

SANDSIDE QUARRY, STORTH, MILNTHORPE, CUMBRIA



Archaeological Evaluation



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CONTENTS

SUMMARY	2
ACKNOWLEDGEMENTS	3
1. INTRODUCTION	4
1.1 Circumstances of the Project	4
1.2 Location, Geology and Topography	4
1.3 Archaeological and Historical Background	4
2. METHODOLOGY	7
2.1 Fieldwork	7
2.2 Archive	7
3. RESULTS	8
3.1 Test Pitting	8
3.2 Finds.....	8
4. CONCLUSION	9
4.1 Discussion	9
4.2 Impact.....	9
5. BIBLIOGRAPHY	10
5.1 Cartographic Sources	10
5.2 Secondary Sources.....	10
6. ILLUSTRATIONS	12
6.1 List of Figures.....	12
6.2 List of Plates	12
APPENDIX 1: PROJECT DESIGN	13
APPENDIX 2: TEST PIT SUMMARIES	20
APPENDIX 3: FINDS SUMMARY	22

SUMMARY

As part of proposals to expand the existing area of Sandside Quarry, Storth, Milnthorpe, Cumbria (NGR SD 482 810), Tarmac Ltd are constructing a new access road through an area of woodland (planning application 5/04/9003). The development site lies within an area of archaeological potential and, as a result, Cumbria County Council Historic Environment Section (CCCHES) requested that a programme of archaeological evaluation be undertaken to further inform the planning process. Following preparation of a project design to meet the requirements of a verbal communication with CCCHES, Oxford Archaeology North OA North were contracted by Tarmac to undertake a programme of test-pitting along the route of the proposed access road.

The project, which was undertaken in December 2005, comprised the hand-excavation of 13 1m x 1m test pits located at 10m intervals along the 120m route of the proposed access road. The study area was heavily wooded and situated on a moderate slope. The test pits produced several sherds of post-medieval pottery from the topsoil, but no archaeological features were located.

Within the limitations of the current evaluation, it would appear that the potential for the presence of archaeological remains that might be impacted upon by the proposed development is fairly low. However, previous work in limestone areas, notably that at Allithwaite (Wild 2003), combined with the known presence of archaeological cave deposits within the locality (ie, Dog Hole), would suggest that there is the potential for the survival of relatively isolated archaeological features within grykes and solution holes within the development site.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Bob Nicholson of Tarmac Ltd for commissioning the project. Thanks are also due Stan Simpson, manager of Sandside Quarry, for all his assistance throughout the project.

The fieldwork was undertaken by Jason Clarke, Steve Clarke, Christina Clarke and Andy Lane. Jo Dawson examined the finds and Mark Tidmarsh and Christina Clarke produced the drawings, while the report was compiled by Jason Clarke. The project was managed by Stephen Rowland, who also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Tarmac Ltd have submitted a planning application (planning reference 5/04/9003) for the construction of an access road at Sandside Quarry, Storth, Milnthorpe, Cumbria (NGR SD 482 810). Planning permission has been granted on fulfillment of a number of conditions, including a requirement for an appropriate scheme of archaeological investigation. Following a verbal communication with Cumbria County Council Historic Environmental Section (CCCHES), Oxford Archaeology North (OA North) produced a project design for a scheme of archaeological evaluation along the route of the proposed access road (*Appendix 1*). Subsequent to the approval of the project design by CCCHES, OA North was commissioned by Tarmac Ltd to undertake the work.

1.2 LOCATION, GEOLOGY AND TOPOGRAPHY

1.2.1 Sandside is located between Arnside and Milnthorpe, on the south-eastern side of the Kent estuary in southern Cumbria, overlooking Milnthorpe Sands (Fig 1). The route of the proposed access road runs north-east from the quarry and joins Quarry Lane just to the north of that road's present junction with Lover's Lane.

1.2.2 The solid area geology of the area is of Carboniferous limestone (345-280 million years BP) (British Geological Survey 1982), which has since been eroded by ice sheets and glaciers to form the present landscape of rounded limestone ridges, with steep-sided U-shaped valleys, which generally lie on a north/south alignment (Countryside Commission 1998). The development area lies on the northern slopes of Haverbrack hill, which rises between the banks of the Kent estuary to the north and the Bela Valley to the east. The site lies on a wooded moderately steep slope, which falls between *c* 30m OD in the south-west to *c* 16m OD in the north, across a distance of about 50m (Plate 1).

