least) the Mesolithic period (see Table 2). In addition, resent research (Haselgrove and Moore 2016) indicates a high density of activity during the later Bronze Age, Iron Age and into the Roman period.

DHER	No/ID	Grid reference	Classification	Period
1632	21827	NZ 1083 1973	Site of fortified manor (Snotterton	15th
1032	21057	112 1083 1973	Hall)	century
1633	580029	NZ 109 198 Deserted village (Snotterton)	Medieval	
1635	21855	NZ 118 187	Shrunken village (Cleatlam)	Medieval
3937	-	NZ 1190 1870	Coin	4th century
/117		NZ 1130 1935	Quarry (Dunn House)	19th
4117	_	NZ 1130 1935	Quality (Dullit House)	century
1635 35392	111033	NZ 11893 18682	Stone cross base	Medieval
25472	111020	NZ 12000 18952	Faat Farmah awaa	18th
35472	111030	NZ 12000 18852	East Farmhouse	century
36822	111034	NZ 11881 18633	Cleatlam House	18th
30022	111054	12 11001 10035	Cleatian riouse	century
37473	111029	NZ 11764 18663	Cottage	18th
37473	11102.5	NZ 11/04 10005	Collage	century
37474	111031	NZ 12072 18780	Cleatlam Hall	17th
37 47 4	111051	12072 10700		century
37513	111032	NZ 12090 18728	Barn and cartshed	19th
57515	111052	12 12050 10720		century
37956	434591	NZ 11744 18653	The Grange	17th

Table 1: Heritage assets within vicinity of quarry extension

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DHER	No/ID	Grid reference	Classification	Period
				century
37957	13/1952	NZ 11761 18605	The Haining	18th
57 557	434332	112 11/01 10003		century

Archaeological period	Calendar date range	Notes
Late Upper Palaeolithic	12,700-9600BC	End of the last 'ice age' was around 9600BC
Early Mesolithic	9600-7900BC	
Late Mesolithic	7900–3800BC	
Early Neolithic	4000BC-3600BC	The Early Neolithic sees the start of farming in the UK. The Late Mesolithic and Early Neolithic periods overlap
Middle Neolithic	3600-3100BC	
Late Neolithic	3100-2500BC	
Chalcolithic (Copper Age)	2500–2150BC	Also known as the Beaker period
Early Bronze Age	2150-1500BC	
Middle Bronze Age	1500–1100BC	
Late Bronze Age	1100-750BC	
Early Iron Age	750–400BC	
Middle Iron Age	400-100BC	
Late Iron Age	100BC-AD70	
Roman period	AD70-AD410	The Roman invasion of Britain started in AD43; however, the annexation of the north-east did not occur until around AD70. York founded around AD71
Early medieval period	AD410-AD1066	Includes the 'Dark Ages' (the early Anglo-Saxon period) and the later Anglo-Saxon and Viking periods
Medieval period	AD1066–AD 1485	Norman invasion of Britain to the battle of Bosworth Field in AD1485
Post-medieval period	AD1485-1900	Includes Tudor, Elizabethan, Stuart, Georgian and Victorian eras
Modern period	AD1900-present	

From Tolan-Smith 2008; Bell 2007; Sheridan 2010; Manby *et al.* 2003; Needham *et al.* 2010 All dates are approximated for clarity

#### Upper Palaeolithic and Mesolithic

- 3.3 Evidence for Palaeolithic activity in the wider North East region is sparse and limited to a few Upper Palaeolithic findspots (Coggins *et al.* 1985; Petts and Gerrard 2006, 14). Mesolithic remains are more numerous but, except for a few spectacular sites such as the Howick Mesolithic structure (Waddington *et al.* 2003), mostly relate to unstratified assemblages or individual findspots of worked lithics (Petts and Gerrard 2006, 15). Findspots and sites of a later Mesolithic character are more numerous, but Teesdale has been less productive than other dales such as Weardale (see for example Coggins 1986, 10; Petts and Gerard 2006, 16–17).
- 3.4 Although early human activity within the middle and upper sections of the Tees Valley is poorly understood (Petts and Gerrard 2006, fig. 13), the area is known to have been occupied and/or visited throughout early prehistory (Coggins 1986). Previously recorded evidence of Upper Palaeolithic and Mesolithic activity in upper Teesdale includes findspots of artefacts, and indirect inferences from vegetational changes

deduced from pollen coring (Coggins 1984, 6). A single site at Towler Hill near Lartington has produced Upper Palaeolithic material (Coggins *et al.* 1985), while at Staple Crag, an Early Mesolithic temporary hunting camp was recorded on the bank of the River Tees near Low Force. A substantial multi-period flint-working site was identified at Cow Green Reservoir (Frodsham 2017 and 2019, 17–18; Young 2017) while a cluster of findspots have been recorded around Stanhope and Eastgate (Young 1987).

3.5 Although no finds of these periods were identified within the study area associated with the Dunhouse Quarry project, surface finds of Mesolithic worked flints have been found in the wider middle Tees Valley, near Cotherstone, Eggleston (around Colley Hill) and on the summit of Knott Hill near Barnard Castle. Additionally, during fieldwalking in the environs of Stanwick oppida (Haselgrove 2016, 351–2) a concentration of 90 worked flints was recovered c.1.4km to the south-east of Gainford, confirming the presence of an important Mesolithic site on the northern bank of the River Tees.

## Neolithic

- 3.6 The majority of previously recorded Neolithic remains recorded within the wider North East region were in Northumberland (Petts and Gerrard 2006, fig. 13). Prior to 2006, few Neolithic sites had been discovered or excavated in Durham, the exception being a Late Neolithic/Early Bronze Age site at Mountjoy near Durham city (TWM 2005). However, artefact findspots across the region hint at widespread activity. In the middle and upper reaches of Teesdale, other than the numerous examples of rock art (Brown and Brown 2008), no indisputably Neolithic sites have been recorded (Coggins 1984, 16; Petts and Gerrard 2006, fig. 13).
- 3.7 Rock art sites (cup and ring-marked stones) which, based on several recent excavations (see ERA online) are thought to be Neolithic in date, have been recorded on the sandstones of Teesdale. These sites include examples discovered at Egglestone Abbey, Gainford and north of Winston village (c.3.5km south-east of Dunhouse Quarry), as well as those investigated by NAA at Hawkesley Hill near Barnard Castle (Robinson 2016a). Single carved rocks have also been recorded near the villages of Eggleston, Cotherstone and at Knott Hill (near Barnard Castle). Further afield, concentrations of rock art exist at Bracken Heads (east of Eggleston) and Hindon Edge (south-east of Woodland village) (Brown and Brown 2008). Among the other rock art sites recorded in the wider Teesdale area, a concentration on Barningham Moor

(c.11km south-west of Dunhouse Quarry) was the most extensive (*ibid.*, fig. 54). This site comprises concentrations of upstanding Neolithic and Bronze Age remains and carved stones, including a large round barrow (How Tallon), a stone circle, a burnt mound, three cairns and the remnants of settlement and field systems (possibly later in date) at Osmaril Gill (*ibid.*, figs 60 and 62).

- 3.8 A possible Neolithic cursus has been identified from aerial photos near Gainford (Greg Speed, pers. comm.). This site has not been excavated, but examples investigated elsewhere in the UK have provided some idea of their form and function (HE 2018). These long linear monuments often spanned several kilometres and comprised pairs of ditches and banks and, although associated finds and features are rare, they are thought to have been related to ritual activities and/or demarcation of landscape zones or boundaries (*ibid.*, 3).
- 3.9 In addition, three possible Neolithic sites in Upper Teesdale were suggested by Coggins at Strands Gill, Middle Hurth and near Barney Byre (Coggins 1986, 18, 24). The Strands Gill site lies on the west bank of the Blackmea Crag Sike at the top of precipitous cliffs at Holwick Scars. It comprises a small field flanked by two smaller irregular-shaped plots. These are enclosed by low clearance banks of stones (Coggins 1984, 16). The Middle Hurth site (*ibid.*, fig. 34) is a multi-phased monument, possibly including the truncated remains of a Neolithic long barrow (*ibid.*, 25). At Barney Byre (*ibid.*) an oval mound could be the upstanding remains of a Late Neolithic or Early Bronze Age burial mound (barrow) but, as it has not been excavated, this is not certain.
- 3.10 Like the Mesolithic period, findspots of Neolithic artefacts in the surrounding landscape potentially indicates that there was also widespread activity during this period. For instance, although there are no known Neolithic sites within 4km of the development site, a Neolithic polished stone axe was recovered close to Langley Beck to the north-west of Gainford (c.2km to the north-east of Dunhouse Quarry). In addition, early prehistoric flint tools and arrowheads have been recovered from Staindrop and several fields close to Burton House farm (to the east of Staindrop). During fieldwalking in the Stanwick environs (Haselgrove and Lowther 2016, 351–2) two concentrations of lithics to the north of Piercebridge suggested the presence of '...Neolithic sites of more than transient nature...' (*ibid.*, 352).

### Chalcolithic and Bronze Age

- 3.11 At the time of the compilation of the North East regional research framework (Petts and Gerrard 2006), few Chalcolithic, Early or Late Bronze Age sites had been recorded within the region (*ibid.*, figs. 13 and 14). However, more recently discovered remains and findspots have confirmed early theories (Young 1980, 1; Coggins 1984, 32–7) that the Tees Valley and the surrounding region was also extensively occupied during these periods (see Robinson 2016b, appendix B, fig. 3; Fell and Robinson 2018, fig. 18; Haselgrove and Lowther 2016, 354–5).
- 3.12 Over 100 burial cairns and cremation sites of this date were recorded during Young's survey of County Durham (Young 1980, fig. 1); since then, several more sites have been discovered. These sites often exist as above-ground 'barrow mounds' such as How Tallon on Barningham Moor and Swinkley knoll barrow on the northern bank of the River Tees near Egglesburn. Many of these monuments, however, have been levelled by later activity and now exist only as below-ground features. Six potential Bronze Age burials are recorded along the River Tees in the vicinity of Piercebridge and Gainford. These comprise a Food Vessel burial at Denton Hall (Gibson 1978), a cist burial close to the River Tees (near Wood House), two round barrows in Cliffe Park, another to the north of Low Carlbury and a possible barrow mound in a field to the north-east of Winston (Young 1980).
- 3.13 Very few settlement sites that dated to the Chalcolithic or Bronze Age have been recorded in the region. However, the potential for previously unknown sites to be encountered during developer-funded mitigation works has been demonstrated during several recent projects in County Durham. Examples include a small Bronze Age settlement discovered at Greatham Creek (Fell and Robinson 2018) as well as sites in the lower Tees Valley (*ibid.*, fig. 18), such as remains recorded during investigations in the vicinity of Little Maltby Farm near Yarm. In middle Teesdale, previously unknown prehistoric pits, potentially of a Bronze Age date, were recorded during recent investigations at Winston Bridge Caravan Park near Ovington (NAA 2020).
- 3.14 In upland areas, where ploughing has been less prevalent, upstanding remains of settlements and field systems often survive as earthworks or stone walls and mounds (Coggins 1986; Petts and Gerrard 2006, 25, 35, 37). Few of these have been investigated or securely dated but excavations at Bracken Rigg (Coggins *et al.* 1983) suggest these sites may include Bronze Age to Roman period occupation. Examples in the wider region include several clusters of settlements, field walls, clearance cairns

(cairnfields) and 'burnt mounds' on Barningham Moor (see Robinson 2017). Similar fragments of former agricultural landscapes survive at Crawley Edge, near Stanhope (Petts and Gerrard 2006, 35), where clearance cairns and field systems were identified. At this site, one of the cairns was excavated in 1976–77 revealing a Bronze Age burial (Young and Welfare 1992).

