



Hallsteads, Dove Holes, Buxton

Derbyshire

Archaeological Test Pit Evaluation Report



Oxford Archaeology North

August 2013

Issue No: 1430

OA North Job No: L10633

CgMs Ltd

NGR: SK 07857823

Document Title: HALLSTEAD, DOVE HOLES, BUXTON

Document Type: Archaeological Test Pit Evaluation Report

Client Name: CgMs Consulting Ltd

Issue Number: 1430/2013

OA Job Number: L10633

Site Code: DH13

National Grid Reference:

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SUMMARY

Oxford Archaeology North were commissioned by CgMs Ltd, acting on behalf of Mr Robert Critchlow, to undertake a test pit evaluation of approximately 3.2ha of land to the north-east of Dove Holes, Buxton. The work was requested by Steve Baker (Development Control Archaeologist for High Peak Borough Council), in response to an outline planning application (HPK/2012/0542) to develop the site for new housing. It is intended that the results of this exercise will inform the scope of further investigation and mitigation works, to be secured by an appropriately worded planning condition.

The principal objective of the test pit survey was to determine the presence or absence of features or lithic artefacts at the site, given the close proximity of the Bull Ring Henge Scheduled Monument (SM 305997), which lies several hundred metres to the south. The fieldwork was completed between the 15th and the 19th of July 2013 and comprised the excavation of 277 hand-excavated shovel test pits, which were sieved on site for the retrieval of lithic artefacts. Naturally-occurring, angular, shattered chert was almost ubiquitous. Struck lithic artefacts (usually made from local chert or an agate-type material) were recovered, in low frequencies, from 118 of the 277 test pits, distributed widely over the development area. Some of the test pits, predominantly those located in the west and south-west of the area, contained slightly higher-frequencies of worked material than was generally present, which may suggest more intensive activity is focussed in this part of the site. Three pits, in close proximity to each other in the southern part of the site, each contained a struck piece of, what is possibly, Aran pitchstone. Occasional pieces of worked flint, a material that is not native to the local geology, were also recovered from several of the test pits.

The presence of the lithic artefacts provides evidence for human activity in this area, probably in the Mesolithic or Early Neolithic periods, which could pre-date the Bull Ring Henge, at least in its final form. The precise nature and intensity of the activity cannot be determined from the information presently available, although settlement cannot be ruled out. The presence of exotic lithic material at the site, particularly the possible pitchstone, is of some interest, as, if this is indeed pitchstone, it represents a southerly outlier of the presently-known distribution of this material.

ACKNOWLEDGEMENTS

The fieldwork was carried out by Aidan Parker and supervised by Andrew Frudd, who also wrote this report. The lithics were assessed by Aidan Parker and the figures were compiled by Mark Tidmarsh and Anna Hodgkinson. The project was managed by Simon Mortimer (CgMs), management for OA North was undertaken by Fraser Brown, who also edited this report.

1 BACKGROUND

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Oxford Archaeology North (OA North) produced an archaeological Written Scheme of Investigation (WSI; *Appendix 1*) at the request of CgMs Ltd, acting on behalf of Mr Robert Critchlow. It detailed the intended methodology to be employed for an initial phase of evaluation of an area of land at Dove Holes, Buxton (Fig 1), which is subject to an outline planning application (HPK/2012/0542) for new housing. The evaluation methodology is detailed in Section 2; in summary this comprised the excavation of 277 shovel test pits, on a 10m-spaced grid over the site, in order to test for the presence absence of archaeological features or worked lithic materials. This was requested (*Section 1.2*) because of the close proximity of the Bull Ring Henge Scheduled Monument (SM 305997). The results from this exercise will inform It is intended that the results of this exercise will inform the scope of further investigation and mitigation works, to be secured by an appropriately worded planning condition.. This report presents the results of the initial evaluation.
- 1.1.2 The application site comprises a roughly triangular-shaped area of some 3.2 ha (Fig 2), located on the north-eastern side of Dove Holes, to the rear of properties fronting Hallsteads. The site is bordered by The Meadows residential development to the south and, to the north, by Black Brook. It lies immediately adjacent to the site of a former quarry, and the former line of the Peak Forest Tramway, which lies in a cutting to the east. A public footpath runs across the site. This area is noted on the Historic Environment Record as one of historic importance, because of its proximity to elements of the eighteenth-century Peak Forest Tramway and the prehistoric Bull Ring henge (*Section 1.3*).
- 1.1.3 The site lies on the edge of the Carboniferous Limestone, to the west lie gritstones of the Carboniferous Millstone Grit series. The solid geology underlying the site comprises the limestone of the Monsal Dale Beds of the Dinantian (Carboniferous Limestone Series; Geological Survey of Great Britain (England and Wales), Sheet 99, 1:50,000 Series).

1.2 PLANNING BACKGROUND

- 1.2.1 The advice provided by Steve Baker (Development Control Archaeologist for High Peak Borough Council) in relation to Application HPK/2012/0542, dated 27th March 2013, was that the site has:

considerable archaeological potential due to its proximity to the Bull Ring henge monument at Dove Holes. This prehistoric earthwork – one of only two in the Peak District – is a scheduled monument (SM 23282) and lies 230m south of the application boundary. Henge monuments are thought to have provided a ritual and community focus for scattered and seasonally mobile prehistoric communities, and tend, therefore, to be associated with concentrations of other prehistoric monuments, sites and find spots in the vicinity. The shallow upland valley, within which Dove Holes lies, may have been an important routeway in prehistory – later reflected in the route of the Buxton-Melandra Roman road, and, indeed, the modern A6 - with burial monuments known from Cow Low and Lady Low to the west and Bee Low to the east, and significant late Mesolithic and early Neolithic archaeology recently excavated at Waterswallows Lane, 2km to the south of

the proposal site.

Aside from potential for below-ground archaeology, the site borders on a quarry, bridge and cutting (HER 29932, 29931 and 29957) associated with the Peak Forest Tramway, dating from the late-eighteenth century. Development of the site could cause both direct and indirect (setting) impacts to these assets.

1.2.2 This letter goes on to state that it is a requirement of the National Planning Policy Framework (NPPF; DCLG 2012; para 128) that:

applicants establish the significance of heritage assets within a development site, and to assess the impact of the development proposals upon those assets. Because the application does not contain any such heritage assessment it does not meet the information requirements of NPPF para 128 and should not, therefore, be granted consent in its current form.

1.2.3 In order to bring the application in line with NPPF para 128, it was recommended that the following work be carried out:

- an archaeological field evaluation of the site, at the pre-application stage, comprising a combination of trial trenching and test pitting – to test for buried archaeological features and lithic material within the site;
- a ‘Heritage Statement’ that will report on the results of the field evaluation and also include an assessment of the Peak Forest Tramway remains, on or adjacent to the site, and of the proposed impacts to these assets.

1.3 ARCHAEOLOGICAL BACKGROUND

1.3.1 As the site lies in close proximity to the Bull Ring henge, it has a high archaeological potential. Other such henge monuments, for example Arbor Low – also in Derbyshire, are known to be surrounded by scatters of worked lithic material, indicating fairly intensive use of the surrounding landscapes in prehistory (Evans and Seaborne 2001).

1.3.2 The Bull Ring, is a Class II henge, with an external diameter of 93m by 90m, and comprises a bank and internal ditch surrounding an oval area, measuring 53m from north to south by 46m from east to west. Today, the steep-sided rock-cut ditch varies between 8m and 12m wide and between 0.5m and 1m deep. Partial excavations carried out by Alcock (1950) in 1949, demonstrated that, originally, it measured 5m to 6.5m wide and was between 1.2m and 2.1m deep. The surrounding bank is presently around 1m high, although it would have originally been higher when first constructed. There are opposing entrances to the north and the south of the bank, where 0.9m-wide causeways cross the ditch. Some 20m to the south-west of the henge, is a probable oval barrow, with a bowl barrow superimposed on its western end. Alcock's excavations retrieved several flint flakes and the rim from a food vessel, and an excavation in 1984 (Barnett 1988) also produced numerous flint flakes, a sherd of Roman pottery, and post-medieval material associated with evidence for ploughing. Magnetometry and resistivity survey was carried out within the monument in 2000 (Martin 2001), although the results were, overall, a little disappointing, doing little to further elucidate the form of the henge or identify any internal features.

1.3.3 In advance of the construction of The Meadows housing estate, in the area immediately

adjacent and to the south of the present application area, an archaeological evaluation was undertaken by Arcus (1997 a and b). This included topographical, magnetometry and resistivity survey, and the monitoring of the mechanical cleaning of one field, and the examination and recording of any archaeological features present within it. The latter produced a single struck flint and identified no archaeological features. Several features were recorded by the topographical survey, including areas of medieval/post-medieval ridge and furrow and pits and dumps considered to derive from post-medieval quarrying activity. No anomalies of archaeological origin were detected by the magnetometry survey. The resistivity survey detected several linear anomalies, as well as discrete anomalies that often corresponded with the surface features recorded by the topographical survey.

1.4 OXFORD ARCHAEOLOGY NORTH

- 1.4.1 Oxford Archaeology North (OA North) has considerable experience of the archaeological investigation of sites of all periods, having undertaken a great number of small and large scale projects throughout northern England, including Derbyshire, during the past 30 years. OA North is an Institute of Field Archaeologists (IfA) registered organisation, number 17, and all its members of staff operate subject to the IfA Code of Conduct. A rigorous approach is taken towards health and safety and our staff are CSCS accredited. OA North are insured for third party liability and carry Public, Employers' and Professional indemnity.