1.3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

1.3.1 ***Prehistoric and Roman:*** little is known of the archaeological potential within the immediate area of Sandside Quarry. Within the wider area, there is not inconsiderable evidence for prehistoric activity, including evidence for Early Neolithic settlement at Little Hawes Water, to the east of Sandside (Middleton *et al* 1995, 136-7). A single plano-convex knife of Bronze Age date was found from the eastern side of Hawes Water (*ibid*). Beetham Hall, several kilometres to the east of the development area, is also the site of a possible prehistoric settlement and cairnfield (Hodgkinson *et al* 2000). Nearby Iron Age settlements include the hillfort at Warton Crag, near Carnforth to the south of Sandside, and a small promontory fort at Castlehead, seven miles to the north-west of Sandside (OA North 2003).

- 1.3.2 There is also evidence to suggest prehistoric occupation of caves formed within the local calcareous rocks. These are best represented on the western side of the Kent estuary, c 8-10km west of the present development site, and include Lindale Low Cave and Kirkhead Cave, where Upper Palaeolithic remains (11,000-10,000 BC) were discovered (Salisbury 1992-3; 1997). The latter site also produced a number of mid- to later Bronze Age finds (Gilks 1987). Of particular interest is the Bronze Age cremation cemetery at Allithwaite, south-west of Grange over Sands (Wild 2003). Here, ten cremations, several of which were in well-preserved urns, had been placed inside natural solution holes and grykes within the limestone pavement (*ibid*).
- 1.3.3 On the eastern side of the Kent estuary, the best-known example of cave-related activity is the Dog Hole, located about 500m to the south of the development area. Excavations at Dog Hole in around 1912, 1956 and 1957 revealed human skeletons which were tentatively associated with jewelry dating from the first century BC to the second and third centuries AD (Benson and Bland 1963, 72-74). Other collections of animal and human bone from the cave are thought to date to the Iron Age, but various samples have been radiocarbon dated to the Romano-British period and to the Anglo-Saxon period, including two worked red deer antlers from the top of the sequence (McCloskey 2005). Those finds of Roman date from Dog Hole Cave, which include a penannular brooch dating from the first century BC to the second century AD and bracelets of the second to third century AD (Benson and Bland 1963), may relate to a tradition of occupation of cave sites in the Romano-British period (Dearne and Lord 1998). Otherwise, there would appear to be little to suggest that the local area was heavily Romanised in the first to fourth centuries AD; there is no known Roman road within the vicinity and the nearest known settlement is that relating to the fort at Watercrock, near Kendal (Potter 1977).
- 1.3.4 **Medieval:** although it is known that the development area fell within the control of the British Kingdom of Rheged and the Anglo-Saxon Kingdom of Northumbria at various points during the fifth to ninth centuries AD, the Anglo-Saxon finds from Dog Hole Cave are among the limited finds from this period within the wider area. It is also widely held that, during the ninth century AD, the area was settled by Norse immigrants evicted from their former kingdom in Ireland. Many of the local place names, including Beetham, Storth, Arnside and Milnthorpe, show some Scandinavian influence, often with an Old English element (Mills 1998), indicating the complexity of the local 'Dark Age' history. None of these local settlements are mentioned in the Domesday Survey of 1086, but this cannot be taken as definitive proof that their origins do not pre-date the Norman Conquest; either as a result of William's Harrying of the North or because the Scots had annexed parts of North West England, many Cumbrian settlements are absent from the Domesday Book (Williams and Martin eds 1992).
- 1.3.5 Material of later medieval date is most clearly in evidence within the surroundings of the present development area, including a deer park at Dallam, and the three pele towers located on the Dallam Tower estate: Hazleslack Tower, just over 1km to the south of Sandside Quarry; Arnside Tower, about 3km to the south and Beetham Hall, about 1.5km to the east. Beetham Hall is

likely to date to the thirteenth century, while the others are of fourteenth or fifteenth century date (OA North 2005).

- 1.3.6 **Post-medieval:** of more modern date is the route of the dismantled coastal railway, which runs to the north and west of the development site. Within the wider area, there are numerous post-medieval limestone quarries and limekilns (LUAU 1993).