- 3.15 In the Tees Valley, especially the southern slopes of Upper Teesdale (Coggins 1984, fig. 9), similar fragments of prehistoric landscapes have survived relatively intact. Examples have been identified on parts of Crossthwaite Common (Frodsham 2017; 2019, 39), Bracken Rigg near High Force (Coggins and Fairless 1983), Upper Eel Beck, Holwick, and Noon Hill and Forcegarth Pasture both near Forest-in-Teesdale. Additionally, promontory forts on the River Tees, at Cockshot Camp (Challis and Harding 1975, 48), near Ovington and Mill Hill, near Cotherstone (*ibid.*, 51) may have been first occupied during the later Bronze Age.
- 3.16 Numerous findspots of Bronze Age artefacts have also been recovered from Teesdale. These include two bronze swords and a gold hair ornament found together on the banks of Gill Beck at Startforth. Also, a bronze spearhead was found close to a Bronze Age urn on the banks of the Tees at 'The Demesnes', to the south of Barnard Castle, and part of a Late Bronze Age bronze socketed spearhead was found in the playing fields at Barnard Castle School in 1951. Upriver of Cockshot Camp, a Late Bronze Age socketed bronze axe was found north of Wycliffe Hall, on the Durham side of the River Tees in 1908. In addition, several findspots of later Bronze Age metalwork and stone artefacts were discovered in the Stanwick oppida area to the south of Piercebridge (Haselgrove and Lowther 2016, 354).

### Iron Age

3.17 Few sites attributable to the Iron Age have been excavated in middle and upper Teesdale (Petts and Gerrard 2006, fig. 19), the closest exception (c.10km south-east of Dunhouse Quarry) is the extensively investigated Iron Age site at Stanwick (Haselgrove 2016) which is thought to have been a royal centre (or oppida). As noted above, however, it is likely that the largely undated upstanding remains of fields, settlement enclosures and structures 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 this area include the foundations of circular stone-built houses (Coggins 1986, 39). Though much of these sites remain undated, excavations at Bracken Rigg (*ibid.*,

85; Coggins *et al.* 1983) and Forcegarth Pasture (*ibid.*, 97) suggested these sites were occupied from at least the Bronze Age into the Roman period (1200BC to AD250).

- 3.18 Within the wider lowland area between the Tyne and Tees rivers, however, cropmark evidence combined with a growing number of sites excavated during developer-funded projects have shown that the region was densely occupied (Haselgrove 1982; Harding 2004; Wood and Robinson 2015; Haselgrove and Moore 2016; Fell and Robinson 2018; Fell 2020). The available evidence suggests that during the earlier Iron Age small farmsteads, comprising a sub-rectangular ditched enclosure with one or more roundhouses, were the most common class of settlement (Haselgrove 1982; Haselgrove and Moore 2016, 366). Also present were 'open' or unenclosed clusters of roundhouses, D-shaped enclosures, as well as larger sites including hillforts and aggregations of enclosures and/or structures. However, as more sites are excavated, or discovered, through developer-funded mitigation works, it is becoming evident that the cropmark evidence is part of a more complex picture (Haselgrove 2002, 62; Haselgrove and Moore 2016, 371) and the known sites are just part of an intensively utilised later-prehistoric and Roman-period landscape.
- 3.19 Lowland Durham was part of the important Brigantes territory, and its royal centre is thought to have been at Stanwick, near Piercebridge (Haselgrove 2016), which was one of the largest prehistoric strongholds in Europe (*ibid.*, xxv). Investigations at Stanwick (*ibid.*) and the recent discovery of a previously unknown late Iron Age and early Roman-period settlement at Scotch Corner (Fell 2020) have shown that the region was subject to dramatic social, economic and political transformations during the 1st century AD associated with the absorption of northern England into the Roman province.
- 3.20 There are no known Iron Age sites within 1km of Dunhouse Quarry; however, cropmarks of potential Iron Age settlements and field systems have been identified in the local area at Knott Hill (north-west of Barnard Castle), Council Farm (near Ingleton), two sites south of Gainford, to the south of Winston Bridge, at Holme Wood (north of Ovington) and close to Graft's Farm (west of Ovington). Further possible examples have been recorded near Gawen House (to the north of Barnard Castle) and near Raby Hill House (North of Staindrop).

#### Roman period

- 3.21 It is likely that the rural upland Iron Age landscape altered little during the Roman period and many settlements probably continued to be occupied (Coggins 1984, 56–7; Harding 2004). The lowlands of Durham continued to be densely occupied during the Roman period (Petts and Gerrard 2016, fig. 24), though many settlements seemed to have been abandoned in the Late Iron Age and more conglomerated sites, such as those at Scotch Corner (Fell 2020) and East Park, Sedgefield (Petts and Gerrard 2006, 54) became more common (Fell 2020, 9). Additionally, Roman-style villas were constructed at Holme House (near Piercebridge), Quarry Farm, Ingleby Barwick and Old Durham (Petts and Gerrard 2006).
- 3.22 Political events associated with civil unrest among the Brigantes and the incorporation of the north into the Roman Empire (Harding 2004; Haselgrove 2016, 466–72; Fell 2020, 16), must have had an impact on the native population, even in the upper reaches of Teesdale. The developments recorded at Stanwick and Scotch Corner, along with the presence of Roman roads and forts at Bowes, Piercebridge, Binchetser, Greta Bridge and potentially at Winston Bridge, near Ovington, as well as the important route across the Pennines protected by a fort at Stainmore, clearly indicate that there was contact between the natives of western Durham and the Roman administration (Coggins 1984, 52).
- 3.23 There are no known Roman sites or finds recorded in the Historic Environment Record (HER) within 1km of Grassholme Reservoir, but the route of a Roman Road (Margary no. 820) was approximately 1.2km to the north-west (Margary 1973, 436–437). This route is thought to have run from Bowes to Bishop Auckland and connected the important Roman road across the Pennines (Margary no. 82) with the major north-south route Dere Street. The remnants of a possible bridge across Sudburn Beck associated with this road were recorded near Streatlam Grove in 1854 (Longstaffe 1854) and a Roman coin (Titus or Vespasian) was recovered close to the route at Lodge Plantation. Further findspots in the wider area suggest it continued to be occupied throughout the Roman period. These include further Roman coins, pottery and a brooch found in Barnard Castle, as well as a spindle whorl discovered near Winston Bridge.

#### Medieval

- After the end of Roman administration around AD410 it is thought that many areas of 3.24 Britain formed into small kingdoms, although developments during the 5th century are poorly understood. The early medieval period was a time of civil and political change and unrest, with successive waves of incoming Saxon and Viking communities. Understanding of the resultant changes in the North Pennines over this period comes predominantly from documentary evidence, with few finds or archaeological sites investigated to date. Rapid changes in administration and rule occurred, with key events including the establishment of the Saxon Kingdom of Northumbria (c.AD 600-867) and the Viking Kingdom of York (c.AD 867-1066). Documentary sources suggest that the Viking leader Eric Bloodaxe was killed at Stainmore, in AD954, leading ultimately to the absorption of the old kingdom into the emergent Kingdoms of England from c.AD950 to 1100 (Frodsham 2019). Following the imposition of Norman rule in the 11th century, castles were constructed in prominent positions in the region, including at Bowes and Barnard Castle, as well as later castles at Streatlam and Raby. Many of the towns and villages visible in the area today were established during the medieval period and are referred to in historical documents.
- 3.25 There are no excavated medieval sites within 1km of Dunhouse Quarry; however, there may have been medieval villages in the vicinity of Snotterton Hall to the north and Cleatham to the south, as well as at Staindrop to the north-east. During this period, the surrounding area was part of a large estate given to the Priory of St. Cuthbert in Durham by King Canute in 1031. The estate appears to have been referred to as *'Staindropshire'*, as used in 1204 when the land holding was confirmed by King John. The site of a (now deserted) medieval settlement is thought to have been located c.0.5km to the north west of Dunhouse Quarry, though this derives solely from documentary evidence (Clack 1980, 46). This settlement has been associated with *'Cnapatun* in *Staindropshire'* documented in the first half of the 11th century. A settlement of *'Snoterdon'* (Old English for 'dirty hill') was mentioned in documents of 1332 (Watts 2002, 114) and the site of a fortified manor house, possibly of 15th-century date, is also recorded at Snotterton.
- 3.26 The village of Cleatlam, located some 650m to the south-east of Dunhouse Quarry, also potentially had medieval origins. It is referred to as *'Cletlinga'* in c.1050 and as *'Cletlum'* in 1271, and the name has an Old English derivation, meaning 'where

burdock grew' (Ekwall 1960, 110). Earthworks within the modern village are probably the remains of the larger medieval settlement, and the base of a wayside cross of probable medieval date is located on the western edge of the village green.

3.27 Staindrop was also the site of a medieval settlement which was referred to as '*Standropa*' in c.1050, 1125–8 and 1131, but as Staindrop in 1195 (*ibid.*, 435). The name is thought to derive from Old English and means 'valley with stony ground'. A collegiate hospital, dedicated to St. Mary the Virgin, was founded at Staindrop in 1408, and Raby Castle and its associated deer park existed in the early-mid 14th century but possibly incorporated earlier buildings.

#### Post-medieval and modern

- 3.28 The quarry site and surrounding area appear to have remained relatively unaltered after the medieval period until enclosure in the 18th and 19th centuries with the proposed extension being located within an area of piecemeal enclosure. In 1748, an Act was brought before Parliament to repair the road between Barnard Castle and Staindrop (the present A688) although the antiquity of the road is unknown. Several of the buildings within Cleatlam date from the 18th century, but Cleatlam Hall dates from at least the 17th century and possibly earlier in part, with further buildings of 19th-century date elsewhere in the village. Seven of these buildings are listed.
- 3.29 There are references to 'mines and quarries' within the wider vicinity in the Staindrop enclosure award of 1763 but quarrying on the site of the existing Dunhouse Quarry is not mapped until the 1842 tithe plan of the township of Cleatlam, which indicates a small area of extraction on the south side of the road. At the time of the Ordnance Survey map of 1860, two separate areas of workings are mapped 'Dunn House' Quarry' to the west and the smaller area of 'Bowes Dunn House' to the east (Plate 1).



Plate 1: Dunn House Quarry as shown on the 1860 Ordnance Survey map

3.30 The workings subsequently expanded, and by the time of the 1899 Ordnance Survey map (Plate 2) the quarries are still depicted as two separate areas of workings separated by a field boundary but in effect appear to be an almost continuous area of extraction collectively named 'Dunn House Quarries', with a smaller quarry on the north side of the road.



Plate 2: Dunn House Quarries as shown on the 1899 Ordnance Survey map

3.31 Evidence for extant or visible heritage assets of archaeological interest within the Phase 4 extension was limited to very faint evidence for north-to-south ridge and furrow (or later drainage). This was visible on some satellite imagery (such as Google Earth) and evident on the ground as barely discernible linear earthwork remains, which were slightly better preserved in the area to the west of the extension. The existing wall across the western part of the extension area (Plate 2) dates to the latter half of the 19th century.

#### 4.0 AIMS AND OBJECTIVES

- 4.1 Archaeological assessment concluded that the Phase 4 extension presented a negligible threat to known heritage assets within the area, and the probability of surviving but previously unrecorded archaeological remains within the development area was considered to be low (Sidebottom 2013, 12).
- 4.2 However, as any previously unrecorded archaeological remains or finds within the extension area would be destroyed, a programme of 'strip, map and record' and subsequent post-fieldwork assessment and analyses, was undertaken to fulfil Condition 41 (Cardwell 2015).
- 4.3 The main objectives of this were to:
  - establish the nature and extent of any archaeological features within the Phase 4 extension area;
  - establish the presence, nature and sequence of any areas of occupation and, where present, to investigate such areas to determine their form, and record evidence for domestic, industrial, military or agricultural structures and any associated activities;
  - establish, where possible, absolute and relative chronologies for the various activities and features represented;
  - investigate the nature and pattern of the land use and environment within the landscape through an appropriate sampling strategy;
  - establish the nature and extent of any other archaeological remains which are identified and carry out appropriate investigation and recording;
  - produce a report on the results of the agreed mitigation strategy, if necessary for publication within an appropriate journal, and for deposition with both the Durham HER and the National Record of the Historic Environment; and

• undertake a scheme of works that meets with the professional standards for archaeological work both nationally and within the area of the Durham HER.

## 5.0 METHODOLOGY

5.1 The methodology for the archaeological mitigation strategy was detailed in the WSI (Cardwell 2015); relevant details to the work undertaken are presented below.

## Strip, map and record

5.2 Topsoil was stripped using a mechanical tracked excavator with a wide toothless ditching bucket under archaeological supervision at all times (Plate 3). The machine removed topsoil in successive spits down to a level at which archaeological remains or deposits were first identified or down to the natural glacial clay.