2 METHODOLOGY

2.1 FIELDWORK METHODOLOGY

- 2.1.1 The evaluation comprised a shovel pit survey over the entire site, apart from a quarry, in the north-east of the site, and discrete areas, which were covered in spoil heaps or other dumped material (Fig 2). Mr Critchlow, who owns the southern extent of the site, had indicated that much of his land was formerly used as a construction compound for the residential development to the south and has previously been stripped of topsoil and stoned up. Test pits identified the compound (Fig 2), and this area was defined and excluded from the survey, as it could not practicably be sampled, due to the compacted nature of the stone surfacing used to construct it. A sewer that crosses site, was not identified, apart from, tentatively, where it conjoined with the compound (Fig 2). Provision had been made to excavate 316 shovel pits, distributed evenly over the site on a 10m grid – however, in the event it was only possible/necessary to excavate 277 test pits (Fig 2; *Appendix 2*)
- 2.1.2 All aspects of the evaluation were conducted in accordance with the Institute for Archaeologists' *Code of Conduct, Standard and Guidance for Field Evaluation* (IfA 2008). Evaluation techniques were selected to cause the minimum amount of destruction and complied with all relevant health and safety regulations. All of those working on site were made aware of the significance and history of the site.
- 2.1.3 The shovel pit testing was undertaken because the site is grass-covered, and, as such, there are no soil-exposures that might reveal artefacts in the topsoil. A grid was established over the site by means of DGPS instrument survey. At 10m intervals across the grid, small shovel pits (0.25m by 0.25m in size) were excavated to a maximum depth of 0.30m (Fig 2; *Appendix 2*), typically representing the size of a sod of earth lifted by a shovel/spade blade.
- 2.1.4 The sod was broken up and examined by eye for lithics and other artefacts and all the arisings were passed through a coarse (10mm) hand sieve. Those shovel pits that produced artefacts were located using a survey-grade DGPS, and the artefacts were bagged and labelled by pit and retained for subsequent analysis. In practice, as there was a large amount of naturally-occurring chert present at the site, which precluded the rapid and confident identification of struck lithic material in the field, all potentially-worked lithic pieces were collected for subsequent close study and discrimination (*Section 2.2*). No archaeological features were identified within the pits, so no stratigraphic recording took place beyond logging the nature and form of the apparent ploughsoils, subsoils and natural geology (*Section 3; Appendix 2*). Each pit was reinstated by backfilling it with the excavated soil, replacing the sod and trampling it down.

2.2 LITHIC ASSESSMENT METHODOLOGY

- 2.2.1 An initial rapid overview of the lithic material retrieved from the test pits suggested that the majority of the recovered chert was of local natural origin, although some worked pieces of chert, flint and other material were also present. In order to quickly distinguish

the worked material from the angular and blocky unworked or plough-shattered chert, the lithic material from each test pit was laid out and searched for any regular pieces or chunks that showed potential flake scars on their principal faces. In practice, it was found that potential struck lithic pieces were easy to identify by eye, due to their more regular morphology. Any potential struck lithics were then washed and examined macroscopically for the presence of technological features such as conchoidal fractures, dorsal face scars, bulbs of percussion, platforms and associated platform preparation in order to confirm their identification. Each piece was then assigned to a category within a basic classification system and recorded in spreadsheet format (*Appendix 3*). Lithic frequencies were then plotted onto a site plan (Fig 2), in order to inform on any potential areas of concentrated activity. The results are discussed in *Section 3.3*.

3 RESULTS

3.1 TEST PITS

3.1.1 Some 277 of the 316 originally-proposed test pits were excavated (Fig 2) For various reasons, 39 could not be excavated. Of the test pits that could not be excavated, TP016 and TP017 lay beyond the southern boundary of the field, the former in a garden and the latter in the tarmac footpath. Test pits TP084 and TP099 lay beyond the eastern boundary of the field. Test pits TP154 and TP165 were not excavated as they coincided with the position of modern spoil heaps. Test pit TP064 was above a concrete slab, thought to be associated with a sewer that is known to run through the site. Nine test pits (TP16-7, TP10-12, TP27-9 and TP41) were not excavated as they lay within the area of a former compound, identified by test pits TP015 and TP038-40, and indicated by the extent of Topsoil 4 (*Section 3.2.1*). Twenty-three test pits (TP241-2, TP249-51, TP255-9, TP263-6, TP270-2, TP276-7, TP282, TP287, TP292 and TP297) lay within the area of a disused quarry, in the north-east of the site (Plate 1).



Plate 1: North-facing view of the quarry

3.1.2 The results of the lithic assessment are discussed in detail within *Section 3.3.3*. In terms of the distribution of the lithic material, the vast majority of this was recovered from the topsoils (*Section 3.2.1*), although some material was also recovered from the subsoils (*Section 3.2.2*). This could, however, reflect an inherent methodological bias, as the depth of the topsoils meant that the subsoils were not always sampled in every test pit, and, where sampled, they were not always sampled to their full depth.

- 3.1.3 The test pits (118) containing some lithic material had a very wide distribution over the site (Fig 2). The 159 test pits that contained no lithic material had a similarly wide distribution, but there was some clustering of negative results in the extreme south-west, extreme north and in the east of the site. Conversely, those test pits that contained the greatest number of flints appeared to concentrate in a south-east/north-west orientated band, towards the south-west of the site. This was centred on TP076, TH090 and TP104-5, which all produced more than six pieces of flint each.
- 3.1.4 The shovel test pit survey successfully sampled all viable areas of the site that have the potential to contain archaeological activity. Generally, the patterning within the lithic distribution seems to exhibit a coherent structure, which suggests that it has valid spatial integrity (*ie* the lithic pieces are, potentially, largely *in situ*, rather than having been widely dispersed by site deformation processes or imported, for instance, in topsoil *etc*). If this lithic distribution is accepted, as a proxy for prehistoric activity, then it indicates potentially-significant areas of this, particularly in, but not necessarily restricted to, an area towards the south-western part of the site.

3.2 STRATIGRAPHY

- 3.2.1 The detailed descriptions of each test pit are presented, in tabular form, within *Appendix 2*. A generally representative stratigraphic sequence is depicted in Plate 1. There were four topsoil deposits (Topsoil 1-4) recorded across the site, which probably represent variations in the same generic deposit, representing slightly different land uses in the past. It is possible that these variations to topsoil composition may be due to levelling and ploughing of spoil heaps, although this cannot be correlated with the observed lithic distribution, so, if this has occurred, there may have been little or no impact on any sub-surface cultural deposits that may be present. Topsoils 1 and 2 two occurred in the majority of the test pits, and Topsoils 3 and 4 were more localised in their distribution.

Topsoil 1: was a dark brownish-grey, friable, silty clay. This occupied the western side of the site.

Topsoil 2: was a mid-dark greyish-brown, firm-friable, silty clay. This occupied the eastern part of the site.

Topsoil 3: was a mid yellowish-brown, friable silty clay with a high concentration of stone. This was present across a c 40m² area, at the northern end of the site.

Topsoil 4: was a dark brownish-grey, silty clay with approximately 50% stone. This extended over the area of the former compound and did not occur elsewhere on the site.

- 3.2.2 There was also variation in the composition of the subsoils, with four distinct types of subsoil (Subsoil 1-4) being identified in different parts of the site. This variation probably relates to differences in the underlying geology, from which the subsoils were most likely derived, but, as the underlying geological deposits were not commonly exposed within the shallow shovel test pits, this can only presently be surmised.

Subsoil 1: was a firm dark blue/grey clay with yellow mottles. This occurred in the north

of the site, the south of the site, and in a west/east band, in the central part of the site.

Subsoil 2: was a mid yellow-brown silty clay. This had a patchy distribution over the southern half of the site.

Subsoil 3: was a mid grey-brown sandy clay. This occurred in a c 40m² area, in the south-western part of the site.

Subsoil 4: was a firm light yellow-brown silty clay. This occurred in two discrete areas, one possibly relating to the sewer (Fig 2), in the central southern part of the site, and one in an area c 40m², in the east of the central part of the site.



Plate 2: Representative stratigraphic sequence within test pit, showing topsoil over subsoil over the natural-occurring geology (clay)

3.3 LITHIC ASSESSMENT

3.3.1 **Introduction and Quantification:** some 5323 lithic pieces were collected on site and included as part of this assessment. This study of the material revealed that 5059 of the recovered pieces, were either formed through natural agency or non-archaeological human action, such as ploughing. As such, they will only be considered in order to make a statement about the physical properties of the locally-available raw material and will then be discarded. Some 264 struck lithics, which are judged to be examples of lithic working,

have been included in the results presented in this report (*Appendix 3*). These were distributed through 118 of the 277 test pits, with much of this material occurring in pits located in the south-western corner of the field (Fig 2). This report presents the preliminary quantification and assessment of the struck lithic material including its technological and chronological traits.

- 3.3.2 Of the 264 worked lithic pieces (Table 1), blades and flakes are the most frequently occurring types, with total counts of 99 and 89 respectively (*Appendix 3*). The remaining material is divided primarily between angular chunks that show signs of working, cores and related technological pieces and potentially retouched pieces or pieces possibly showing evidence for utilisation.