2. METHODOLOGY

2.1 FIELDWORK

- 2.1.1 The work undertaken followed the method statement detailed in the CCCHES-approved project design (*Appendix 1*) and complied with current legislation and accepted best practice, including the Code of Conduct and the relevant professional standards of the Institute of Field Archaeologists (IFA).
- 2.1.2 Thirteen 1m² test pits were hand-excavated to the depth of the natural bedrock along the easement of the proposed access road (Fig 2). Test Pits 1-6 were excavated at 10m intervals but, due to the density of the woodland, especially to the north of Lover's Lane, Test Pits 7-13 were located within available clearings that coincided with the easement for the proposed development. The test pits were located using a total station theodolite.
- 2.1.3 A complete record of all features and horizons was made on OA North *pro-forma* recording sheets, comprising a full description and preliminary classification of all horizons revealed. A photographic record in colour slide and monochrome formats was also compiled.

2.2 ARCHIVE

- 2.2.1 A full professional archive has been compiled in accordance with the project design (*Appendix 1*) and in accordance with current IFA and English Heritage guidelines (English Heritage 1991). The archive of primary fieldwork records, along with one copy of the report, will be deposited in the Cumbria Record Office, Kendal. Copies of the report will also be sent to the Cumbria SMR, Kendal, while the finds, if deemed appropriate, will be deposited with Cumbria Museums Service.

3. RESULTS

3.1 TEST PITTING

- 3.1.1 In total, 13 test pits were excavated (Fig 2), with each test pit measuring approximately 1m². A full summary of the stratigraphy recorded within each test pit is presented in *Appendix 2*.
- 3.1.2 No archaeological features were encountered in any of the test pits. The majority displayed similar stratigraphy (Plate 2), with between 0.2m and 0.5m of grey/brown sandy clay topsoil overlying between 0.2m and 0.4m orange-brown silty or sandy clay subsoil. This in turn overlay the weathered natural limestone bedrock. The subsoil, which is likely to derive from natural colluvium, was not always present and, in Test Pits 5, 7, 8, 11 and 12, the topsoil directly overlay the limestone bedrock.

3.2 FINDS

- 3.2.1 In total, six artefacts were recovered from the test pits. All were fragments of ceramics and are catalogued in *Appendix 3*.
- 3.2.2 **Ceramics:** the pottery included five sherds of red earthenware with white slip interior, at least one of which was part of a nineteenth or early twentieth century pancheon. The single sherd of white earthenware with blue transfer-printed willow pattern was dated post-1890. In general, the fragments of ceramic vessels were small, with a very low sherd to vessel ratio, consistent with thinly spread refuse, possibly deriving from night soiling, that was subsequently subject to considerable disturbance. The vessels are all of domestic origin, and their remains are unlikely to have travelled particularly far before being deposited. The presence of these remains, therefore, indicates settlement nearby from at least the nineteenth century and, over the same period, cultivation of the land from which the ceramics derived.

4. CONCLUSION

4.1 DISCUSSION

- 4.1.1 Although the negative results of the archaeological evaluation would suggest that the potential for archaeological features along the route of the proposed access road is very limited, it is not possible to state definitively that no archaeological remains lie within the development area. The absence of archaeological features could be attributed to the limited sample area of the test pits (1m²), which, located in areas of woodland, were necessarily small. In such circumstances, it would be very difficult to identify large area features containing low densities of finds, should they have been encountered. In those areas where the topsoil lay immediately above the natural bedrock, it would be almost impossible to identify features unless they had been cut into the limestone. Similarly, in those areas where subsoil was present, it is likely to have derived partly from colluvium (and thus to contain material secondarily redeposited from elsewhere), but also from bioturbation from tree roots. Such activity would have had a detrimental effect on the preservation of any sub-surface archaeological remains.
- 4.1.2 While it is possible that, around the turn of the twentieth century, the area was used for agriculture before being planted with woodland, the steepness of the slope and the thinness of the soils would seem to make this unlikely. It is, however, possible that flatter areas to the west had been manured with night soil containing pottery. Any agricultural activity in such a location is likely to precipitate colluviation and the deposition of hillwash on the lower slopes. It is, therefore, unsurprising that pottery was recovered from test pits that also revealed subsoil material. It is also possible that the gathering of sediment for the construction of the embankment associated with the disused railway line that ran through what is now Quarry Lane may also have had some effect on the local area. The slope could have been engineered during the construction of the railway and, therefore, any archaeological features or artefacts would have been destroyed during this process.