Plate 3: Topsoil stripping under archaeological supervision

- 5.3 The area remained untrafficked until archaeological investigation and recording was completed. Stripped surfaces were cleaned by hand, concentrating on any parts of the area where archaeological features were identified (Plate 4). Any features were then planned and photographed.
- 5.4 As moderately complex archaeological remains were encountered, an appropriate level of excavation was agreed with DCCAS and undertaken in order to record the form, dimensions and character of the features. Additionally, the excavation strategy was designed to ensure recovery of sufficient artefactual and environmental evidence (ecofacts). The strategy comprised excavation of:



Plate 4: Hand cleaning in the area of gullies 28 and 32

- 50% of the single discrete feature (pit 6) to record a section, then it was 100% excavated to confirm function and to look for artefacts and ecofacts;
- 50% of the overall length of gullies 28 and 32; and
- 20% of the overall length of the linear features; this percentage was increased to 50% in areas of more complex stratigraphy.
- 5.5 Excavation was focused on the intersections of features (especially ditches 8 and 14) so that their stratigraphic relationships could be established. Also, as a result of the discovery of potential structured deposition close to the terminus of ditch 8, this area was more intensively investigated.

### Archaeological recording

- 5.6 A full and proper record (written, graphic and photographic, as appropriate) was made for all work, using pro-forma record sheets and text descriptions appropriate to the work. Accurate scale plans and section drawings were produced at 1:20 and 1:10 scales as appropriate. The location of all archaeological features, together with the edges of the excavated areas, were surveyed by sub-centimetre-accurate GPS.
- 5.7 A photographic record of all contexts was taken in digital format at a minimum resolution of 12 megapixels and included a clearly visible, graduated metric scale. All photography followed current guidance (HE 2015c).

#### Artefacts

- 5.8 Finds were recovered, processed and stored in accordance with established guidelines (EH 1995; Watkinson and Neal 2001; Baker and Worley 2019). Especially significant objects (such as the placed pottery and the quern) were three-dimensionally recorded prior to removal. Finds were appropriately recorded and processed using the NAA system and submitted for post-excavation assessment.
- 5.9 No human remains, animal bones, iron objects, industrial debris relating to metallurgy, or items of 'treasure' (DCMS 2008), were discovered.

#### Palaeoenvironmental sampling

5.10 Forty-litre (or 100%) bulk palaeoenvironmental samples were taken from significant deposits and submitted to the named environmental specialist for assessment of their environmental potential, including charcoal, small bones, cereal grains, pollen, mollusca and macro-environmental material. Recovery and sampling of environmental remains will be in accordance with published guidelines (Campbell *et al.* 2011; EH 2008b and 2010).

#### Scientific dating

5.11 Secure contexts were sampled for the recovery of suitable material for radiocarbon dating (see HE 2020). An assessment of the suitability the recovered material to provide accurate and relevant results was carried out (see Section 10) in line with available guidance (Waterbolk 1971; Gillespie 1984; Aitken 1990; Bayliss 1998; Ashmore 1999; Bayliss 2009, 129; Bayliss 2015, 683–90).

### 6.0 RESULTS

- 6.1 Removal of topsoil (Fig. 2) revealed a lone pit (6), two potential enclosures (A and B) and two gullies (28 and 32). Parts of Enclosure A and the two gullies were sealed by an intermittent layer of light-grey soil (see Plate 2). All of these potentially prehistoric features, except pit 6, were cut by a series of north-to-south aligned plough furrows that may have been medieval in date. Few dateable artefacts were recovered and, based on these and the available stratigraphical relationships, the recorded remains were placed within three broad chronological phases.
- 6.2 Pit 6 (Plate 5) was undated but based on its similarity to early prehistoric pits recorded in the wider region was tentatively assigned to Phase I. Phase II comprised the two

enclosures, gullies 28 and 32 and the soil layer. The potentially medieval plough furrows were assigned to Phase III.



Plate 5: Pit 6 before excavation (facing east)

#### Phase I

6.3 A single sub-rectangular pit (6) was recorded close to the north-eastern corner of the site. It measured 0.56m by 0.6m by up to 0.2m deep and had a rounded but irregular base. Pit 6 contained a single dumped fill (7) that mostly comprised large (up to 0.25m in size) sub-angular stones within a mid grey-brown silty clay (Plate 5). The pit had been disturbed by ploughing and several of the stones had been dislodged at the surface. No artefacts were recovered from within this pit and the environmental sample taken produced no ecofacts.

### Phase II

6.4 Phase II comprised two enclosures and two gullies of a likely Late Bronze Age or Iron Age date; although it is possible that some of these features were of an Early Neolithic date (see Discussion). The features extended beyond the investigated area to the west (Enclosure A) and the south and east (Enclosure B) and were obviously parts of more extensive areas of activity. All of the Phase II features were heavily truncated by ploughing and the depth of truncation increased towards the northern edge of the site. 6.5 In the western half of the site (Fig. 3), Enclosure A was initially defined by two palisade trenches (Fig. 4, features 8 and 23) which were both replaced by a ditch (14) broadly on the same alignment (Fig. 4, sections 2 and 4; Plate 6).



Plate 6: Palisade trench 8 and ditch 14 close to the western site limit (facing south-west)



Plate 7: Palisade trench 8 (right), showing possible packing stone (foreground) and its terminus (background). Later ditch 14 is visible on the left (facing north-east)

- 6.6 Feature 8 extended into the investigated area from the south-west and terminated after approximately 11m. It measured between 0.3m and 0.25m wide by up to 0.45m deep and was steep sided with a flat base and an almost square terminus. The primary silty fills (9 and 19) of trench 8 contained occasional large stones (Plates 6 and 7). These stones may have been packing stones that had fallen into the trench after the potential palisade posts had been removed (see Discussion). The dark fill also contained moderate amounts of charcoal (Appendix G).
- 6.7 Part of a possibly deliberately placed Early Neolithic or Late Bronze Age/Early Iron age ceramic vessel (Appendix B) was discovered within deposit 19, approximately 0.45m to the south-west of the terminus of feature 8 (Plate 8). These 13 sherds (117g) were soft and crumbly to the touch, possibly as a result of the acidic nature of the surrounding deposit and may have originally been a complete (or part) vessel placed, possibly as part of some form of ritual. The sherds were carefully exposed which clearly indicated that the vessel had also been partly crushed by the weight of the surrounding deposit.



Plate 7: Pottery recovered close to the terminus of palisade trench 9 (facing north-east)

- 6.8 The remnants of the upper fill (20 and 22) of the palisade trench that survived later truncation by ditch 14 was a mixed deposit of redeposited clay that also contained stones and charcoal.
- 6.9 The heavily truncated remnants of another potential palisade trench (23) was recorded to the north (Fig. 4). This feature had been almost entirely truncated away by ditch 14 and survived as a steep-sided and flat-bottomed remnant in a single excavated slot. The terminus of this feature did not survive but may have been slightly offset from the end of feature 8 creating an entrance c.1m wide (or less). The fills (24 and 25) of feature 23 were mixed deposits of redeposited clay which contained small amounts of charcoal.
- 6.10 These two features were truncated by a ditch (14) that broadly followed the same alignment but without any termini or an entrance (Plates 6 and 7). Ditch 14 varied in size and shape from a rounded V-shaped feature to the south-west (Fig. 4, section 2) to a broad U-shaped profile to the north-east (Fig. 4, section 4). It ran for approximately 20m, before being truncated away by later ploughing, and measured between 0.65m and 1.05m wide by up to 0.3m deep.
- 6.11 The fills (10, 11, 12, 13, 15, 16, 26 and 27) of ditch 14 were grey and silty and contained numerous stones (some of which were burnt) and small amounts of charcoal. A small sherd of pottery was recovered from fill 16 (Fig. 4, section 4).
- 6.12 A second ditch (41) seemed to form the northern edge of Enclosure A (Fig. 3), however, its eastern end was, again, completely truncated away by later ploughing. It extended into the excavated area form the north-west, running for c.12m and was similar to ditch 14 with a broad U-shaped profile. It measured between 1m and 0.4m wide by up to 0.27m deep.
- 6.13 The fills (42, 43, 44, 51, 52, 53 and 54) of ditch 41 were largely grey silty deposits containing small amounts of charcoal and variable amounts of sub-angular stones. A concentration of dumped stones was recorded close to the western edge of excavation and the opposing section (Plate 8) had a primary sticky clay deposit (43) overlain by three small episodes of slumping (42, 44 and 51) from the north-east. The final (main) fill (52) comprised a silty deposit containing a moderate number of stones, some of which had been burnt, and small amounts of charcoal.

6.14 The truncation of the old ground surface by the Phase III plough furrows and later ploughing was variable across this part of the site. The amount of truncation increased downslope to the north as well as to the east destroying the ends of both ditches 14 and 41. These features, however, seemed to have been originally aligned to intersect. The fills of the broad plough furrow in this area were removed, but no further ditch remnants survived, and it is unclear whether ditch 41 turned to the south to join ditch 14, terminated to form an entrance or continued to the east.



Plate 8: Ditch 41 close to the western edge of the investigated area (facing south-east; north arrow incorrectly placed)

6.15 Two features recorded to the north-west site (Fig. 3), close to the western edge of the site, may have been contemporary. These were an angled structural gully (32) and a partial ring-gully (28). Gully 32 (Fig. 5) extended into the excavation area from the north-west but had an angled corner and turned towards the north-east after c.2m (Plate 9). It was heavily truncated by later ploughing but appeared to end with a rounded terminus after a further 3m. The gully had a shallow U-shaped profile, measuring between 0.34m and 0.7m wide by up to 0.14m deep. The silty fills (33 and 34) of this gully contained moderate amounts of sub-angular stones and small amounts of charcoal. Given the silty nature of the fills and its profile, this feature was probably not structural but was related to drainage.



Plate 9: Gully 32 with partial ring-gully 28 in the background (facing south-east)

6.16 Approximately 2m to the south a partial ring-gully (28) was recorded. This feature was again truncated by later ploughing with its north-western end, and presumably its northern half, being completely ploughed away (Plate 10). The ground in this area sloped gently downwards towards the north and the partial ring-gully appeared to be what remained of the deeper 'upslope' portion of a circular (or sub-circular) ring-gully. The surviving portion of the gully measured c.5.6m long and was between 0.25m and 0.45m wide by up to 0.2m deep. It had a shallow U-shaped profile and appeared to have a terminus at its south-eastern end. If this feature was a circular ring-gully it would have enclosed an area c.4m in diameter which, while small, is comparable with the smallest circular structures recorded at Stanwick (structure CS5 – Haselgrove 2016, fig. 23.3) and Green Lane Yarm (Structure 435 – Wood and Robinson 2015). This size also falls within the range recorded in the wider Teesdale region (Sherlock 2012) and within the 4m to 12m diameter range for 90% of previously recorded circular structures within northern and central Britain (Pope 2003, 101).



Plate 10: South-eastern terminus of partial ring-gully 28 (facing west)

- 6.17 All of the Phase II features in the western part of the site were sealed by an intermittent layer (13, 21, 48) that could have been a soil remnant or a ploughed-out midden (Plate 4). This layer was a mid-grey silty clay soil which was present intermittently across the full width of the site (north to south) but did not extend beyond the western edge of plough furrow 17 (Fig. 2). It varied in depth but increased to c.0.2m at the western edge of the excavated area. The layer contained numerous large sub-angular stones (some of which were burnt), small amounts of charcoal and had settled into the upper potions of ditches 14 and 41. The lower stone of a beehive quern (RF2) was recovered from deposit 21 (Appendix E) which sealed ditch 14 (see Fig. 4, section 4).
- 6.18 The first phase of Enclosure B was formed by a ditch (35) with a U-shaped profile (Fig. 2) that extended into the excavated area from the east. It ran westwards, curving slightly, for approximately 55m before turning to the south and extending beyond the site limit. This ditch seemed to enclose a slight rise in the local topography and, although only partly within the investigated area, could have been the northern edge of a sub-rectangular enclosure. Ditch 35 varied between 1.05m and 0.84m wide by up to 0.4m deep and contained silty fills with few stones and occasional small fragments of charcoal. The enclosure was redefined by a second, shallower ditch (55) after feature 35 had completely silted up. Ditch 55 was cut on broadly the same

alignment but diverged slightly at the southern limit of excavation (Fig. 6). It measured between 1.15m and 0.75m wide and was up to 0.2m deep and it had similar silty fills to ditch 35. The fills of both ditches in the north to south aligned section of Enclosure B, however, contained numerous stones ranging in size from fine gravel to large subrounded boulders (c.0.5m<sup>3</sup> in size). This seemed to be a localised phenomenon but did not appear to be an intentional attempt to form a bridge across the ditches. It is likely that these stones were from an internal bank that had collapsed into the enclosure ditches.