Classification	Total
Blades (including broken and blade-like flakes)	101
Chunks	46
Cores (including fragments)	7
Core trimming	4
Flakes (including broken)	90
Flaked chunk	5
Retouched	2
Utilised/Worn edge	9

Table 1: Broad counts for main classifications

- 3.3.3 **Results:** the majority (approximately 90%) of the material recovered comprised chert, which is unsurprising, as this is present within the local geology. Smaller quantities of an agate-type material also occurred in an unworked form, and limestone was occasionally collected. Chert and then agate were the most commonly-utilised materials for tool manufacture (*Appendix 3*), although worked examples of an orange ‘pebble-type’ flint and a ‘glassy’ material, resembling Scottish pitchstone, were also retrieved in small quantities.
- 3.3.4 Based on colour, the chert can be divided into two main types: a black chert and a grey chert. Within this general colour scheme each main type can be sub-divided by differences in hue of the main colour and this is likely to reflect the varied lithological conditions within any one seam of parent material. Both the grey and black chert are fine to medium grained, with a dull lustre. However, the black material tends to have a greater size range and number of inclusions than the grey. Both types are heavily flawed, with linear planes of weakness resulting in an irregular, blocky, tabular morphology for the majority of pieces. Cortex was minimal but, when present, tended to be thick and coarse on its outer surface, indicating that material has been derived from local bedrock sources.
- 3.3.5 Regarding the assessment of this particular assemblage, it is important, initially, to clarify the difficulties inherent in identifying truly worked lithics from those shattered by other means *eg* frost or plough-strike. Whilst worked lithic material is unquestionably present on the site, some confusion between naturally-formed and struck pieces is possible, due to uncertainties regarding taphonomy – the fact that the material was recovered from a,

secondary, topsoil environment – and the local prevalence of geological chert.

- 3.3.6 The largest portion of the worked material falls into the ‘blade’ category, and the bulk of the assessed assemblage supports a primary focus on the production of long thin blades (between 20-40mm, with an average width of 5mm). The two cores and five potential core fragments recovered are cylindrical in nature and the scarring on them shows distinct narrow blade removals. The core from test pit TP076 is a particularly good complete example of such, showing evidence for opposed platform working. Similarly the plunging overshot removals from test pits TP273 and TP293, identified as core trimming flakes, also show scarring from blade removals, on their dorsal faces. At their distal ends, this scarring can be seen repeated around the whole of the piece, as if removed from another cylindrical-shaped blade core. These two represent half of the total core maintenance pieces identified. The blade count is slightly higher than one would expect, but this may be due to the previously stated (*Section 3.3.5*) difficulties in identifying the worked material. Notwithstanding this, however, the presence of definite blade-core technology is strongly indicative of a blade-orientated focus for the lithic working.
- 3.3.7 The unmodified flake debitage of the assemblage was equally divided between pieces of between 10-25mm and larger flakes of between 25-50mm, with nearly half their number again appearing as incomplete or broken flakes. The morphology of the chert material is not one that lends itself to flaking easily, although a lot of the chunks and other angular pieces often featured negative flake scars on them, showing that several attempts to work the material had been made. Either this material was discarded as unsuitable or the chunks represent larger pieces that shattered whilst working rendering them unusable. It is possible that such removals were the initial stages of reduction in the ultimate production of blades.
- 3.3.8 A small number of possibly utilised pieces were recovered. Primarily, these fell into the blade category. While only two pieces (from TP037 and TP275) bore evidence for potential retouch, nine others showed signs of potential edge use. The possibility that this use wear could actually have derived from plough damage must be entertained, but the bulk of these pieces came from test pits within the areas where there was, generally, a higher concentration of worked lithic pieces. For this reason their authenticity seems likely.
- 3.3.9 **Conclusion:** despite some difficulty in unequivocally identifying every individual instance of lithic working (*Section 3.3.5*), overall, there is compelling evidence for lithic working taking place at the site. Despite only a small-sized assemblage having been recovered and assessed, this suggests that this activity took place between the Late Mesolithic and Early Neolithic periods, and, as such, it potentially pre-dates the construction of the Bull Ring henge monument. Although it is presently difficult to extrapolate any detailed information regarding the character and purpose of the evidenced prehistoric activity, the presence of quantities of struck lithic material, including ‘foreign’ materials, such as the pebble flint and the pitchstone-like glassy material, and the fact that, (possibly) subsequently, a henge monument was constructed in close proximity to the site, may suggest that it was of some significance.

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ILLUSTRATIONS

FIGURES

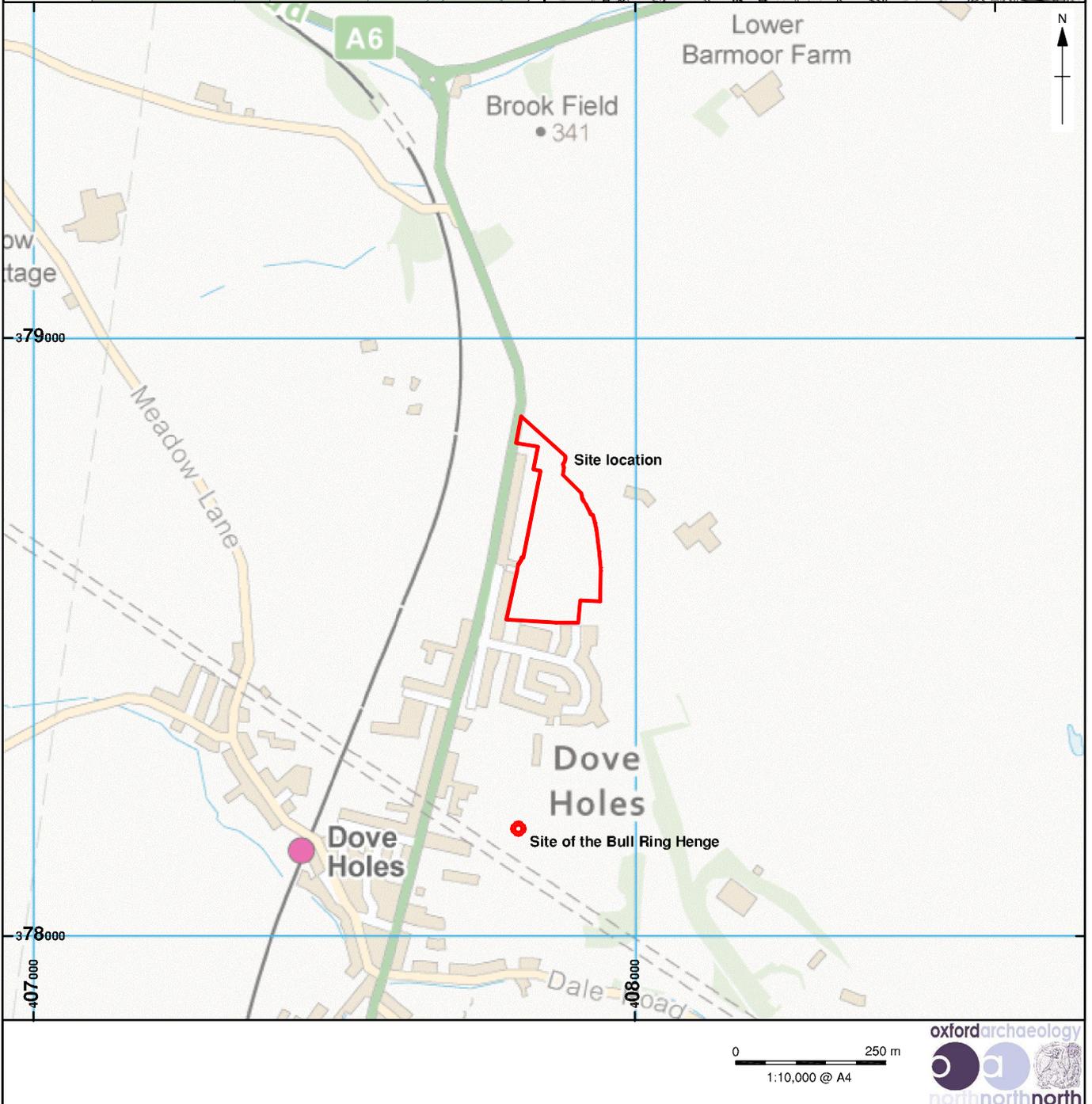
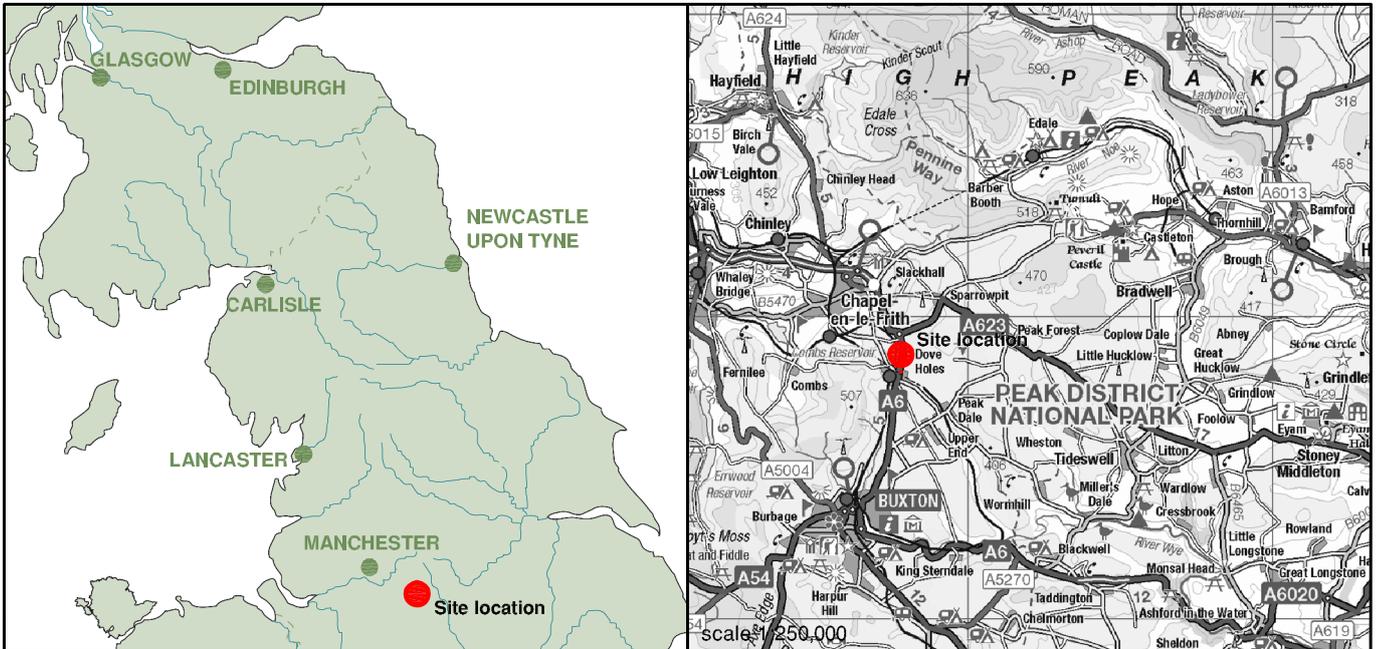
Figure 1: Site location