4.2 IMPACT

- 4.2.1 On the basis of the present evidence, it would appear that there is little potential for the presence of archaeological remains that might be negatively affected by the proposed development. However, previous work in limestone areas, notably that at Allithwaite (Wild 2003), combined with the known presence of archaeological cave deposits within the locality (ie, Dog Hole), would suggest the possible survival of relatively isolated archaeological features within grykes and solution holes. Where such remains have survived bioturbation and erosion, they could be destroyed by the deeper groundworks associated with the forthcoming development.

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6. ILLUSTRATIONS

6.1 LIST OF FIGURES

Figure 1: Location map

Figure 2: Test pit location plan

6.2 LIST OF PLATES

Plate 1: The wooded slope on which the evaluation took place, looking east

Plate 2: Test Pit 4, post-excavation

APPENDIX 1: PROJECT DESIGN

**SANDSIDE
QUARRY,
STORTH,
MILNTHORPE,
CUMBRIA**

**ARCHAEOLOGICAL
EVALUATION
PROJECT DESIGN**



Oxford Archaeology North

August 2005

Tarmac Ltd

Planning Reference: 5/04/9003

OA North Tender No: t2517

1. INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1 Tarmac (hereafter the 'client') has requested that Oxford Archaeology North (OA North) submit a project design and costings for undertaking a scheme of test-pitting at Sandside Quarry, Cumbria in accordance with a verbal brief from Cumbria County Council Historic Environment Section (CCCHES). Planning permission for a proposed access road (planning application 5/04/9003) has been conditionally granted upon the fulfilment of a number of conditions stated within the notice of planning consent. The scheme of test-pitting to be undertaken along the route of the proposed access road and outlined within the following project design is in compliance with Condition 10 of the notice of planning consent, which states '*No development shall take place on the site until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted to and approved by the local planning authority*'.

1.2 ARCHAEOLOGICAL BACKGROUND

- 1.2.1 Little is known of the archaeological potential directly within the area of Sandside Quarry. Within the wider area, there is not inconsiderable evidence for prehistoric activity, including occupation of caves formed within the local calcareous rocks, the best-known of which is the Dog Hole, located about 500m to the south of the development area. Collections of animal and human bone from the Dog Hole are thought to date to the Iron Age but various samples have been radiocarbon dated to the Romano-British periods, to the Anglo-Saxon period and two worked red deer antlers from the top of the sequence have more recently been dated to the late Saxon period (<http://cwis.livjm.ac.uk/bie/fossilmammal/dog%20hole.htm>). Material of Medieval date is most clearly in evidence within the surrounding area, including a deer park at Dallam, and the three pele towers located on the Dallam Tower estate: Hazleslack tower, just over 1km to the south of Sandside Quarry; Arnside tower, about 3km to the south and Beetham Hall, about 1.5km to the east. Beetham Hall is likely to date to the thirteenth century, while the others are of fourteenth or fifteenth century date (OA North 2005). Beetham Hall is also the site of a possible prehistoric settlement and cairnfield. Of more modern date is the route of the dismantled coastal railway, which runs to the north and west of the development site. Within the wider area, there are numerous limestone quarries and limekilns (LUAU 1993).

1.3 OXFORD ARCHAEOLOGY NORTH

- 1.3.1 OA North has considerable experience of the evaluation of sites of all periods, having undertaken a great number of small and large-scale projects during the past 24 years. Such projects have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. In recent years OA North also has extensive experience of archaeological work in Northern England.
- 1.3.2 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is **an Institute of Field Archaeologists (IFA) registered organisation, registration number 17**, and all its members of staff operate subject to the IFA Code of Conduct.

2. OBJECTIVES

- 2.1 The archaeological programme of work aims to determine the extent, nature and significance of any archaeological remains that may be threatened by the proposed development. To this end, the following programme has been designed, in accordance with verbal communication with CCCHES. The results will provide information as to whether further investigation is required prior to the development taking place. The required stages to achieve these ends are as follows:

- 2.2 **Archaeological Evaluation:** to implement a programme of test pitting examining a total of thirteen 1m² test pits within the area to be affected by the installation of the access road.
- 2.3 **Report and Archive:** a written report will assess the significance of the data generated by the above fieldwork programme within a local and regional context. It will present the results of the evaluation and would make an assessment of the archaeological potential of the area, along with recommendations for further work.