#### Phase III

6.19 A series of plough furrows ran across the site on a broadly north to south alignment (Fig. 2). These were heavily truncated by later ploughing and corresponded with the slight earthworks identified on aerial photography (see Section 3 above). The furrows were better preserved to the south where they seemed to curve slightly towards the south-east. There might have been a series of shallower furrows between the deeper ones recorded to the north and hence the interval between the features was between c.4m and 6m. A single sherd (10.5g) of pottery of a probable 14th- to 16th-century date was recovered from the fill of furrow 5 (Fig. 2). This single sherd does not provide a secure date for the plough furrows but considering this along with the furrows' spacing and slightly curving nature, a medieval date seems appropriate.

#### Topsoil finds

6.20 A small group of artefacts recovered from the topsoil, though not from archaeological features, provides some evidence of activity in the vicinity of the site. These finds included a possible sherd of early Roman pottery (Appendix C) and a fragment from a Roman-period glass bangle (Appendix F). The other finds included medieval and later pottery, as well as a sherd of modern glass and a toy marble.

#### 7.0 DISCUSSION AND ARCHAEOLOGICAL POTENTIAL

#### Phase I

7.1 Pit 6 remains undated but seemed unrelated to the enclosure ditches of Phase II. It was similar to early prehistoric pits previously recorded in the region (Petts and Gerrard 2006, 24) and nationally (for instance, see Manby *et al.* 2003). These pits sometimes occur in clusters and their use is poorly understood but may represent the surviving remains of early prehistoric occupation. Recorded examples in the local

region include two potential Bronze Age features at Winston Bridge Caravan Park (NAA 2020). Further afield, one of several pits recorded at Medburn (Dougherty and Robinson in prep) was radiocarbon dated to the Early Bronze Age. Previously, such pits appeared to have been clustered within the Milfield Basin (Waddington 1999, 134–6; Petts and Gerrard 2006, 24), however, recent evidence suggests that this is likely to be an artificial pattern produced by the intense level of research carried out in this area.

- 7.2 In a national context, Neolithic and Bronze Age 'pit sites' have been attributed by some to the ephemeral activity of people on the move (see Pollard 1999 and 2000; Thomas 1999, 87; Cummings 2017, 87). This theory, however, has been successfully challenged (Rowley-Conwy 2004) and the lack of substantive occupation evidence could be largely a product of high levels of truncation (see Gibson 2003, 137) and a paucity of diagnostic material.
- 7.3 Unfortunately, the pit recorded at Dunhouse Quarry contributes little to this debate, other than potentially to further extend their distribution within Teesdale and to highlight the potential for similar features to exist in the fields surrounding the excavated area.

### Phase II

- 7.4 The Phase II features are, as yet, not accurately dated. Enclosures A and B and the partial ring-gully resemble elements of Iron Age or Roman-period settlement common throughout the region (see Haselgrove and Moore 2016). The lower quern stone recovered from the overlying layer is of a likely Late Iron Age date (Appendix E) which provides supporting dating evidence. This layer post-dated the features and could have been the remnants of an upstanding midden ploughed across the site. The quern, therefore, only provides a broad date for the end of activity associated with the Phase II features.
- 7.5 The part-complete pottery vessel from palisade trench 8, however, could be of an Early Neolithic or Late Bronze Age/Early Iron Age date (see Appendix B). Either alternative would be of considerable archaeological importance because remains from these periods are rare within the North-East region (Petts and Gerrard 2006, fig. 13, 35). There is, therefore, a clear need to achieve closer dating of this vessel and the palisade slot via a scientific dating technique such as radiocarbon dating.

- 7.6 Enclosure B appeared to be the edge of a sub-rectangular enclosure which, based on excavated examples within the region (Haselgrove and Moore 2016, 366–7), was probably related to a later Iron Age or Roman-period settlement. This raises the possibility that, if the later date for the pottery from feature 8 is correct, a sequence of later prehistoric to (potentially) Roman-period activity existed in a relatively confined area. One possibility is that palisade trenches 8 and 23 enclosed a Late Bronze Age settlement that was replaced with a curvilinear ditched enclosure. Ring-gully 28 could be part of an unenclosed phase of settlement, and Enclosure B may represent a later settlement in a sub-rectangular enclosure.
- 7.7 Few palisaded enclosures have been excavated in County Durham, however, where investigated, these phases of occupation tend to be earlier in date than ditched enclosures (Haselgrove and Moore 2016, 367). This is also the case in the wider region (*ibid*.), for instance, at Pallet Hill, Catterick, pottery from a rectilinear palisade and a later, larger, curvilinear palisade suggested the features were of a Late Bronze Age or earlier Iron Age date (Sherlock 2012). Furthermore, many curvilinear palisaded enclosures in the wider northern region are of a similarly early date (Harding 2004, 29–31, 67–8).
- 7.8 The regional research agenda, however, highlights that dating such enclosures by their form (morphology) alone has been proven (by scientific dating) to be inaccurate and inadequate (Petts and Gerard 2006, 137). Scientific (or 'absolute') dating, such as radiocarbon dating, of later prehistoric sites is therefore highlighted as a priority (Petts and Gerard 2006, 136), especially where pottery has been recovered.
- 7.9 Alternatively, if the pottery vessel is of an Early Neolithic date, then the palisade could conceivably be part of a form of Neolithic monumental enclosure that is rarely encountered in the North-East region (Petts and Gerrard 2006, 26). These monuments are poorly understood and the Dunhouse feature, if proved (via radiocarbon dating) to be of an Early Neolithic date, would represent an important addition to the regional understanding of this important period.

## Archaeological potential

7.10 The existing body of archaeological information and current research priorities for the region are presented in the regional archaeological research framework (Petts and Gerrard 2006). This document clearly states that the prehistory (Neolithic, Bronze Age and Early Iron Age) of the North East is poorly understood (*ibid.*, 129, 132, 136). The

features recorded at Dunhouse Quarry potentially relate to episodes of settlement during these periods and may encompass two of the most important transitions in prehistoric Britain:

- the transition from hunting and gathering to farming during the Mesolithic/Neolithic transition, and the associated slow transformation of the landscape during the Neolithic and Bronze Age (*ibid.*, 25); and
- the transition from a landscape dominated by monuments to one characterised by settlements and field systems during the Neolithic, Bronze Age and Iron Age (*ibid.*, 35, 39).
- 7.11 Nationally these transitions and the nature of prehistoric subsistence are still poorly understood (EH 2010, 15; Hodgson and Brennand 2007, 39–50; Middleton *et al.* 1995, 204-6; Hodgkinson *et al.* 2000, 155–6; Manby *et al.* 2003, 42, 53, 68–9; Petts and Gerrard 2006, 129, 132, 136), though much academic debate exists.

### 8.0 ASSESSMENT OF THE SITE ARCHIVE

#### Initial analysis

- 8.1 As part of the assessment of the site records, archive consolidation and a brief initial assessment has been completed. Matrices have been drawn up for elements of the excavation showing the stratigraphic relationships between the individual contexts.
- 8.2 Plans and sections have been checked against context record sheets to ensure full cross-referencing. The photographic record produced during the fieldwork was mounted and catalogued by frame number in preparation for its deposition within the site archive. The drawings produced on site were scanned and digitised into AutoCAD software. Digital catalogues of context records (Appendix A), drawings, photographs, and a database of the artefacts and environmental samples have also been produced.

### Quantification of site archive

8.3 Environmental samples recovered during the groundworks were catalogued and processed prior to a brief specialist assessment (Campbell *et al.* 2011; EH 2008b). Finds from this phase were cleaned, identified, marked (where appropriate), catalogued and properly packed for long-term storage, in accordance with national

guidelines (EH 1995; Watkinson and Neal 2001; ClfA 2014b; Baker and Worley 2019).

8.4 Quantification of each category of the site archive has been undertaken; these are listed in Tables 3 and 4.

Table 3: Quantification of record categories

Record category	No.
Context descriptions	66
Plans	17
Sections	19
Monochrome prints	34
Digital shots	202

Table 4: Quantification of finds categories

Finds category	No.	
Prehistoric pottery	20 sherds (126g)	
Roman pottery	1 sherd (14g)	
Medieval and later pottery	10 sherds (42g)	
Quern	1 lower stone	
Glass bangle	1 fragment	
Other post-medieval/modern finds	3	
Environmental samples	12	

#### Recommendations for further work

- 8.5 In line with national guidelines (EH 2008a; HE 2015a and 2015b), and as outlined above (and detailed below), further work needs to be carried out to refine the dating of the remains and the pottery to provide a more comprehensive understanding of the recorded remains. This should be performed in conjunction with detailed analysis of the stratigraphic and spatial interrelationships of the features and deposits which comprise the site record. In particular, more accurate dating of the activity will be achieved through further analysis of the archive in combination with detailed specialist analysis and radiocarbon dating.
- 8.6 Further analysis of the archaeological record and synthesis of specialist information will be directed towards establishing a more comprehensive interpretation of the whole site with evidence-led conclusions clearly stated within an analysis report. This analysis will include a comparison of the evidence gathered with similar sites recorded in the North-East region.

#### Publication

8.7 Due to the importance of the evidence recorded during the mitigation works, and in line with both national and regional guidelines (EH 2008a, 14, and 2010, 17; HE 2015a, 21; Petts and Gerrard 2006, 137) the combined results of the analysis need to be published within a regional archaeological journal.

#### Storage and curation

- 8.8 The written, drawn and photographic records and artefactual and environmental evidence are currently held by NAA. Subject to finalisation of discard policies (particularly with respect to environmental material) and landowner permission, it is intended that the site archive will be transferred to the recognised repository at Sevenhills. All material has been appropriately packaged for long-term storage in accordance with national guidelines (Brown 2011; ClfA 2014b). Archiving work and preparation for deposition will be carried out in accordance with local policy and national guidelines (Brown 2011; ClfA 2014c; SMA 1995). Furthermore, the archiving of any digital data arising from the project will be undertaken in a manner consistent with professional standards and guidance (Archaeology Data Service/Digital Antiquity 2011).
- 8.9 An online OASIS form has been initiated. Upon completion of the project, all parts of the OASIS online form will be completed for submission to the Durham HER. This will include an uploaded PDF version of the final report (a paper copy will also be included with the project archive). The OASIS form will be validated by DCCAS once they have received the report, which will become a public document upon submission.
- 8.10 A copy of all reports and the full site archive will be deposited with the receiving museum on completion of the project. Deposition shall be in accordance with written guidelines on archive standards and procedures (Brown 2011; SMA 1995). In addition to the deposition of the archive, copies of all relevant reports will be deposited with the Durham HER, the Historic England Regional Science Advisor and the National Monuments Record.