Figure 2: Showing the extent of the site, the excavated and unexcavated test pits, and the relative frequency of struck lithics

PLATES

Plate 1: North-facing view of the quarry

Plate 2: Representative stratigraphic sequence within test pit, showing topsoil over subsoil over the natural-occurring geology (clay)



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Figure 1: Site location

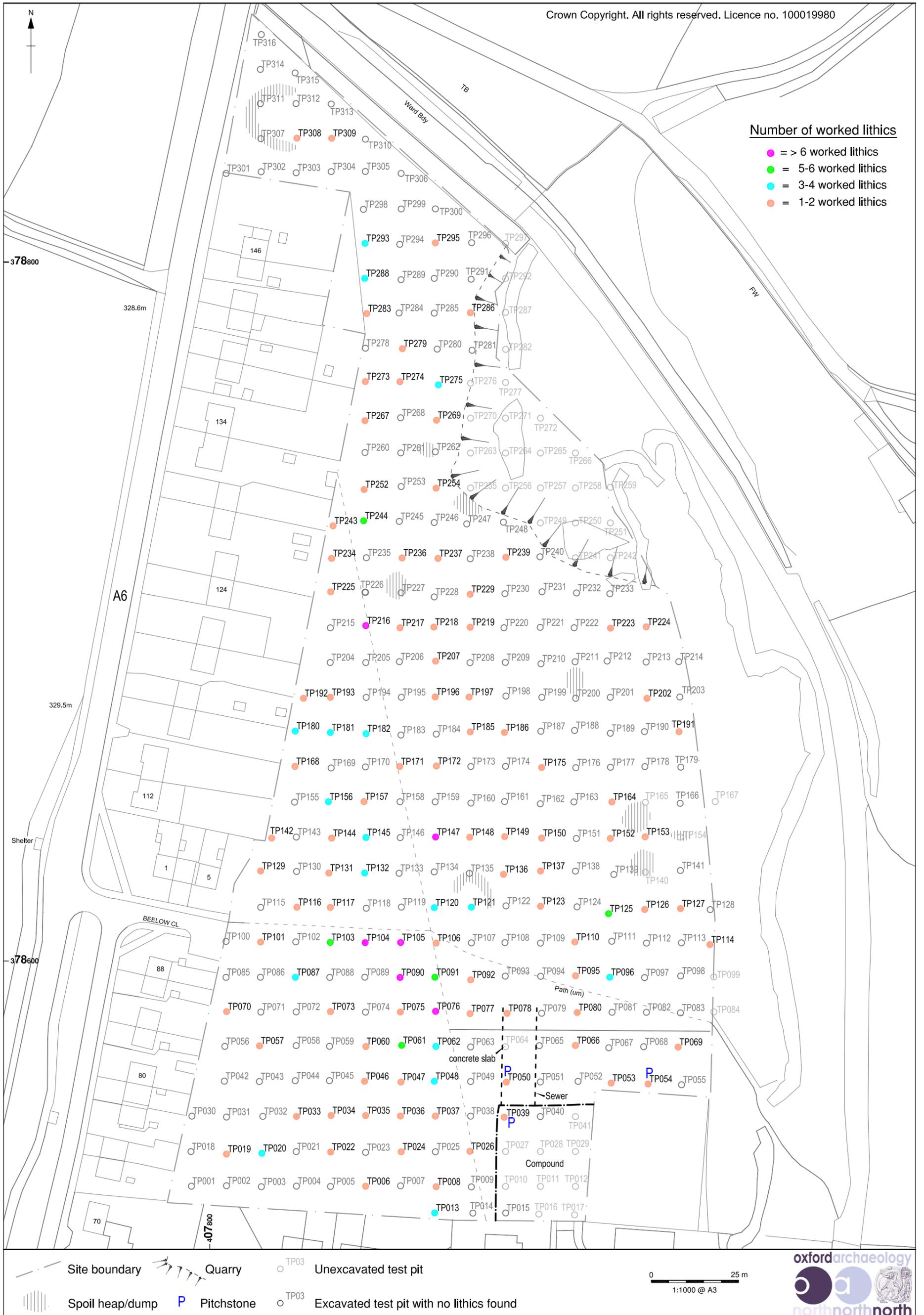


Figure 2: Showing the extent of the site, the excavated and unexcavated test pits, and the relative frequency of struck lithics

APPENDIX 1 – WRITTEN SCHEME OF INVESTIGATION

BACKGROUND

CIRCUMSTANCES OF PROJECT

Oxford Archaeology North (OA North) have produced this archaeological Written Scheme of Investigation (WSI) at the request of CgMs Ltd, acting on behalf of Mr Robert Critchlow. It details the intended methodology to be employed for an initial phase of evaluation of an area of land at Dove Holes, Buxton (Figs 1), which is subject to an outline planning application (HPK/2012/0542) for new housing. The results from this exercise will inform a decision-making process on the need for further evaluation/mitigation and the timing of this, in terms of the planning process.

The application site comprises a roughly triangular-shaped area of some 3.2 ha (Fig 2), located on the north-eastern side of Dove Holes, to the rear of properties fronting Hallsteads. The site is bordered by The Meadows residential development to the south and, to the north, by Black Brook. It lies immediately adjacent to a designated local wildlife site (Ridgeclose Rocks), which is part of the site of a former quarry, and adjacent to the former line of the Peak Forest Tramway, which lies in a cutting to the east. A public footpath runs across the site. This area is noted on the Historic Environment Record as one of historic importance, because of its proximity to elements of the eighteenth-century Peak Forest Tramway and the prehistoric Bull Ring henge (*Section 1.3*).

The site lies on the edge of the Carboniferous Limestone, to the west lie gritstones of the Carboniferous Millstone Grit series. The solid geology underlying the site comprises the limestone of the Monsal Dale Beds of the Dinantian (Carboniferous Limestone Series; Geological Survey of Great Britain (England and Wales), Sheet 99, 1:50,000 Series).

PLANNING BACKGROUND

The advice provided by Steve Baker (Development Control Archaeologist for High Peak Borough Council) in relation to Application HPK/2012/0542, dated 27th March 2013, was that the site has:

considerable archaeological potential due to its proximity to the Bull Ring henge monument at Dove Holes. This prehistoric earthwork – one of only two in the Peak District – is a scheduled monument (SM 23282) and lies 230m south of the application boundary. Henge monuments are thought to have provided a ritual and community focus for scattered and seasonally mobile prehistoric communities, and tend, therefore, to be associated with concentrations of other prehistoric monuments, sites and find spots in the vicinity. The shallow upland valley, within which Dove Holes lies, may have been an important routeway in prehistory – later reflected in the route of the Buxton-Melandra Roman road, and, indeed, the modern A6 - with burial monuments known from Cow Low and Lady Low to the west and Bee Low to the east, and significant late Mesolithic and early Neolithic archaeology recently excavated at Waterswallows Lane, 2km to the south of the proposal site.

Aside from potential for below-ground archaeology, the site borders on a quarry, bridge and cutting (HER 29932, 29931 and 29957) associated with the Peak Forest Tramway, dating from the late-eighteenth century. Development of the site could cause both direct and indirect (setting) impacts to these assets.

This letter goes on to state that it is a requirement of the National Planning Policy Framework (NPPF; DCLG 2012; para 128) that:

applicants establish the significance of heritage assets within a development site, and to assess the impact of the development proposals upon those assets. Because the application does not contain any such heritage

assessment it does not meet the information requirements of NPPF para 128 and should not, therefore, be granted consent in its current form.

In order to bring the application in line with NPPF para 128, it was recommended that the following work be carried out:

- an archaeological field evaluation of the site, at the pre-application stage, comprising a combination of trial trenching and test pitting – to test for buried archaeological features and lithic material within the site;
- a ‘Heritage Statement’ that will report on the results of the field evaluation and also include an assessment of the Peak Forest Tramway remains, on or adjacent to the site, and of the proposed impacts to these assets.

Until this additional information has been submitted, and a re-consultation on this application taken place, a holding objection will be maintained by High Peak Borough Council, due to non-compliance with NPPF para 128.