3. METHOD STATEMENT

3.1 EVALUATION

- 3.1.1 The programme of test pitting will establish the presence or absence of any previously unsuspected archaeological deposits and, if established, will then test their date, nature, depth and quality of preservation. In this way, it will adequately sample the threatened available area.
- 3.1.2 The evaluation is required to examine thirteen test pits each measuring 1m² placed at 10m intervals along the 120m proposed route of the access road. All excavation will be by hand. The topsoil and any modern overburden will be removed to the surface of the first significant archaeological deposit. This deposit will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. All features of archaeological interest must be investigated and recorded unless otherwise agreed by CCCHEs. Test pits will not be excavated deeper than 1.20m to accommodate health and safety constraints, but it possible that should archaeological features be identified, and following consultation with the client and CCCHEs, further test pits or extension of existing test pits may be necessary in order to more fully characterise the nature of identified archaeological features; any additional test pits, or the extension of existing test pits will involve recosting.
- 3.1.3 All test pits will be excavated in a stratigraphical manner and will be located by use of GPS equipment which is accurate to +/- 0.25m, or by use of total station theodolite; altitude information will be established with respect to Ordnance Survey Datum.
- 3.1.4 Any investigation of intact archaeological deposits will be exclusively manual. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, will be undertaken with a view to avoiding damage to any archaeological features which appear worthy of preservation *in situ*.
- 3.1.5 All information identified in the course of the site works will be recorded stratigraphically, using a system adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.
- 3.1.6 Results of all field investigations will be recorded on *pro-forma* context sheets. The site archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

- 3.1.7 **Reinstatement:** it is understood that there will be no requirement for reinstatement of the ground beyond backfilling. The ground will be backfilled so that the topsoil is laid on the top, and the ground will be roughly graded with the machine. Should there be a requirement by the client other than that stated this will involve recosting.
- 3.1.8 **Environmental Sampling:** environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches). An assessment of the environmental potential of the site will be undertaken through the examination of suitable deposits by the in-house palaeoecological specialist, who will examine the potential for further analysis. The assessment would include soil pollen analysis and the retrieval of charred plant macrofossils and land molluscs from former dry-land palaeosols and cut features. In addition, the samples would be assessed for plant macrofossils, insect, molluscs and pollen from waterlogged deposits. The costs for the palaeoecological assessment are defined as a contingency and will only be called into effect if good deposits are identified and will be subject to the agreement of CCCHES and the client.
- 3.1.9 Advice will also be sought as to whether a soil micromorphological study or any other analytical techniques will enhance the understanding of the site formation processes, including the amount of truncation to buried deposits and the preservation of deposits within negative features. Should this be required the costs for analysis have been provided as a contingency.
- 3.1.10 **Faunal remains:** if there is found to be the potential for discovery of bones of fish and small mammals, a sieving programme will be carried out. These will be assessed as appropriate by OA North's specialist in faunal remains and, subject to the results, there may be a requirement for more detailed analysis. A contingency has been included for the assessment of potential for analysis of such faunal remains.
- 3.1.11 **Human Remains:** any human remains uncovered will be left *in situ*, covered and protected. No further investigation will continue beyond that required to establish the date and character of the burial. CCCHES and the local Coroner will be informed immediately. If removal is essential, the exhumation of any funerary remains will require the provision of a Home Office license, under section 25 of the Burial Act of 1857. An application will be made by OA North for the study area on discovery of any such remains and the removal will be carried out with due care and sensitivity under the environmental health regulations
- 3.1.12 **Treatment of finds:** all finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines. It may be necessary to undertake a selective sieving strategy, should any deposit (including the topsoil or modern overburden) contain significant artefacts. Such sieving will be to 10mm and has been costed as a contingency, which will only be invoked following consultation with the client and CCCHES. All identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained on advice from the recipient museum's archive curator.
- 3.1.13 **Treasure:** any gold and silver artefacts recovered during the course of the evaluation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.

- 3.1.14 **Contingency plan:** a contingency costing may also be employed for unseen delays caused by prolonged periods of bad weather, vandalism, discovery of unforeseen complex deposits and/or artefacts which require specialist removal, use of shoring to excavate important features close to the excavation sections etc. This has been included in the Costings document and would be in agreement with the client.
- 3.1.15 The evaluation will provide a predictive model of surviving archaeological remains detailing zones of relative importance against known development proposals. In this way, an impact assessment will also be provided.