#### 9.0 ASSESSMENT OF THE FINDS AND SCIENTIFIC ANALYSIS

#### Prehistoric pottery (Alex Gibson)

#### Archaeological potential

- 9.1 In total approximately 20 sherds (126g) of prehistoric pottery were recovered; almost all of this material derived from context 19, the fill of a palisade trench. The sherds from context 19 may be from an early Neolithic Carinated Bowl the first pottery to arrive in Britain from the continent at the start of the Neolithic in the 41st–39th centuries BC but which continued in use well into the 4th millennium (Gibson 2011, 69–71). Sheridan (2007) has distinguished between earlier (traditional Carinated Bowl) and later (modified Carinated Bowl) variants of the tradition, the first representing the earliest continentally-derived forms and the latter representing fairly rapid local variations of the type. The sherds from Dunhouse quarry, having fairly slack profiles, might find parallel with the traditional Carinated Bowls. The abraded nature of the sherd surfaces suggests that the vessel has been well-used and is probably from a domestic context.
- 9.2 The vessel is unusual, however, in having a very shallow rounded profile below the shoulder and, although this is not unparalleled in Carinated Bowls, is a form that can also be found in Late Bronze Age and Early Iron Age 'patera' forms, though, in northern England, these often contain calcite opening agents. On balance, an Early Neolithic identification is most likely and as such this vessel is an important local contribution to the Neolithic of Northern England falling between the rich areas of the Moors and Wolds of Yorkshire, and Northumberland

#### **Recommendations**

- 9.3 Further work is warranted on the material from context 19 and the following is recommended:
  - conjoining sherds were noted (in context 19), partial reconstruction by an experienced conservator should be undertaken;
  - the likely domestic nature of the vessel makes this an excellent target for lipid analysis to determine the original contents of the vessel. This will supplement the palaeoenvironmental data provided by other, more standard, means (macro fossils etc);
- ideally a radiocarbon date from any associated organic material should be obtained to confirm the dating of the pottery and supplement an increasing radiocarbon database for the Neolithic of northern England;
- the pottery from context 19 should be drawn;
- a full report on the pottery (from context 19) including local and regional comparanda should be prepared for publication; and
- further work is not required for the small undiagnostic sherds from contexts 16 and 18.

# Roman pottery (Ruth Leary)

# Archaeological potential

9.4 A single body sherd (14g) was recovered from the topsoil and submitted for assessment. The sherd was very abraded and came from a closed vessel such as a jar. Clear throwlines could be seen and there is no doubt it is well thrown. One horizontal grooved line can be seen on the surface. The decorative groove, the lack of hard firing and no trace of glaze suggests this sherd may be Roman. The fabric does not fit well into the fabric series recently established for Catterick and Scotch Corner but the abraded condition and lack of diagnostic features makes identification difficult. If Roman, it is likely to belong to the late 1st or 2nd century rather than any later.

# Recommendations

9.5 No further work is recommended, the sherd should be retained and deposited with the site archive.

# Medieval and post-medieval pottery (Charlotte Britton)

# Archaeological potential

9.6 Ten fragments (42g) of medieval and post-medieval pottery were recovered. Most of the assemblage was recovered from the topsoil, a single sherd of medieval pottery, however, was recovered from the fill of a plough furrow. The wares and forms in the medieval assemblage were utilitarian wares that were highly typical of a domestic medieval settlement in northern England. The post-medieval assemblage mainly

encompassed tablewares, with a single utilitarian ware included in the form a plant pot.

## Recommendations

9.7 All of the medieval and post-medieval pottery was typical of the periods and region and all but one sherd was recovered from the topsoil. No further study is therefore required, and the material is recommended for discard.

# Quern (John Cruse)

## Archaeological potential

9.8 The lower stone of a beehive quern of probable local lithology was recovered from context 21. Typologically, beehive querns have origins in the middle Iron Age but are most frequently found on Late Iron Age or post-Conquest 'native' settlements.

## Recommendations

9.9 The quern is of local/regional importance and should be illustrated and reported upon in full to publication standard.

## Recorded finds (Julie Shoemark)

# Archaeological potential

9.10 Five recorded finds were recovered: a fragment of chert, a glass bangle fragment, a fragment of modern glass, a toy marble and an iron object. None of these were from stratified contexts. The fragment of glass bangle is typologically dateable to the Roman period and is indicative of previously unknown Roman occupation in the vicinity of the site.

# Recommendations

9.11 Although there was only a single unstratified find of Roman date, the lack of previous evidence for Roman activity in the vicinity makes it noteworthy. The bangle should be retained as part of the site archive for deposition. The possible toy marble should also be retained as part of the site archive. The fragment of glass, the iron object and the fragment of chert cannot provide any further useful information about the site and should be discarded.

## Archaeobotany (Robin Putland and Gav Robinson)

# Archaeological potential

- 9.12 In total, 160 fragments (72.11g) of charcoal were recovered from the processed samples (Appendix G). No other artefacts or ecofacts were present. Three samples (contexts 7, 36 and 50) were sterile.
- 9.13 Context 16, the upper fill of ditch 14, contained the largest assemblage which consisted of 112 fragments (65.3g) and included fragments large enough to be radiocarbon dated. Also, this assemblage is large enough to warrant further analysis to identify the species present. The remaining contexts only produced smaller amounts of charcoal, with context 52 containing the next largest assemblage of 21 (4g) fragments.
- 9.14 Charcoal fragments of a suitable size for radiocarbon dating were recovered from contexts 16, 25 and 52. Some of the material from other contexts, while smaller, may also be within the suggested size for submission. Species identification must be attempted before submission so that samples from long-lived species (such as oak) are not sent. Additionally, twig charcoal should be favoured and heartwood fragments avoided. In this way, artificially young dates created by the 'old wood effect' (Waterbolk 1971; Gillespie 1984; Aitken 1990) can be minimised.
- 9.15 The contexts from which the charcoal flecks and smaller assemblages came probably contained residual and/or intrusive material. As such, few archaeological inferences can be drawn with precision from these remains. The larger fragments and the material from the larger concentrations (for instance, contexts 16 and 52) are suitable for further identification if deemed necessary.

# Recommendations

- 9.16 If required, material suitable for radiocarbon dating is present, but species identification must be undertaken before submission. Additionally, further analysis of the charcoal from the larger assemblages (for instance, contexts 16 and 52) could provide significant information if these contexts are from suitably significant phases of activity.
- 9.17 It is recommended that the material be kept until any radiocarbon dating or further analysis is completed.

## Magnetic residue (Rachel Cubitt)

# Archaeological potential

- 9.18 A total of 6.2g of magnetic residue was recovered from six separate contexts. For the most part, the material comprises minute fragments of metallic iron, iron concretion and stones that have become magnetised. Three of the contexts produced negligible amounts of spheroidal hammerscale, no more that 5% of the material present in any one case. No flake hammerscale was observed. Hammerscale is diagnostic of iron-smithing activity, with the spheroidal form being produced in the process of welding.
- 9.19 Hammerscale is only one category from the range of artefactual and stratigraphic evidence required to securely identify a locus of iron smithing. Furthermore, the quantities recovered from Dunhouse Quarry are negligible. From the debris incorporated in features within the excavation area, it is possible to infer that metalworking was taking place somewhere in the vicinity.

# Recommendations

9.20 The presence of hammerscale in the contexts listed above should be noted in the archive report for this site. The magnetic residues have no further potential and can be discarded from the site archive.

# Radiocarbon dating (Gav Robinson)

# Archaeological potential

- 9.21 The importance of radiocarbon dating (Libby 1955 and 1965) is clearly stated multiple times in all current regional, national and thematic research framework documents (for example Manby *et al.* 2003, 42; Haselgrove *et al.* 2001, 3–7; Petts and Gerrard 2006, 130–1, 136–7). Most of these guideline documents also highlight that multiple dating of the same material or context and the use of statistical analysis such as Bayesian analysis (Bronk Ramsey 1995 and 2009; Bayliss 2015) to refine the date rages achieved are routine requirements for most projects (Manby *et al.* 2003, 42; Haselgrove *et al.* 2003, 42; Haselgrove *et al.* 2003, 42; Haselgrove *et al.* 2001, 3–7; Petts and Gerrard 2006, 130–1, 136–7).
- 9.22 Based on the regional research framework and specialist recommendations, for this site there is a clear need to independently date material from contexts associated with the placed vessel and palisade trench 8. This would not only provide secure dating for

the analysis of the pottery, but would provide an accurate chronology for the excavated features.

- 9.23 The selection of material to be dated is crucial to the interpretation of the measured dates, careful consideration should be taken of the material submitted and the depositional processes that led to its inclusion within the contexts. This is an important issue that is fundamental to achieving a meaningful age measurement that will contribute to an accurate interpretation of the context in question (Bayliss 1998; Haselgrove *et al.* 2001, 5; Ashmore 1999). Additionally, the submission of unsuitable material for radiocarbon dating is not cost-effective because the measured dates will be questionable.
- 9.24 Only material from relatively short-lived species (such as nuts and seeds) and twig charcoal should be dated, and material that may be from long-lived species (such as oak) or heartwood fragments should not be submitted. In this way, artificially young dates created by the 'old wood effect' (Waterbolk 1971; Gillespie 1984; Aitken 1990) can be minimised.

# Recommendations

9.25 Once species identification has been carried out, suitable material from significant contexts should be chosen for radiocarbon dating. This should be focused upon dating the important pottery vessel and providing an outline chronology for activity on the site.

# Absorbed residue analysis (Gav Robinson)

# Archaeological potential

- 9.26 The vessel recovered at Dunhouse Quarry has been identified as a potential cooking vessel and, therefore, a prime candidate for absorbed residue analysis (Appendix B). The analysis of organic residues such as carbonised remains adhering to pottery, or fats preserved within the fabric, is a relatively new but important scientific tool for archaeological investigation (Petts and Gerrard 2006, 134, 151; Barnard and Eerkens 2007, 1; Oudemans and Boon 2007, 99; Berstan and Evershed 2009, 186; Heron and Evershed 1993).
- 9.27 This analysis has been successfully used to recover vital information relating to the ancient exploitation of commodities such as beeswax, animal fats and dairy products,

and the differing usage of certain forms of ceramic vessels (Roffet-Salque *et al.* 2015; Dudd and Evershed 2007; Berstan and Evershed 2009, 186; Shishlina *et al.* 2007, 29; Regert 2007, 61; Oudemans and Boon 2007, 99). The technique has been shown to be especially important in providing proxy data for Early Neolithic subsistence where animal bone preservation is poor (Cramp *et al.* 2014; Robinson *et al.* 2020). Additionally, absorbed residue analysis has been particularly useful in understanding dairying in the Bronze Age (Copley *et al.* 2005a) and the Iron Age (Copley *et al.* 2005b).

- 9.28 Analysis of single sherds (or indeed vessels) is not usually recommended due to the potential for individual sherds to not contain enough lipids. However, as the vessel at Dunhouse Quarry was intentionally placed it is of special importance and analysis is warranted (Appendix B). Additionally, as rim, body and base sherds were present, then analysis of three samples from along the vessel profile can be undertaken for the same cost as a single sample. This would be a cost-effective method for analysis of both the lipids present as well as an investigation of cooking methods (Julie Dunne pers. comm.).
- 9.29 The northern region of England has been identified as a relatively 'blank' area within larger studies of absorbed residues (see Rowley-Conwy *et al.* 2020, fig. 19.1; Copley *et al.* 2005a; Copley *et al.* 2005b). Therefore, absorbed residue analysis of sherds from the Dunhouse vessel, once these have been accurately dated, would potentially provide vital data relating to how prehistoric subsistence strategies in the North-East region compare to wider patterns.

# Recommendations

9.30 It is recommended that three samples from the base, body and rim of the pottery vessel from context 19 be subject to absorbed residue analysis.

# 10.0 RESEARCH OBJECTIVES

10.1 The further analysis of the remains uncovered during the Dunhouse Quarry mitigation works, once sequenced through radiocarbon dating, could contribute to several of the 'Key research themes' and 'Key research priorities' detailed within the regional research framework (Petts and Gerrard 2006). The relevant sections are presented below as potential research objectives of the recommended further analysis. The research objectives selected will, however, depend on whether the pottery from context 19 is of a Neolithic or a Late Bronze Age/Early Iron Age date.

## Neolithic/Early Bronze Age

## Key research theme NB2. Enclosures (Neolithic)

'Neolithic enclosures show considerable variation and need to be adequately characterised. Models of Neolithic enclosure based on examples in the south of England are insufficient to explain North-Eastern sites. Several enclosures survive as cropmarks and a programme of sampling and larger-scale survey work would secure information relating to their chronology and function' (Petts and Gerrard 2006, 129).

#### Key research priority NBii: Settlement chronology

'Enclosures are one of the suite of monument types known from the Neolithic of the North East, but they are often interpreted from work done in the south of England. It is still not clear how far these sites are a homogenous class of monuments, or whether there is considerable diversity. As with many other monument classes their chronology needs refining more precisely; the morphology of these sites, and the extent of activity within enclosures and within the surrounding area also need further research.'