ARCHAEOLOGICAL BACKGROUND

As the site lies in close proximity to the Bull Ring henge, it has a high archaeological potential. Other such henge monuments, for example Arbour Low – also in Derbyshire, are known to be surrounded by scatters of worked lithic material, indicating fairly intensive use of the surrounding landscapes in prehistory (Evans and Seaborne 2001).

The Bull Ring, is a Class II henge, with an external diameter of 93m by 90m, and comprises a bank and internal ditch surrounding an oval area, measuring 53m from north to south by 46m from east to west. Today, the steep-sided rock-cut ditch varies between 8m and 12m wide and between 0.5m and 1m deep. Partial excavations carried out by Alcock (1950) in 1949, demonstrated that, originally, it measured 5m to 6.5m wide and was between 1.2m and 2.1m deep. The surrounding bank is presently around 1m high, although it would have originally been higher when first constructed. There are opposing entrances to the north and the south of the bank, where 0.9m-wide causeways cross the ditch. Some 20m to the south-west of the henge, is a probable oval barrow, with a bowl barrow superimposed on its western end. Alcock's excavations retrieved several flint flakes and the rim from a food vessel, and an excavation in 1984 (Barnett 1988) also produced numerous flint flakes, a sherd of Roman pottery, and post-medieval material associated with evidence for ploughing. The monument was subjected to magnetometry and resistivity survey in 2000 (Martin 2001), although the results were, overall, a little disappointing, doing little to further elucidate the form of the henge or identify any internal features.

In advance of the construction of The Meadows housing estate, in the area immediately adjacent and to the south of the present application area, an archaeological evaluation was undertaken by Arcus (1997 a and b). This included topographical, magnetometry and resistivity survey, and the monitoring of the mechanical cleaning of one field, and the examination and recording of any archaeological features present within it. The latter produced a single struck flint and identified no archaeological features. Several features were recorded by the topographical survey, including areas of medieval/post-medieval ridge and furrow and pits and dumps considered to derive from post-medieval quarrying activity. No anomalies of archaeological origin were detected by the magnetometry survey. The resistivity survey detected several linear anomalies, as well as discrete anomalies that often corresponded with the surface features recorded by the topographical survey.

OXFORD ARCHAEOLOGY NORTH (OA NORTH)

OA North has considerable experience of the archaeological investigation of sites of all periods, having undertaken a great number of small and large scale projects throughout northern England, including Derbyshire, during the past 30 years. OA North is an Institute of Field Archaeologists (IfA) registered organisation, number 17, and all its members of staff operate subject to the IfA Code of Conduct. A rigorous

approach is taken towards health and safety and our staff are CSCS accredited. OA North are insured for third party liability and carry Public, Employers and Professional indemnity.

AIMS AND OBJECTIVES

PROJECT AIMS

The evaluation of the site (Fig 2) will aim to inform on the presence and significance of any archaeological remains within the site that may be impacted upon by the development. It will seek to disseminate its results to stakeholders.

The proposed shovel pitting methodology (*Section 3.1.1-6*), will, principally, aim to retrieve artefacts occurring within the topsoil or subsoil, and record their relative frequency and spatial distribution, but it will also potentially identify subsurface archaeological features. The evaluation will attempt to establish the presence, absence, extent, character, date and significance of any archaeological artefact scatters within the site, and to determine their broad stratigraphic provenance and whether they are associated with any apparent features.

REPORT, ARCHIVE PRODUCTION AND DISSEMINATION

The archaeological work will result in a report, which can be incorporated in the requested Heritage Statement, and will include:

- A site location plan, related to the national grid;
- A front cover/frontispiece which includes the planning application number and the national grid reference of the site;
- The dates on which the fieldwork was undertaken;
- A concise, non-technical summary of the results of the evaluation;
- A description of the methodology employed, work undertaken and the results obtained;
- Plans, at an appropriate scale, showing the location and position of deposits and finds located;
- Relevant photographs;
- A list of, and dates for, any finds recovered and a description and interpretation of the deposits identified.

An archive will be prepared in accordance with the recommendations in Brown (2007). Arrangements will be made for its long term storage and deposition with Buxton Museum and Art Gallery. A single bound copy of the report will be submitted to the Derbyshire HER along with a pdf copy on CD.

In the event that any finds are recovered, the transfer of the ownership of finds will be made to a local or relevant specialist museum, assuming the landowner gives their approval. In this case Buxton Museum and Art Gallery is the preferred repository, their accession number is **DERSB:2013.12**. The museum's requirements for the transfer and storage of finds will be discussed before the project commences and this will be in accordance with the *Acquisition and Disposal Policy* (Derbyshire Museum Collections 2005). The County Historic Environment Service will be notified, in writing, of the arrangements made.

An online OASIS form at <http://www.oasis.ac.uk/> will, also be completed as part of the project. This will be on the understanding that this information will be made available through the above website, unless otherwise agreed..

METHOD STATEMENT

FIELDWORK

The evaluation, proposed by this WSI, will comprise a shovel pit survey over the entire site – as appropriate (Fig 2). Mr Critchlow, who owns the southern extent of the site, has indicated that much of his land was formerly used a construction compound for the residential development to the south and has previously been stripped of topsoil and stoned up. He has also drawn attention to the easement for a sewer that crosses the northern extent of the site. Further details of the sewer easement will be sought prior to commencement of work on site. Provision has been made to excavate 320 shovel pits, distributed evenly over the site on a 10m grid – however, if it is clear that significant elements within the site have no potential for significant material to be present within the topsoil/subsoil these zones will be defined and eliminated from the scope of the works on site.

All aspects of the evaluation will be conducted in accordance with the Institute for Archaeologists' *Code of Conduct, Standard and Guidance for Field Evaluation*. Evaluation techniques will be selected to cause the minimum amount of destruction and will comply with all relevant health and safety regulations. All of those working on site will be made aware of the significance and history of the site.

Shovel pit testing is undertaken when the ground is grass covered as is typical for pasture land, and when there are no soil-exposures that might reveal artefacts in the topsoil. A grid will be established over the site by means of DGPS instrument survey. At 10m intervals across the grid, small shovel pits (0.25m by 0.25m in size) will be excavated to a maximum depth of 0.30m, typically representing the size of a sod of earth lifted by a shovel/spade blade. The sod will be broken up and examined by eye for lithics and other artefacts and will be passed through a coarse hand sieve. Those shovel pits that produce artefacts will be located using a survey-grade DGPS, and the artefacts will be bagged and labelled by pit and retained for subsequent analysis. Post-medieval ceramics are typically dispersed across plough soil as a process of night soiling and their presence is not an indicator of an archaeological site; consequently these will not be retained and shovel pits containing them will not be surveyed unless there are also earlier artefacts. The reinstatement of each pit will involve backfilling the excavated soil, replacing the sod and trampling it down. If any archaeological features are encountered, these will be recorded, to the extent that it is possible within the confines of the shovel pit, and the shovel pit will be three-dimensionally located.

Finds recovery and sampling programmes will be in accordance with current best practice (following IfA and other specialist guidelines). All artefacts and ecofacts will be treated in accordance with OA North standard practice, which is cognisant of IfA and UKIC Guidelines. In general this will mean that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation will be made unless special circumstances require prompt action. In such a case guidance and/or expertise will be sought from a suitably qualified conservator. OA North will assess the finds for conservation after fieldwork has been completed, but the cost of conservation must be born by the client.

Any human remains discovered will be left *in situ*, covered and protected. CgMs and the local Coroner will be informed immediately if a burial is discovered.

Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to CgMs and the local Coroner according to the procedures relating to the Treasure Act, 1996/7

REPORTING

A report on the shovel pit exercise will be integrated with the Heritage Statement, which will be prepared by CgMs – this will briefly characterise the lithic material in overview. The locations of the shovel pits will be superimposed onto base OS mapping. All artefacts from the test pits will be analysed and the date range of each will be assessed and correlated back to the locational information and will be combined within a GIS. The three-dimensional co-ordinates of the pits will be sorted according to period and the distribution of artefacts for each of the main periods will be displayed. Any significant grouping of artefacts within a limited date range

may be an indicator of an archaeological site.

HEALTH AND SAFETY

OA North recognises its responsibilities with regard to health and safety, and will establish safe working practices in accordance with current legislation. OA North provides a Health and Safety Statement for all projects and maintains a Health and Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1991) and OA North's own health and safety guidance documentation. OA North's site staff are CSCS accredited and senior staff are qualified First Aiders. All staff are issued with Personal Protective Equipment and each team with a telephone and a first aid kit. OA North will liaise with all parties to ensure all site specific health and safety regulations are met. A risk assessment will be completed in advance of any on-site works.

RESOURCES AND PROGRAMMING

STAFF AND TIMETABLE PROPOSALS

Simon Mortimer of CgMs will be responsible for the overall management of the project. Management for OA North will be undertaken by **Fraser Brown** (OA North Senior Project Manager).

The shovel pitting survey will be undertaken by two OA North fieldworkers of appropriate experience and expertise. It is expected that this can be completed in one five-day week.

The assessment of any finds will be undertaken following the completion of fieldwork. The project archive will be compiled and an archive report will be produced, following the completion of the fieldwork and the assessment of the finds. Assessment of any finds from the excavation will be undertaken by OA North's in-house artefact specialists or an appropriate external specialist should this be required.

Normally OA North staff work a 37.5 hours week, Monday to Friday, though adjustments to hours may be made to maximise daylight working time in winter and to meet travel requirements.

PROJECT MONITORING

PROCEDURE

Fieldwork will be monitored for the Local Planning Authority by Derbyshire County Council's Heritage Environment Service (DCCHEs), to whom reasonable access to the work and archive will be afforded and with whom OA North (via CgMs) will maintain close liaison throughout the fieldwork and reporting stages of the evaluation.