'The pit groups of the Milfield Basin are unique in the North-East, but it is not clear how far this is merely a function of more intensive work in the area. Because they are relatively ephemeral, they may not have been recognised elsewhere. It is important that pit groups are adequately characterised, including their chronological range, any possible variation in date according to their geographical location and size, as well as their relation to other evidence for Neolithic activity, such as lithic scatters.'

'Refinement of the chronology of the Neolithic and early Bronze Age remains a central demand for researchers in the region. Trajectories of development vary significantly even within the region, and if these differing patterns of social change are to be synchronised and more refined models of change generated, it is essential to have greater chronological clarity.

'Important settlement sites are likely to be recognised during the development-control process, and contractors should be made aware of their importance, so that they can be picked up as early as possible (i.e. at evaluation stage). Care should be taken to identify any related contemporary features that may help to characterize the function of the site, particularly of Neolithic enclosures. Adequate provision for environmental sampling and analysis of the fill of these features should also be made.'

'A greater understanding of the chronology of Neolithic sites is indispensable to clarify the extent and nature of the archaeological resource. A requirement for absolute dating techniques should be written into briefs for development control archaeology on sites of this date' (Petts and Gerrard 2006, 131).

#### Key research priority NBvii: Material culture: ceramics

'Apart from Grimston Ware-type pottery, chronologies are poor for early prehistoric pottery in the region. Absolute dating should be attempted for those contexts from which pottery has been recovered... '

'The use of early ceramics should be investigated through residue and lipids analysis.'

'Provision should be made for the absolute dating of those contexts from which ceramics are recovered as part of the development-control process, where this can be achieved reliably' (Petts and Gerrard 2006, 134).

#### Late Bronze Age/Iron Age

#### Key research theme I1: Chronology

'The failure of chronologies based on settlement morphology and the lack of chronologically diagnostic material culture has led to uncertainty in the dating of later prehistory. This challenge can be met through increased use of absolute dating techniques in both research and development-control fieldwork. The use of multiple radiocarbon dating should be standard; where possible samples should be taken from contexts with stratigraphic relationships, allowing the use of Bayesian calibration of dates' (Petts and Gerrard 2006, 136).

#### Key research priority Ii: Chronology

'Scientific methods must be explored with the intention of providing firm dating for later prehistoric sites, for example optical dating of sediments where organic preservation is poor and thermoluminescence dating for ceramics. The relative lack of easily datable material culture and the failure of chronological models derived from settlement morphology means that absolute scientific dating techniques provide the best opportunity to establish a robust chronological framework for the later Bronze Age and Iron Age of the region. Although long-established, dating techniques such as radiocarbon dating have been greatly refined by the use of Bayesian statistical techniques and the use of new sampling techniques, such as the increased practice of single entity dating' (Petts and Gerrard 2006, 136).

#### Key research priority lii: Settlement

'The collapse of settlement chronologies based on morphology now means that it is timely to review typological systems of site classification. It is essential that rigorous new work is carried out to develop a secure chronology. Research on settlement archaeology should test survey-based typologies and establish firm chronologies, particularly in areas where they are lacking. Site function and role in social organisation, in particular the social role of settlements in the landscape, should be addressed. Simple models of settlement morphology provide an inadequate chronology for later prehistoric settlement in the region' (Petts and Gerrard 2006, 137).

## Key research priority liii: Landscapes

'Much archaeological work on the Bronze Age and Iron Age in the region has focused on individual settlements. There is now a need to balance this research through the identification and excavation of Late Bronze Age and Iron Age landscapes. In particular, more work is needed on later prehistoric subsistence strategies...' (Petts and Gerrard 2006, 137).

#### Key research priority Iv: Material culture: general

'Late prehistoric depositional practices provide insights into the symbolism and ritual of early societies in the North-East' (Petts and Gerrard 2006, 139).

## Key research priority Ivi: Material culture: ceramics

'The dating evidence for later prehistoric pottery in the region has often been based on stratigraphic evidence and settlement morphology. With the basis for their chronology now being undermined, the dating evidence for these ceramic assemblages should be re-assessed. The improved dating of later prehistoric pottery will, in turn, further its use as a diagnostic tool. The symbolic importance of the deposition of material culture in later prehistoric contexts is now more widely appreciated, not only the votive deposition of high quality metalwork, but also day-to-day refuse (cf. Hill 1995). A better understanding of deposition practices can help us to improve our understanding of later prehistoric ritual activity (cf. Pope 2003), and will allow more targeted sampling and increased recovery levels' (Petts and Gerrard 2006, 139).

#### Key research priority Ivii: Material culture: worked stone

'More work is needed on later prehistoric worked stone and should cover a large range of material from worked lithic assemblages to coarse stone tools and stone querns. Coarse stone tools in particular are often overlooked, but there are clear opportunities for research into their forms and the provenance of stone types. A new chronology of forms would be extremely useful, and could be matched by a careful consideration of the context of deposition' (Petts and Gerrard 2006, 140).

## 11.0 CONCLUSION AND RECOMMENDATIONS

- 11.1 Few archaeological features were present within the excavation area, but they were of considerable regional importance. The archaeological remains comprised three previously unknown areas of occupation, two of which were enclosed. The shapes of the enclosures and the distribution of features, however, indicated that the focus of activity was largely beyond the investigated area, limiting the potential for further analysis.
- 11.2 Few artefacts were present and only a small amount of charcoal was recovered. As a result, the chronology of the features and the sequence of developments present are not well defined.

- 11.3 Assessment of the results has identified that no further analysis is required upon:
  - the stratigraphical record;
  - the medieval phase of activity;
  - the Roman pottery;
  - the medieval and post-medieval pottery;
  - the undated, post-medieval and modern recorded finds; and
  - the magnetic residues.
- 11.4 The most significant find was part of a ceramic vessel, seemingly placed within a palisade trench close to its terminus (Appendix B). This vessel is of a form that could be Early Neolithic or Late Bronze Age/Early Iron Age in date and, due to its stratigraphical location (within the earlier enclosure), would provide a date for the replacement of the palisade with a ditched enclosure.
- 11.5 Reference to the regional research framework (Petts and Gerrard 2006) indicates that, due to the rarity of excavated examples of prehistoric palisaded enclosures, and the potential for obtaining associated radiocarbon dates, further analysis and the publication of the results is required (*ibid.*, 136–8). Additionally, these radiocarbon measurements would provide dating for the pottery vessel which, in turn, would strengthen the regional ceramic chronology (*ibid.*, 135). The vessel from context 19, once radiocarbon dated, is also an important candidate for absorbed residue analysis (*ibid.*, 134) as this would potentially provide important early prehistoric subsistence evidence, which is lacking in the North-East region (*ibid.*, 127, 137). These needs are further stated via specialist assessment of the pottery (Appendix B).
- 11.6 Additionally, further reporting should be undertaken on the quern, and this and the Roman glass bangle should be drawn.
- 11.7 The recommended analysis, however, should be proportionate to the limited scale of the investigation (HE 2015b); the lack of other significant artefactual and ecofactual material demonstrates that further work needs to be focused upon gaining absolute dating for the pottery and the enclosures. Additionally, successful radiocarbon dating

is reliant on the suitability of the material submitted and only short-lived material that is closely associated with the material in need of dating should be submitted (Waterbolk 1971). There is no point in sending material that is poorly suited to answer the research questions posed.

- 11.8 Due to the nature of the available material recovered from the Dunhouse contexts, it is therefore recommended that radiocarbon dating is focused upon only the most suitable samples from the most significant contexts. Therefore, further analysis of the charcoal and reporting is required (see Appendix G) to provide species identification to facilitate the submission of only the most suitable material for radiocarbon dating. It is clear that the contexts associated with the palisade and the placed vessel are archaeologically significant, so the search for suitable material for radiocarbon dating will focus on these contexts.
- 11.9 The results of the specialist analyses should be incorporated into a report along with the excavation results to establish a more comprehensive interpretation of the whole site. This analysis report will include a comparison of the Dunhouse Quarry remains within the wider regional perspectives. An article for publication within an archaeological journal will also be produced.
- 11.10 It is therefore recommended that, due to the importance of the archaeological remains and in line with guidance within the regional research framework, the following further stages of work be undertaken:
  - analysis and reporting on the charcoal assemblages that have fragments large enough for species identification (including those from contexts 16 and 52);
  - radiocarbon dating of the three most suitable samples from the most significant contexts;
  - absorbed residue analysis of three samples from the ceramic vessel from context 19;
  - reconstruction of the pottery vessel from context 19 by an experienced conservator;
  - illustration of the pottery vessel from context 19 and full reporting upon it including local and regional comparanda to publication standard;

- illustration of the glass bangle;
- illustration of the quern and full reporting upon it including local and regional comparanda to publication standard;
- the incorporation of the results of this analysis within a final report for publication within a regional archaeological journal; and
- the preparation and deposition of the site archive within the Sevenhills facility.

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## APPENDIX A

## CONTEXT AND FINDS CATALOGUE

Context	Group no.	Phase	Interpretative description	Relationships	Finds information (on site)	Sample information (on site)
1			Topsoil		Pot and glass	
2			Natural clay			
3	3		Group number for furrows			
4	3		Furrow			
5	3		Fill of furrow 4		Pot	
6			Pit			
7			Fill of pit 6			AAx1
8			Ditch			
9			Primary fill of	Section 2		
10			Primary fill of	Section 2		
11			Mid fill of ditch	Section 2		
12			Upper fill of	Section 2		
			aitch 14	Continue 2 Ales fill		
13			Layer	portion 2. Also fills upper portion of ditch 14. Same as 21 and 48		
14			Ditch			
1 5			Primary fill of	Sections 2 and 4		
15			ditch 14 Upper (main) fill	Sections 3 and 4		
16			of ditch 14	Sections 3 and 4		AAx4
1/	3		Furrow	Sections 3 and 4		
18	3		Fill of furrow 1/		Pot	
19			Primary fill of ditch 8	Sections 3 and 4	Placed ceramic vessel (RF1)	AAx3
20			Upper fill of ditch 8	Sections 3 and 4		
21			Layer	Same as 13 and 48. Section 4	Quern upper rough-out (RF2)	
22			Upper fill of ditch 8	Section 2		
23			Ditch	Section 5		
24			Primary fill of ditch 23	Section 5		
25			Upper fill of ditch 23	Section 5		
26			Primary fill of ditch 14	Section 5		AAx2
27			Upper fill of ditch 14	Section 5		
28		1	Gully	Southern partial ring-gullv		
29			Fill of gully 28	Section 7		AAx1
30			Fill of gully 28	Section 8		AAx1
31			Fill of gully 28	Section 9		AAx1
32			Gully	Northern angled gully		
33			Fill of gully 32	Section 10		AAx1
34			Fill of gully 32	Section 11		AAx1
35			Ditch			
36			Primary fill of ditch 35	Section 15		AAx1
37			Upper (main) fill of ditch 35	Section 15		AAx4
38			Primary fill of	Section 16		

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Context	Group no.	Phase	Interpretative description	Relationships	Finds information (on site)	Sample information (on site)
			ditch 35			
39			Fill of ditch 23	Section 6		
40			Fill of ditch 14	Section 6		
41			Ditch			
42			Primary fill of ditch 41	Section 12		
43			Lower fill of ditch 41	Section 12		AAx1
44			Slumped fill of ditch 41	Section 12		
45			Upper fill of ditch 35	Section 16		
46			Primary fill of ditch 35	Section 17		
47			Upper (main) fill of ditch 35	Section 17		
48			Layer	Overlies gullies 28 and 32, same as 13 and 21		
49			Primary fill of ditch 35	Section 18		
50			Fill of ditch 55	Section 18		AAx1
51			Mid fill of ditch 41	Section 12		
52			Upper (main) fill of ditch 41	Section 12		AAx2
53			Primary fill of ditch 41	Section 13		
54			Upper (main) fill of ditch 41	Section 13		
55			Ditch	Recut of ditch 35		
56			Primary fill of ditch 35	Section 14		AAx1
57			Mid fill of ditch 35	Section 14		
58			Upper fill of ditch 35	Section 14		
59			Primary fill of ditch 55	Section 14		
60			Upper fill of ditch 55	Section 14		
61			Mid fill of ditch 35	Section 18		
62			Upper fill of ditch 35	Section 18		
63			Primary fill of ditch 35	Section 19		
64			Mid fill of ditch 35	Section 19		
65			Upper fill of ditch 35	Section 19		
66			Fill of ditch 55	Section 19		

## APPENDIX B

#### PREHISTORIC POTTERY

Alex Gibson

#### INTRODUCTION

In September 2020, the writer was asked by Northern Archaeological Associates to undertake an assessment on the pottery from Dunhouse Quarry, Cleatlam, Co. Durham. The pottery was collected from NAA on 7th August 2020.

The pottery had been cleaned, sherds had been wrapped in acid free tissue and packed in selfseal plastic bags and a plastic finds box. The pottery was unpacked, laid out onto a finds tray and examined in good light. A x10 hand lens was used to examine the material to aid in examining the fabric. No microscopic or petrological analyses have been undertaken and so the fabric description here is liable to modification should such work be undertaken in the future.

Three contexts were represented, 16, 18 and 19. Context 16 produced a single small sherd (1g). Context 18 produced 6 small sherds (8g), and context 19 produced the larger assemblage of 13 sherds (117g).

No contextual information has been provided.

## DESCRIPTION

#### Context 16

Small sherd in a very thin, hard and gritty fabric with quartz and mica inclusions breaking the outer surface. The fabric has a laminated texture and it is difficult to detect with certainty whether the inner surface is present. The sherd measures up to 3mm thick, is undecorated and has no formal elements visible. It is almost certainly prehistoric in date but with so little of the vessel surviving, it would be rash to speculate further.

#### Context 18

Initial sorting and examination of the material suggests that three sherd groups (or vessels) may be represented.

#### Sherd Group 1

Four sherds (3g) in a hard, well-fired fabric. The fabric is black throughout, is some 7–10mm thick and contains abundant sand inclusions giving the sherds a slightly sandy texture though the outer surface is well finished. At least two sherds appear to join. There are no diagnostic formal characteristics and no decoration. The sherds are probably Later Prehistoric.

#### Sherd Group 2

A single sherd (1g) in a soft abraded fabric which is black throughout and which appears to contain grog inclusions giving it a slightly 'soapy' texture. The fabric measures 4mm thick.

There are no diagnostic formal characteristics and no decoration. The sherd is almost certainly Prehistoric but with so little of the vessel surviving, it would be rash to speculate further.

## Sherd Group 3

A single sherd (4g) in a hard, well-fired fabric with a brown outer surface, grey inner surface and black core. The fabric is c.8mm thick and contains abundant sand and quartz inclusions. There are no diagnostic formal characteristics and no decoration. The sherd is almost certainly Prehistoric but with so little of the vessel surviving, it would be rash to speculate further.

#### Context 19

Thirteen sherds (117g) in a hard but abraded fabric with black to brown surfaces and a black core. The fabric contains abundant crushed quartz inclusions many of which erupt both surfaces though these surfaces are very abraded. Two conjoining sherds, a rim and a body sherd, have the smooth brown outer surface surviving and may represent a different vessel but, surface survival aside, appear to be in an identical fabric. Quartz inclusions still erupt the surfaces of these sherds but to a lesser degree.

Rim sherds in both the eroded and the better-preserved fabrics exhibit simple rounded rims but with a slight internal lip. Again, the similarity of these rims suggests the same vessel.

The largest sherd seems to have a slack shoulder between a near-vertical neck and a rounded base. The latter suggests that the vessel may represent an early Neolithic Carinated Bowl – the first pottery to arrive in Britain from the Continent at the start of the Neolithic in the 41st–39th centuries BC but which continued in use well into the 4th millennium (Gibson 2011, 69–71). Sheridan (2007) has distinguished between earlier (traditional Carinated Bowl) and later (modified Carinated Bowl) variants of the tradition, the first representing the earliest continentally-derived forms and the latter representing fairly rapid local variations of the type. The sherds from Dunhouse Quarry, having fairly slack profiles, might find parallels with the traditional Carinated Bowls. The abraded nature of the sherd surfaces suggests that the vessel has been well-used and is probably from a domestic context.

The vessel is unusual, however, in having a very shallow rounded profile below the shoulder and, although this is not unparalleled in Carinated Bowls, is a form that can also be found in Late Bronze Age and Early Iron Age 'patera' forms though, in northern England, these often contain calcite opening agents.

On balance, an Early Neolithic identification is most likely and, as such, this vessel is an important local contribution to the Neolithic of Northern England falling between the rich areas of the Moors and Wolds of Yorkshire, and Northumberland.

#### FURTHER WORK

All recommendations below refer to the vessel from context 19 only. No further work is recommended for the small undiagnostic sherds from contexts 16 or 18.

• Conjoining sherds were noted so there is scope for partial reconstruction by an experienced conservator.

- The likely domestic nature of the vessel makes this an excellent target for lipid analysis to determine the original contents of the vessel. This will supplement the palaeoenvironmental data provided by other, more standard, means (macro fossils etc).
- Ideally a radiocarbon date from any associated organic material should be obtained to confirm the dating of the pottery and supplement an increasing radiocarbon database for the Neolithic of northern England.
- The pottery should be drawn.
- A full report on the pottery including local and regional comparanda should be prepared for publication.

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# APPENDIX C

## **ROMAN POTTERY**

#### Ruth Leary

A single body sherd (14g) was submitted to the author for identification. The sherd was very abraded and came from a closed vessel such as a jar. Clear throwlines could be seen and there is no doubt it is well thrown. The sherd was orange on the exterior and a drab buff on the interior with a broad dark-grey core. The inclusion comprised sparse, ill-sorted, angular quartz inclusion ranging from 0.1–0.5mm and sparse, fine rounded, soft brown inclusions, probably iron-rich clay pellets. Mica can be seen on the surface and there are other ill-sorted medium to coarse grey and black, rounded inclusions protruding from the surface. The sherd is somewhat soft fired.

One horizontal grooved line can be seen on the surface. The decorative groove, the lack of hard firing and no trace of glaze suggests this sherd may be Roman. The fabric does not fit well into the fabric series recently established for Catterick and Scotch Corner but the abraded condition and lack of diagnostic features makes identification difficult. If Roman, it is likely to belong to the late 1st or 2nd century rather than any later. The fabric does not compare well with known fabrics used for insular tradition pottery.

## APPENDIX D

## MEDIEVAL AND POST-MEDIEVAL POTTERY

Charlotte Britton

## INTRODUCTION

Ten fragments (42g) of medieval and post-medieval pottery were recovered during the 2020 excavations at Dunhouse Quarry.

## METHOD

This report presents the results of the assessment of that material examined in accordance with Barclay *et al.* (2016). The material recovered was assessed by eye on 13th August 2020. The material was organised by stratified deposit (context) and quantified by count and weight (Table D1). Wares and date were identified where possible, and vessel form and decoration were documented where practicable.

## Table D1: pottery sherds by count and weight

Context	Count	Weight (g)	
1	9	31.5	
5	1	10.5	
Total	10	42	

## OUTLINE OF THE ASSEMBLAGE

The assemblage dated to the medieval and post-medieval periods and was classified solely as domestic ware, including a plant pot (Table D2).

Context		1		5		Total count	Total
Ware	Period	Count	Weight (g)	Count	Weight (g)	Total Count	weight (g)
Gritty sandy	12th–14th	1	1			1	1
ware	century	I	I			I	I
Horticultural	19th–20th	r	4.2			r	4.2
ware	century	Z	4.2			Z	4.2
Reduced	14th–16th			1	10.5	1	10 5
ware	century			I	10.5	I	10.5
Transfer	19th–20th	1	2.1			1	2.1
printed ware	century	I	2.1			I	2.1
W/hitowaro	19th–20th	Г	24.2			5	24.2
wintewale	century	J	24.2			5	24.2
Total		9	31.5	1	10.5	10	42

Table D2: wares by period, count and weight

#### The medieval pottery

Two sherds (11.5g) of medieval pottery was recovered from two contexts. These represented two separate vessels and both sherds were in a good condition. The material was probably produced within the local region and the wares identified were highly typical of the period and area. The sherds were both utilitarian wares, taking the forms of unidentifiable hollow vessels, most likely representing jugs.

One sherd (1g) recovered from the topsoil (1) was a gritty sandy ware dating to 12th–14th century. It was dark orange to red in colour, with a sandy fabric that included frequent grits and mica. The sherd displayed smooth surfaces and was similar to examples previously recorded in the North Yorkshire area, specifically examples produced at Crayke (McCarthy and Brooks 1988, 232). The second sherd (10.5g), recovered from furrow fill 5, had a hard-reduced fabric with a buff surface, and displayed a light-green glaze that included brown speckles. As the surface was not fully glazed, this may have been a splashed glaze, typical of the period. It dated to between the 14th and 16th centuries, as similar examples recovered within the area show (*ibid.*, 226).

The fabrics and forms recovered within the medieval assemblage indicated that the vessels represented were utilitarian in nature, probably used in the preparation and consumption of food.

## The post-medieval pottery

A total of eight sherds (30.5g) of post-medieval pottery were recovered from the topsoil (1). The assemblage dated to the 19th–20th centuries and represented a maximum of four separate vessels, all in good to very good condition. All the pottery present was British in origin, probably produced within the local region, and the wares identified were highly typical of the period. They encompassed utilitarian and table wares and included horticultural ware, transfer-printed ware and whiteware. Items from the usual range of forms were identified including a jar, plate, plant pot and an unidentifiable hollow ware vessel. The only decoration in the assemblage was on the transfer-printed plate sherd, that displayed a dark blue border, typical of the ware and period.

## PROVENANCE OF OBJECTS

Most of the assemblage was recovered from the topsoil (1) and so was unstratified. A single sherd of medieval pottery was recovered from furrow fill 5.

## DISCUSSION

## The medieval pottery

The wares and forms present in the medieval assemblage were utilitarian wares that were highly typical of a domestic medieval settlement in northern England. The sherd of gritty sandy ware was recovered from an unstratified context and so it had very low potential to tell us about the people that inhabited the site during the period. The reduced ware sherd, however, may have been recovered from the fill of a plough furrow and so had higher potential to provide useful data on the people inhabiting the site around Dunhouse Quarry, during the medieval period. As the material was typical for the area, its significance to pottery studies beyond this site is low. The assemblage probably originated from production sites in the immediate or adjacent regions, dated between the 12th and 16th centuries, which suggests that the area around Dunhouse Quarry had a domestic population during this time. The wares and decoration present also intimated that this domestic community may have been rural and of simple means.

## The post-medieval pottery

The wares and forms present within the post-medieval assemblage mainly encompassed tablewares, with a single utilitarian ware included in the form a plant pot. The assemblage was probably associated with a domestic settlement located on or around the site during the 19th and 20th centuries. As all the assemblage was unstratified it had very low potential to tell as about the people that inhabited the site during this time, beyond indicating that there was domestic human activity in the area.

#### RECOMMENDATIONS

All the pottery recovered dated from the medieval and post-medieval periods and ranged from good to very good in condition. It was highly characteristic typical of the periods and region and most of the material was recovered from an unstratified layer. No further study is therefore required, and the material is recommended for discard.

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## APPENDIX E

## QUERN

#### John Cruse

## INTRODUCTION

The lower stone of a beehive quern of probable local lithology was recovered from context 21. Typologically, beehive querns have origins in the middle Iron Age but are most frequently found on Late Iron Age or post-Conquest 'native' settlements.

The stone was assessed from photos provided 5th August 2020.

## SUMMARY ASSESSMENT

Context 21: upper fill of ditch 8: potential Iron Age date.

Approximately 70–80% core fragment: it has been subjected to repeated impacts (five times?) to its grinding surface (G/S), which have led to the removal of 75% of its G/S edge. This is a well-recognised way to 'decommission' a quern, putting it beyond further use prior to deposition.

The apparently flat G/S appears to have circular wear, with the undamaged quarter showing signs of a 'lip', suggesting that the upper stone was a slightly smaller diameter.

The central area of the G/S has an irregular 40mm x 50mm hollow. This looks to be the site of a somewhat off-centre spindle hole, which was probably deliberately damaged when the quern was 'decommissioned'.

The outer surface of the drum-shaped quern was peck-dressed, but the relative flat 'base' is undressed (presumably because, being earth-set, it was not visible).