OA North will immediately backfill any shovel pits investigated, on the understanding that they will not need to be inspected by DCCHEs.

The involvement of DCCHEs will be acknowledged in any report or publication generated by this project.

REFERENCES

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Derbyshire Museum Collections, 2005 Acquisition and disposal policy, unpubl doc

Edmonds, M and Seaborne, T, 2001 *Prehistory in the Peak*, Tempus Publishing, Stroud

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APPENDIX 2 – STRATIGRAPHIC RESULTS

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP001	Topsoil 1	0.15		Rubble and mortar	0.12	Modern disturbance from housebuilding	Stiff clay	0.08	0.35	NO
TP002	Topsoil 1	0.18		Subsoil 1	0.05				0.23	NO
TP003	Topsoil 1	0.20		Subsoil 1	0.05				0.25	NO
TP004	Topsoil 1	0.15		Subsoil 1	0.04				0.19	NO
TP005	Topsoil 1	0.20	Upcast						0.20	NO
TP006	Topsoil 1	0.17		Subsoil 2	0.05				0.22	YES
TP007	Topsoil 1	0.17		Subsoil 2	0.03				0.20	NO
TP008	Topsoil 1	0.21		Subsoil 2	0.06				0.27	YES
TP009	Topsoil 1	0.17		Subsoil 2	0.08				0.25	NO
TP013	Topsoil 1	0.21		Subsoil 2	0.09				0.30	YES
TP014	Topsoil 1	0.25		Subsoil 2	0.05				0.30	NO
TP015	Topsoil 1	0.30	Disturbed, Compound area						0.30	NO
TP018	Topsoil 1	0.20		Subsoil 1	0.02				0.22	NO
TP019	Topsoil 1	0.22		Subsoil 1	0.07				0.29	YES
TP020	Topsoil 1	0.22		Subsoil 1	0.03				0.25	YES
TP021	Topsoil 1	0.10	Sandier, then a modern deposit						0.10	NO
TP022	Topsoil 1	0.20		Subsoil 1	0.04				0.24	YES
TP023	Topsoil 1	0.20		Subsoil 1	0.02				0.22	NO
TP024	Topsoil 1	0.20		Subsoil 2	0.03				0.23	YES
TP025	Topsoil 1	0.20		Subsoil 2	0.02				0.22	NO
TP026	Topsoil 1	0.33	Field Boundary						0.33	YES
TP030	Topsoil 1	0.25							0.25	NO
TP031	Topsoil 1	0.15		Subsoil 1	0.10				0.25	NO
TP032	Topsoil 1	0.25		Subsoil 1	0.05				0.30	NO
TP033	Topsoil 1	0.20		Subsoil 1	0.10				0.30	YES
TP034	Topsoil 1	0.20		Subsoil 1	0.05				0.25	YES

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP035	Topsoil 1	0.30							0.30	YES
TP036	Topsoil 1	0.25							0.25	YES
TP037	Topsoil 1	0.15		Subsoil 1	0.10				0.25	YES
TP038	Topsoil 4	0.05	Too stony, Compound area						0.05	NO
TP039	Topsoil 4	0.20	Too stony, Compound area						0.20	YES
TP040	Topsoil 4	0.30	Compound excavated to 0.3 to investigate underlying deposits						0.30	NO
TP042	Topsoil 1	0.20							0.20	NO
TP043	Topsoil 1	0.21		Natural clay	0.08				0.29	NO
TP044	Topsoil 1	0.16		Subsoil 2	0.09				0.25	NO
TP045	Topsoil 1	0.20		Natural clay	0.05				0.25	NO
TP046	Topsoil 1	0.25							0.25	YES
TP047	Topsoil 1	0.25		Subsoil 2	0.05				0.30	YES
TP048	Topsoil 1	0.20		Subsoil 2	0.05				0.25	YES
TP049	Topsoil 4	0.08	20:80 soil to stone, compact, Sewer?						0.08	NO
TP050	Topsoil 4	0.15	50:50 soil to stone, Sewer?						0.15	YES
TP051	Topsoil 4	0.03	Too stony, Sewer?						0.03	NO
TP052	Topsoil 4	0.06							0.06	NO
TP053	Topsoil 4	0.17							0.17	YES
TP054	Topsoil 1	0.10							0.10	YES
TP055	Topsoil 1	0.25							0.25	NO
TP056	Topsoil 1	0.20		Subsoil 1	0.02				0.22	NO
TP057	Topsoil 1	0.20		Subsoil 2	0.02				0.22	YES
TP058	Topsoil 1	0.21							0.21	NO
TP059	Topsoil 1	0.10		Subsoil 2	0.10				0.20	NO

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP060	Topsoil 1	0.20		Subsoil 3	0.04				0.24	YES
TP061	Topsoil 1	0.15		Subsoil 3	0.09				0.24	YES
TP062	Topsoil 1	0.20		Subsoil 2	0.02				0.22	YES
TP063	Topsoil 4	0.06	Very stony, Sewer?						0.06	NO
TP065	Topsoil 4	0.06	Very stony, Sewer?						0.06	NO
TP066	Topsoil 4	0.15							0.15	YES
TP067	Topsoil 4	0.10	Very stony						0.10	NO
TP068	Topsoil 1	0.20		Subsoil 2	0.10				0.30	NO
TP069	Topsoil 1	0.15		Subsoil 2	0.05				0.20	YES
TP070	Topsoil 1	0.20							0.20	YES
TP071	Topsoil 1	0.22							0.22	NO
TP072	Topsoil 1	0.20							0.20	NO
TP073	Topsoil 1	0.21		Subsoil 2	0.03				0.24	YES
TP074	Topsoil 1	0.20		Subsoil 2	0.02				0.22	NO
TP075	Topsoil 1	0.20		Subsoil 2	0.02				0.22	YES
TP076	Topsoil 1	0.25	Pit enlarged to 0.4m sq for possible anvil stone						0.25	YES
TP077	Topsoil 1	0.18							0.18	YES
TP078	Topsoil 4	0.08	Solid, Sewer?	Subsoil 4	0.00				0.08	YES
TP079	Topsoil 4	0.08	Solid, Sewer?	Subsoil 4	0.00				0.08	NO
TP080	Topsoil 4	0.13	50% stone						0.13	YES
TP081	Topsoil 2	0.14	15% stone						0.14	NO
TP082	Topsoil 2	0.13							0.13	NO
TP083	Topsoil 2	0.11		Subsoil 2	0.04				0.15	NO
TP085	Topsoil 1	0.10		Subsoil 1	0.10				0.20	NO
TP086	Topsoil 1	0.15		Subsoil 1	0.03				0.18	NO
TP087	Topsoil 1	0.10		Subsoil 2	0.10				0.20	YES
TP088	Topsoil 1	0.20							0.20	NO
TP089	Topsoil 1	0.21							0.21	NO
TP090	Topsoil 1	0.20		Subsoil 3	0.10				0.30	YES
TP091	Topsoil 1	0.15		Subsoil 3	0.10				0.25	YES
TP092	Topsoil 1	0.15		Subsoil 3	0.10				0.25	YES

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP093	Topsoil 1	0.10		Subsoil 2	0.10				0.20	NO
TP094	Topsoil 1	0.02		Subsoil 2	0.05				0.07	NO
TP095	Topsoil 1	0.10							0.10	YES
TP096	Topsoil 2	0.10		Subsoil 2	0.10				0.20	YES
TP097	Topsoil 2	0.10		Subsoil 2	0.10				0.20	NO
TP098	Topsoil 2	0.10		Subsoil 2	0.15				0.25	NO
TP100	Topsoil 1	0.15							0.15	NO
TP101	Topsoil 1	0.17		Subsoil 1	0.02				0.19	YES
TP102	Topsoil 1	0.18		Subsoil 1	0.02				0.20	NO
TP103	Topsoil 1	0.15		Subsoil 2	0.05				0.20	YES
TP104	Topsoil 1	0.15		Subsoil 2	0.10				0.25	YES
TP105	Topsoil 1	0.15		Subsoil 2	0.05				0.20	YES
TP106	Topsoil 1	0.25							0.25	YES
TP107	Topsoil 1	0.15		Subsoil 2	0.50				0.65	NO
TP108	Topsoil 1	0.15		Subsoil 2	0.05				0.20	NO
TP109	Topsoil 1	0.05		Subsoil 2					0.05	NO
TP110	Topsoil 1	0.15	Very stony						0.15	YES
TP111	Topsoil 2	0.15	Very stony						0.15	NO
TP112	Topsoil 2	0.15		Subsoil 2	0.02				0.17	NO
TP113	Topsoil 2	0.05		Subsoil 2	0.15				0.20	NO
TP114	Topsoil 2	0.30							0.30	YES
TP115	Topsoil 1	0.20							0.20	NO
TP116	Topsoil 1	0.20		Subsoil 1	0.03				0.23	YES
TP117	Topsoil 1	0.22							0.22	YES
TP118	Topsoil 1	0.20							0.20	NO
TP119	Topsoil 1	0.18		Subsoil 1	0.06				0.24	NO
TP120	Topsoil 1	0.15		Subsoil 1	0.10				0.25	YES
TP121	Topsoil 1	0.17		Subsoil 1	0.08				0.25	YES
TP122	Topsoil 1	0.05							0.05	NO
TP123	Topsoil 1	0.05		Subsoil 1	0.10				0.15	YES
TP124	Topsoil 1	0.20							0.20	NO
TP125	Topsoil 2	0.12		Subsoil 2	0.02				0.14	YES
TP126	Subsoil 2	0.12	No topsoil						0.12	YES
TP127	Topsoil 2	0.10							0.10	YES
TP128	Topsoil 2	0.21							0.21	NO