If the 'base' was horizontal, when in use, the G/S would have been quite significantly inclined (perhaps 30°). This could be the result of uneven wear, but if it is as marked as it looks, it was probably deliberate, (perhaps to ensure that the flour preferentially emerged on a favoured side).

Dimensions: G/S diameter c.310mm, base diameter c.120mm, height 100mm–160mm: Probably quite well-used.

Typological date: Beehive querns have Middle Iron Age origins, but are most frequently found in Late Iron Age or post-Conquest 'native' settlements.

Lithology: Difficult to judge from photos – but it looks to be a well-sorted greyish sandstone – presumably relatively local in origin.

#### RECOMMENDATIONS

The quern is of local/regional importance and should be illustrated and reported upon in full to publication standard.

## APPENDIX F

#### RECORDED FINDS

Julie Shoemark

#### INTRODUCTION

This report presents an assessment of the small finds and miscellaneous materials recovered during archaeological intervention at Dunhouse Quarry.

This report should be read in conjunction with the accompanying spreadsheet. A total of five finds were recovered. The report presents an assessment of the finds by material and by period, followed by a consideration of the archaeological significance of the assemblage and makes suggestions for any further work that may be required.

#### METHODOLOGY

The finds were assessed between the 13th and 18th of August. An X-ray of the ferrous object was examined in order to enable more accurate identification. The assemblage was assessed by material, quantified by count and weight and was assigned a functional group after Crummy (1983). The assemblage was then considered in terms of its stratigraphic relationship. An outline of the assemblage is presented below. Finds are presented by broad period (where dating is possible) and then by functional group. Where possible artefacts were assigned a broad period according to their stratigraphic relationship and by reference to comparators from the literature.

#### OUTLINE OF THE ASSEMBLAGE

The objects are discussed below by period and functional group. Of the four small finds recovered, three were unable to be assigned a broad period with certainty. A fifth find, a fragment of chert was recovered from layer 48. There was no evidence of modification and, as such, it is not discussed.

Table F1: summary	of assemblage b	by material and	l broad period
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Material	Roman	Modern	Unknown
Glass	1	1	
Iron			1
Stone/fired clay			1

#### Roman

#### Objects of personal adornment or dress (one object)

A curved fragment of glass bangle of Kilbride-Jones' Type 2 Ai (Ivleva 2018, 1) was recovered from topsoil 1. The fragment is D-sectioned with an unpatinated, relatively fresh break at either end. It has a translucent blue-green body with a single applied horizontal cord made of twisted opaque white and yellow-green glass applied to the apex of the band. The surviving original surfaces are patinated. Romano-British glass bangles first appear in Claudio-Neronian contexts in southern Britain and are believed to be one of the earliest varieties of glass bangle produced in Britain (Ivleva 2018). They reached a peak of popularity during the Flavian period, but are

still present in deposits dating to the 2nd century (Hoffmann 2008). Price (1988) notes that bangles of this type are closely associated with military presence in the North. This is supported by the general quantity of Type 2 bangles in the North relative to the southern Britain and the specific concentration around sites such as Vindolanda and York (Ivleva 2018; Hoffman 2008).

## Modern

## Household (one object)

A single, slightly curved shard of translucent green-brown glass was recovered from topsoil 1. It exhibits a small trail of air bubbles on the inner surface and a slightly uneven outer surface. It exhibits no patination, or other signs of weathering and is probably part of a bottle of 18th–20th century date.

## Unknown period

## Recreation (one object)

A possible fired-clay or stone toy marble was recovered from topsoil 1. The object consists of a smooth sphere with a buff and light-grey mottled surface with occasional red speckles. Similar examples have been recorded on the Portable Antiquities Scheme (PAS) database and dated to the 18th to early 20th centuries (cf. NLM-688E68; LON-F3D742).

## Unknown (one object)

A cylindrical iron object measuring 170.1mm in length and 30.8mm in diameter was recovered from topsoil 1. The X-ray shows a possible break on at least one end, possibly both. The object is heavily corroded and exhibits no diagnostic features.

## PROVENANCE OF OBJECTS

All four of the small finds recovered came from topsoil 1 and must therefore be considered as unstratified.

## DISCUSSION

Of the five finds recovered, none are from stratified contexts. The fragment of glass bangle is typologically dateable to the Roman period and the shard of glass is broadly dateable to the 18th–20th centuries.

The Roman bangle is indicative of previously unknown Roman occupation at the site. A single unstratified sherd of possible Roman pottery was the only other find of Roman date at Dunhouse Quarry and the nearest known Roman activity is the road between Bowes and Bishop Auckland approximately 1.2km to the north. Also, a single Roman coin was found on the village green at Cleatham (Cardwell 2015). Due to the fact that the bangle was found in an unstratified deposit, and the lack of other finds of Roman date, it is not possible to assess the extent or nature of possible occupation.

The game of marbles is known to have been played during the Roman period, however, the possible toy marble was unstratified and is more likely to be of 18th- to early 20th-century

date. Similar examples of 19th-century date are held in the Victoria and Albert Museum (Acc. no. B.329:1–17-2012).

It was not possible to identify the iron object due to a lack of diagnostic features. The size of the object suggests that it probably came from a larger object such as a piece of agricultural equipment.

## RECOMMENDATIONS

Although there was only a single unstratified find of Roman date, the lack of previous evidence for Roman activity in the vicinity makes it noteworthy. The bangle should be retained as part of the site archive and deposited with the designated repository.

The possible toy marble should also be retained as part of the site archive.

The shard of glass, the iron object and the fragment of chert cannot provide any further useful information about the site and should be discarded.

## TASK LIST

- Discard the fragment of chert, the iron object and the fragment of glass; and
- Deposit the bangle and toy marble as part of the site archive.

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# APPENDIX G

# ARCHAEOBOTANY

### Robin Putland and Gav Robinson

### INTRODUCTION

The samples taken from Dunhouse Quarry were processed inhouse, and artefacts and ecofacts were extracted and sorted. These consisted entirely of charcoal. The material was examined and assessed for its potential for radiocarbon dating and further analysis. Species identification of the larger concentrations is recommended if these derived from significant deposits. Material suitable for radiocarbon dating is present, but species identification must be undertaken prior to submission.

### METHOD

The bulk environmental samples were processed at NAA with 0.5mm retention meshes using the Siraf method of flotation (Williams 1973). The plant remains were identified to species by, as far as possible, using Cappers *et al.* (2006) and Jacomet (2006).

### OUTLINE OF THE ASSEMBLAGE

In total 160 fragments (72.11g) of charcoal were recovered from the processed samples (Table G1). No other artefacts or ecofacts were present. Three samples (contexts 7, 36 and 50) were sterile.

Context 16, the upper fill of ditch 14, contained the largest assemblage which consisted of 112 fragments (65.3g) and included fragments large enough to be radiocarbon dated. Also, this assemblage is large enough to warrant further analysis to identify the species present. The remaining contexts only produced smaller amounts of charcoal with context 52 containing the next largest assemblage of 21 (4g) fragments.

Deposit 19, the primary fill of ditch 8, contained three small flecks of charcoal. Context 25, upper fill of ditch 23, contained three fragments of charcoal. Context 30, fill of gully 28, contained two fragments of charcoal. Context 34, fill of gully 32, contained 12 flecks of charcoal. Context 37, upper (main) fill of ditch 35, contained five flecks of charcoal which were too small for further identification. Context 43, lower fill of ditch 41, contained two fragments of charcoal. and context 56, the primary fill of ditch 35, contained four fragments of charcoal.

Context	Part	Finds	Count	Weight (g)
7	AA	Sterile		
16	AA	Charcoal	112	65.3
19	AA	Charcoal	3	0.01
25	AA	Charcoal	3	0.4
30	AA	Charcoal	2	0.4
34	AA	Charcoal	12	0.5
36	AA	Sterile		
37	AA	Charcoal	5	1
43	AA	Charcoal	2	0.5
50	AA	Sterile		

Table G1: artefacts and ecofacts recovered

Context	Part	Finds	Count	Weight (g)
52	AA	Charcoal	21	4
56	AA	Charcoal	4	0.3
Total			160	72.11

### PROVENANCE OF OBJECTS

As none of the material came from cohesive dumps or rapidly formed accumulations of waste, caution is advised in interpretation as well as during the choosing of material for submission for radiocarbon dating.

#### DISCUSSION

Charcoal fragments of a suitable size for radiocarbon dating were recovered from contexts 16, 25 and 52. Some of the material from other contexts, while smaller, may also be within the suggested size for submission. Species identification must be attempted before submission so that samples from long-lived species (such as oak) are not sent. Additionally, twig charcoal should be favoured and heartwood fragments avoided. In this way artificially young dates created by the 'old wood effect' (Waterbolk 1971; Gillespie 1984; Aitken 1990) can be minimised.

The contexts from which the charcoal flecks and smaller assemblages came probably contained residual and/or intrusive material. As such, few archaeological inferences can be drawn with precision from these remains. The larger fragments and the material from the larger concentrations (for instance contexts 16 and 52) is, however, suitable for further identification if desirable.

#### RECOMMENDATIONS

If required, material suitable for radiocarbon dating is present, however, species identification must be undertaken before submission. Additionally, further analysis of the charcoal from the larger assemblages (for instance contexts 16 and 52) could provide significant information if these contexts are from suitably significant phases of activity.

It is recommended that the material be kept until any radiocarbon dating or further analysis is completed.

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# APPENDIX H

### MAGNETIC RESIDUE

Rachel S. Cubitt

#### INTRODUCTION

The magnetic residue extracted from soil samples taken during excavation at Dunhouse Quarry (DSQ20) was assessed and some hammerscale observed. However, the small quantities present and lack of other evidence for metalworking means that little inference can be drawn from this material.

### METHODOLOGY

A magnet was used to separate magnetic residue from the flots/residues remaining following flotation of soil samples. These residues were examined under a x10 magnifying lens and their contents noted. The presence/absence of hammerscale was noted in an Excel database using a qualitative method where the proportion of material comprising hammerscale was recorded as a percentage. The assessment was carried out in September 2020.

### OUTLINE OF THE ASSEMBLAGE

A total of 6.2g of magnetic residue was recovered from six separate contexts. For the most part, the material comprises minute fragments of metallic iron, iron concretion and stones that have become magnetised. Three of the contexts produced negligible amounts of spheroidal hammerscale (see Table H1), no more that 5% of the material present in any one case. No flake hammerscale was observed. Hammerscale is diagnostic of iron-smithing activity, with the spheroidal form being produced in the process of welding.

Table	H1:	presence/absence	of hammerscale	within	the	magnetic	residues	recovered	from
Dunho	ouse	Quarry				-			

Context	Weight (g)	Spheroidal hammerscale	Flake hammerscale
7	1	5%	0%
16	0.5	5%	0%
19	0.7	0	0%
37	2.9	5%	0%
52	0.7	0%	0%
56	0.4	0%	0%

# PROVENANCE OF THE OBJECTS

The contexts that produced the magnetic residues were all fills of archaeological features. All came from ditch fills with the exception of context 7, which was a pit fill.

### DISCUSSION

Hammerscale is only one category from the range of artefactual and stratigraphic evidence required to securely identify a locus of iron smithing. Furthermore, the quantities recovered from Dunhouse Quarry are negligible. From this material is it possible to infer that metalworking was taking place somewhere in the vicinity, and that at least some of the debris became incorporated in the archaeological features present within the excavation area. It can be postulated that this was by chance, rather than the result of deliberate deposition, a process that may have resulted in larger quantities of material and a greater variety of types of debris being present. It is not possible to make any comment on the size or scope of the industry.

### RECOMMENDATIONS

The presence of hammerscale in the contexts listed above should be noted in the archive report for this site. The magnetic residues have no further potential and can be discarded from the site archive.



Dunhouse Quarry, Staindrop, County Durham: site location

Figure 1







Dunhouse Quarry, Staindrop, County Durham: Enclosure A and unenclosed gullies



<sup>AA 2020</sup> Dunhouse Quarry, Staindrop, County Durham: palisade slots 8 and 23, and ditch 14 Figure 4



Dunhouse Quarry, Staindrop, County Durham: unenclosed gullies 28 and 32

Figure 5



©NAA 2020 Dunhouse Quarry, Staindrop, County Durham: north-western corner of Enclosure B Figure 6