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP129	Topsoil 1	0.25							0.25	YES
TP130	Topsoil 1	0.19		Subsoil 1	0.05				0.24	NO
TP131	Topsoil 1	0.17		Subsoil 1	0.05				0.22	YES
TP132	Topsoil 1	0.16		Subsoil 1	0.05				0.21	YES
TP133	Topsoil 1	0.20		Subsoil 1	0.06				0.26	NO
TP134	Topsoil 1	0.21							0.21	NO
TP135	Soil/rubble	0.38							0.38	NO
TP136	Topsoil 1	0.02		Subsoil 1	0.16	Very stony			0.18	YES
TP137	Topsoil 1	0.02		Subsoil 1	0.15				0.17	YES
TP138	Topsoil 1	0.13		Subsoil 2	0.02				0.15	NO
TP139	Topsoil 2	0.14	Very stony						0.14	NO
TP141	Topsoil 2	0.29							0.29	NO
TP142	Topsoil 1	0.20							0.20	YES
TP143	Topsoil 1	0.13		Subsoil 1	0.16				0.29	NO
TP144	Topsoil 1	0.14		Subsoil 1	0.10				0.24	YES
TP145	Topsoil 1	0.08		Subsoil 1	0.15				0.23	YES
TP146	Topsoil 1	0.25							0.25	NO
TP147	Topsoil 1	0.10		Subsoil 1	0.10				0.20	YES
TP148	Topsoil 1	0.11		Subsoil 1	0.09				0.20	YES
TP149	Topsoil 1	0.02	Solid	Subsoil 1	0.03	Solid			0.05	YES
TP150	Topsoil 1	0.02		Subsoil 1	0.03				0.05	YES
TP151	Topsoil 1	0.15		Subsoil 2	0.05				0.20	NO
TP152	Topsoil 2	0.05		Subsoil 2	0.15				0.20	YES
TP153	Topsoil 2	0.14							0.14	YES
TP155	Topsoil 1	0.18		Subsoil 2	0.04				0.22	NO
TP156	Topsoil 1	0.20		Subsoil 2	0.08				0.28	YES
TP157	Topsoil 1	0.15		Subsoil 2	0.04				0.19	YES
TP158	Topsoil 1	0.14	Very stony						0.14	NO
TP159	Topsoil 1	0.20	Extended to observe a large stone						0.20	NO
TP160	Topsoil 1	0.20		Subsoil 2	0.04				0.24	NO
TP161	Topsoil 1	0.01		Subsoil 2	0.11				0.12	NO
TP162	Topsoil 1	0.01		Subsoil 2	0.17				0.18	NO
TP163	Topsoil 1	0.25							0.25	NO
TP164	Topsoil 2	0.07		Subsoil 4	0.05				0.12	NO

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP166	Topsoil 2	0.23							0.23	NO
TP168	Topsoil 1	0.20							0.20	YES
TP169	Topsoil 1	0.15		Subsoil 2	0.10				0.25	NO
TP170	Topsoil 1	0.12		Subsoil 2	0.08				0.20	NO
TP171	Topsoil 1	0.20		Subsoil 2	0.10				0.30	YES
TP172	Topsoil 1	0.12		Subsoil 2	0.03				0.15	YES
TP173	Topsoil 1	0.03		Subsoil 2	0.15				0.18	NO
TP174	Topsoil 1	0.20							0.20	NO
TP175	Topsoil 1	0.05		Subsoil 2	0.10				0.15	YES
TP176	Topsoil 2	0.10		Subsoil 2	0.10				0.20	YES
TP177	Topsoil 2	0.11		Subsoil 2	0.09				0.20	NO
TP178	Topsoil 2	0.08		Subsoil 2	0.12				0.20	NO
TP179	Topsoil 2	0.10		Subsoil 2	0.10				0.20	NO
TP180	Topsoil 1	0.15							0.15	YES
TP181	Topsoil 1	0.20		Subsoil 2	0.03				0.23	YES
TP182	Topsoil 1	0.20		Subsoil 2	0.08				0.28	YES
TP183	Topsoil 1	0.21							0.21	NO
TP184	Topsoil 1	0.17		Subsoil 2	0.06				0.23	NO
TP185	Topsoil 1	0.20		Subsoil 2	0.08				0.28	YES
TP186	Topsoil 1	0.18		Subsoil 2	0.20				0.38	YES
TP187	Topsoil 2	0.17		Subsoil 4	0.04				0.21	NO
TP188	Topsoil 2	0.05		Subsoil 4	0.05				0.10	NO
TP189	Topsoil 2	0.10		Subsoil 4	0.05		Feature or buried soil	0.05	0.20	NO
TP190	Topsoil 2	0.11		Subsoil 4			Feature or buried soil	0.06	0.17	NO
TP191	Topsoil 2	0.25							0.25	YES
TP192	Topsoil 1	0.15		Subsoil 2	0.05				0.26	YES
TP193	Topsoil 1	0.10		Subsoil 2	0.10				0.20	YES
TP194	Topsoil 1	0.15		Subsoil 2	0.05				0.20	NO
TP195	Topsoil 1	0.20		Subsoil 2	0.05				0.25	NO
TP196	Topsoil 1	0.15		Subsoil 2	0.05				0.20	YES
TP197	Topsoil 1	0.17		Subsoil 2	0.08				0.25	YES

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP198	Topsoil 1	0.10		Subsoil 2	0.10				0.20	NO
TP199	Topsoil 2	0.10		Subsoil 2	0.10				0.20	NO
TP200	Topsoil 2	0.10		Subsoil 2	0.05				0.15	NO
TP201	Topsoil 2	0.10		Subsoil 2	0.10				0.20	NO
TP202	Topsoil 2	0.15		Subsoil 2	0.08				0.23	YES
TP203	Topsoil 2	0.10	Very stony						0.10	NO
TP204	Topsoil 1	0.32							0.32	NO
TP205	Topsoil 1	0.25							0.25	NO
TP206	Topsoil 1	0.18							0.18	NO
TP207	Topsoil 1	0.18		Subsoil 2	0.08				0.26	YES
TP208	Topsoil 1	0.15		Subsoil 2	0.05				0.20	NO
TP209	Topsoil 2	0.15							0.15	NO
TP210	Topsoil 2	0.15		Subsoil 2	0.10				0.25	NO
TP211	Topsoil 2	0.07	Very stony						0.07	NO
TP212	Topsoil 2	0.20		Subsoil 4	0.05				0.25	NO
TP213	Topsoil 2	0.15		Subsoil 4	0.02				0.17	NO
TP214	Topsoil 2	0.20							0.20	NO
TP215	Topsoil 1	0.27							0.27	NO
TP216	Topsoil 1	0.26							0.26	YES
TP217	Topsoil 1	0.22							0.22	YES
TP218	Topsoil 1	0.17		Subsoil 2	0.04				0.21	YES
TP219	Topsoil 2	0.14		Subsoil 2	0.02				0.16	YES
TP220	Topsoil 2	0.15		Subsoil 2	0.04				0.19	NO
TP221	Topsoil 2	0.15		Subsoil 2	0.60				0.75	NO
TP222	Topsoil 2	0.20		Subsoil 2	0.01				0.21	NO
TP223	Topsoil 2	0.17							0.17	YES
TP224	Topsoil 2	0.14							0.14	YES
TP225	Topsoil 1	0.25							0.25	YES
TP226	Topsoil 1	0.25							0.25	NO
TP227	Topsoil 1	0.15							0.15	NO
TP228	Topsoil 2	0.10		Subsoil 2	0.05				0.15	NO
TP229	Topsoil 2	0.10		Subsoil 2	0.05				0.15	YES
TP230	Topsoil 2	0.10		Subsoil 2	0.15				0.25	NO
TP231	Topsoil 2	0.12		Subsoil 2	0.08				0.20	NO
TP232	Topsoil 2	0.10		Subsoil 2	0.03				0.13	NO

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP233	Topsoil 2	0.10	Very stony						0.10	NO
TP234	Topsoil 1	0.20							0.20	YES
TP235	Topsoil 1	0.18							0.18	NO
TP236	Topsoil 1	0.23							0.23	YES
TP237	Topsoil 2	0.14	Very stony						0.14	YES
TP238	Topsoil 2	0.20		Subsoil 2	0.02				0.22	NO
TP239	Topsoil 2	0.22							0.22	YES
TP240	Topsoil 2	0.28							0.28	NO
TP243	Topsoil 1	0.12							0.00	YES
TP244	Topsoil 1	0.15	Very stony						0.15	YES
TP245	Topsoil 1	0.20							0.20	NO
TP246	Topsoil 2	0.20							0.20	NO
TP247	Topsoil 2	0.15		Subsoil 1	0.10				0.25	NO
TP248	Topsoil 2	0.15		Subsoil 1	0.10				0.25	NO
TP252	Topsoil 1	0.05	Rubble	Subsoil 1	0.10				0.15	YES
TP253	Topsoil 1	0.05		Subsoil 1	0.10				0.15	NO
TP254	Topsoil 2	0.05		Subsoil 1	0.15				0.20	YES
TP260	Topsoil 1	0.01		Subsoil 1	0.16				0.17	NO
TP261	Topsoil 1	0.01		Subsoil 1	0.18				0.19	NO
TP262	Spoil Heap	0.10							0.10	NO
TP267	Topsoil 1	0.01		Subsoil 1	0.17				0.18	YES
TP268	Subsoil 1	0.15							0.15	NO
TP269	Topsoil 2	0.20							0.20	YES
TP273	Topsoil 1	0.25		Subsoil 1	0.05				0.30	YES
TP274	Topsoil 3	0.30							0.30	YES
TP275	Topsoil 3	0.20	Very stony						0.20	YES
TP278	Topsoil 1	0.23							0.23	NO
TP279	Topsoil 3	0.15	Levelling						0.15	YES
TP280	Topsoil 3	0.14	Levelling						0.14	NO
TP281	Topsoil 3	0.15							0.15	NO
TP283	Topsoil 3	0.15	Rubble						0.15	YES
TP284	Topsoil 3	0.15	Rubble						0.15	NO
TP285	Topsoil 3	0.15	Rubble						0.15	NO
TP286	Topsoil 3	0.10	Rubble						0.10	YES
TP288	Topsoil 3	0.12	Very stony and yellow						0.12	YES

Test Pit	Layer 1	Depth (m)	Comments	Layer 2	Depth (m)	Comments	Layer 3	Depth (m)	Total Depth (m)	Flint
TP289	Topsoil 3	0.10	Very stony and yellow						0.10	NO
TP290	Topsoil 3	0.11	Very stony and yellow						0.11	NO
TP291	Topsoil 3	0.13	Very stony and yellow						0.13	NO
TP293	Topsoil 3	0.10							0.10	YES
TP294	Topsoil 3	0.15							0.15	NO
TP295	Topsoil 3	0.10							0.10	YES
TP296	Topsoil 3	0.15							0.15	NO
TP298	Topsoil 2	0.20							0.20	NO
TP299	Topsoil 3	0.10	Very stony						0.10	NO
TP300	Topsoil 3	0.10	Very stony						0.10	YES
TP301	Topsoil 2	0.25							0.25	NO
TP302	Topsoil 2	0.10		Subsoil 1	0.04				0.14	NO
TP303	Topsoil 2	0.10		Subsoil 1	0.02				0.12	NO
TP304	Topsoil 2	0.13							0.13	YES
TP305	Topsoil 2	0.10							0.10	NO
TP306	Topsoil 3	0.05	Very stony						0.05	NO
TP307	Topsoil 2	0.10	Very stony						0.10	NO
TP308	Topsoil 2	0.15	Very stony						0.15	YES
TP309	Topsoil 2	0.10	Very stony						0.10	YES
TP310	Topsoil 2	0.10	Very stony						0.10	NO
TP311	Topsoil 2	0.10	Very stony						0.10	NO
TP312	Topsoil 2	0.10	Very stony						0.10	NO
TP313	Topsoil 2	0.10	Very stony						0.10	NO
TP314	Topsoil 2	0.10							0.10	NO
TP315	Topsoil 2	0.10							0.10	NO
TP316	Topsoil 2	0.25							0.25	NO

APPENDIX 3 – LITHIC ASSESSMENT RESULTS

test pit		6	8	13	19	20	22	24	26	33	34	35	36	37	39	46	TOTAL
core technology	core																0
	flaked chunk																0
	core fragment	1															1
	core trimming																0
flakes (>50mm)	secondary																0
flakes (>25mm <50mm)	secondary																0
	tertiary																0
	broken											1					1
flakes (>10mm <25mm)	tertiary							1		1	1					1	4
	broken			2		1			2								5
small flakes (<10mm)																	0
blades (all sizes)	tertiary												1				1
	broken		1				1					1	1				4
blade like flakes																	0
chunks/angular shatter (<50mm)				1		2									1		4
retouched tools	misc retouched blade													1			1
edge utilised blades and flakes	worn edge				1		1										2
TOTAL		1	1	3	1	3	2	1	2	1	1	2	2	1	1	1	

test pit		47	48	50	53	54	57	60	61	62	66	69	70	73	75	76	TOTAL
core technology	core															1	1
	flaked chunk														1		1
	core fragment		1														1
	core trimming																0
flakes (>50mm)	secondary															1	1
flakes (>25mm <50mm)	secondary																0
	tertiary															1	1
	broken						1		1	1							3
flakes (>10mm <25mm)	tertiary											1				2	3
	broken						1		1								2
small flakes (<10mm)			1			1											2
blades (all sizes)	tertiary										1					2	3
	broken		1	1	1	1				2			1	2		4	13
blade like flakes																1	1
chunks/angular shatter (<50mm)		1	1	1	1				4	1						1	10
retouched tools	misc retouched blade																0
edge utilised blades and flakes	worn edge							1								1	2
TOTAL		1	4	2	2	2	2	1	6	4	1	1	1	2	1	14	

test pit		77	78	80	87	90	91	92	95	96	101	103	104	105	106	110	TOTAL
core technology	core																0
	flaked chunk																0
	core fragment														1		1
	core trimming																0
flakes (>50mm)	secondary																0
flakes (>25mm <50mm)	secondary										1						1
	tertiary						1					1		2		1	5
	broken					2		1					5				8
flakes (>10mm <25mm)	tertiary		1		1		1			1			1	2	1		8
	broken	1		1	1	3											6
small flakes (<10mm)																	0
blades (all sizes)	tertiary	1								1		2					4
	broken				1	2	2			2				3			10
blade like flakes																	0
chunks/angular shatter (<50mm)					1	2	2		1			2	3	7			18
retouched tools	misc retouched blade																0
edge utilised blades and flakes	worn edge											1		1			2
TOTAL		2	1	1	4	9	6	1	1	4	1	6	9	15	2	1	

test pit		114	116	117	120	121	123	125	126	127	129	131	132	136	137	142	TOTAL
core technology	core																0
	flaked chunk																0
	core fragment																0
	core trimming																0
flakes (>50mm)	secondary																0
flakes (>25mm <50mm)	secondary																0
	tertiary				1			1									2
	broken							1						1			2
flakes (>10mm <25mm)	tertiary										1		1		1		3
	broken		1														1
small flakes (<10mm)																	0
blades (all sizes)	tertiary				1							2	1			1	5
	broken			1	1	3	1	3	1	1							11
blade like flakes																	0
chunks/angular shatter (<50mm)		1							1	1							3
retouched tools	misc retouched blade																0
edge utilised blades and flakes	worn edge												1				1
TOTAL		1	1	1	3	3	1	5	2	2	1	2	3	1	1	1	

test pit		144	145	147	148	149	150	152	153	156	157	164	168	171	172	175	TOTAL
core technology	core												1				1
	flaked chunk												1				1
	core fragment													1			1
	core trimming																0
flakes (>50mm)	secondary																0
flakes (>25mm <50mm)	secondary																0
	tertiary	1		1					1								3
	broken																0
flakes (>10mm <25mm)	tertiary			1						2							3
	broken						1										1
small flakes (<10mm)																	0
blades (all sizes)	tertiary		3	1		1								1	1		7
	broken	1		3	1							1			1	1	8
blade like flakes											1						1
chunks/angular shatter (<50mm)								1									1
retouched tools	misc retouched blade																0
edge utilised blades and flakes	worn edge							1		1							2
TOTAL		2	3	6	1	1	1	2	1	3	1	1	2	2	2	1	

test pit		180	181	182	185	186	191	192	193	196	197	202	207	216	217	218	TOTAL
core technology	core																0
	flaked chunk				1												1
	core fragment																0
	core trimming																0
flakes (>50mm)	secondary							1									1
flakes (>25mm <50mm)	secondary																0
	tertiary						1										1
	broken									1			1				2
flakes (>10mm <25mm)	tertiary					1											1
	broken														1	1	2
small flakes (<10mm)																	0
blades (all sizes)	tertiary	2						2						1			5
	broken	1		3		1	1			1		1	1	6			15
blade like flakes																	0
chunks/angular shatter (<50mm)			3										1				4
retouched tools	misc retouched blade																0
edge utilised blades and flakes	worn edge																0
TOTAL		3	3	3	1	2	2	2	1	1	1	1	2	8	1	1	

test pit		219	223	224	225	229	234	236	237	239	243	244	252	254	267	269	TOTAL
core technology	core																0
	flaked chunk					1											1
	core fragment		1														1
	core trimming												1				1
flakes (>50mm)	secondary																0
flakes (>25mm <50mm)	secondary																0
	tertiary	1			1		1				2	2					7
	broken																0
flakes (>10mm <25mm)	tertiary			1								3					4
	broken								1						1		2
small flakes (<10mm)																	0
blades (all sizes)	tertiary				1									1			2
	broken							1		1		1				1	4
blade like flakes																	0
chunks/angular shatter (<50mm)													1				1
retouched tools	misc retouched blade																0
edge utilised blades and flakes	worn edge																0
TOTAL		1	1	1	2	1	1	1	1	1	2	6	1	2	1	1	

test pit		273	274	275	279	283	286	288	293	295	300	304	308	309		TOTAL
core technology	core															0
	flaked chunk		1													1
	core fragment															0
	core trimming	1							1					1		3
flakes (>50mm)	secondary															0
flakes (>25mm <50mm)	secondary															0
	tertiary											1				1
	broken								2							2
flakes (>10mm <25mm)	tertiary							1					1			2
	broken															0
small flakes (<10mm)																0
blades (all sizes)	tertiary							2								2
	broken			1		2	1						1			5
blade like flakes																0
chunks/angular shatter (<50mm)				1	1					1	1	1				5
retouched tools	misc retouched blade			1												1
edge utilised blades and flakes	worn edge															0
TOTAL		1	1	3	1	2	1	3	3	1	1	2	2	1		
GRAND TOTAL																264