3.2 ARCHIVE/REPORT

- 3.2.1 **Archive:** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include summary processing and analysis of all features, finds, or palaeoenvironmental data recovered during fieldwork, which will be catalogued by context. All artefacts will be processed to MAP2 standards and will be assessed by our in-house finds specialists.
- 3.2.2 The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct. OA North conforms to best practice in the preparation of project archives for long-term storage. This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the Cumbria HER (the index to the archive and a copy of the report). OA North practice is to deposit the original record archive of projects with the appropriate County Record Office.
- 3.2.3 The deposition and disposal of any artefacts recovered in the evaluation will be agreed with the legal owner and an appropriate recipient museum. CCCHES will be notified of the arrangements made.
- 3.2.4 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the client, and a further three copies submitted to the Cumbria HER within eight weeks of completion. The report will include:
- a site location plan related to the national grid
 - a front cover to include the planning application number and the NGR
 - the dates on which the fieldwork was undertaken
 - a concise, non-technical summary of the results
 - an explanation to any agreed variations to the brief, including any justification for any analyses not undertaken
 - a description of the methodology employed, work undertaken and results obtained
 - plans and sections at an appropriate scale showing the location and position of deposits and finds located
 - a list of and dates for any finds recovered and a description and interpretation of the deposits identified
 - a description of any environmental or other specialist work undertaken and the results obtained
 - An assessment of the likely impact of the proposed development on areas of known and predicted archaeology
 - a copy of this project design, and indications of any agreed departure from that design

- the report will also include a complete bibliography of sources from which data has been derived.
- 3.2.5 Recommendations concerning any subsequent mitigation strategies and/or further archaeological work following the results of the field evaluation will **not** be included, although this may be outlined to CCCHEs in a separate communication.
- 3.2.6 This report will be in the same basic format as this project design; a copy of the report can be provided on CD, if required.
- 3.2.7 The Arts and Humanities Data Service (AHDS) online database project *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.
- 3.2.8 **Confidentiality:** all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

4. HEALTH AND SAFETY

- 4.1 OA North provides a Health and Safety Statement for all projects and maintains a Unit 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 (1997). A written risk assessment will be undertaken in advance of project commencement and copies will be made available on request to all interested parties.
- 4.2 Full regard will, of course, be given to all constraints (services etc) during the watching brief as well as to all Health and Safety considerations. OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. As a matter of course the Unit uses a U-Scan device prior to any excavation to test for services. **It is assumed that the client will provide any available information regarding services within the study area, if available.**

5. PROJECT MONITORING

- 5.1 **Access:** liaison for basic site access will be undertaken through the client and it is understood that there will be access for both pedestrian and plant traffic to the site. The site lies within a secure walled and gated enclosure.
- 5.2 Whilst the work is undertaken for the client, the CCCHEs will be kept fully informed of the work and its results and will be notified a week in advance of the commencement of the fieldwork. Any proposed changes to the project design will be agreed with CCCHEs in consultation with the client.

6. WORK TIMETABLE

- 6.1 **Evaluation Test-Pitting:** approximately six days will be required to complete the field work for this element.
- 6.2 **Archive/Report:** the report and archive will be produced following the completion of all the fieldwork. The final report will be submitted within eight weeks of completion of the fieldwork, although an interim report can be issued within two weeks at the request of the client, and the archive deposited within six months.
- 6.3 OA North can execute projects at very short notice once a formal written agreement has been received from the client.

7. STAFFING

- 7.1 The project will be under the direct management of **Stephen Rowland** (OA North project manager) to whom all correspondence should be addressed.
- 7.2 All elements of the assessment will be supervised by either an OA North project officer or supervisor experienced in this type of project. Due to scheduling requirements it is not possible to provide these details at the present time. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.
- 7.3 Assessment of the finds from the evaluation will be undertaken by OA North's in-house finds specialist **Sean McPhillips** or **Jo Dawson** (OA North project supervisors). Both Sean and Jo act as OA North's in-house finds specialists and together they have an extensive knowledge of all finds of all periods from archaeological sites in northern England.
- 7.4 Assessment of any palaeoenvironmental samples will be undertaken by, or under the auspices of, **Elizabeth Huckerby MSc** (OA North project officer). Elizabeth has extensive knowledge of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey.

8. INSURANCE

- 8.1 OA North has a professional indemnity cover to a value of £2,000,000; proof of which can be supplied as required.

REFERENCES

- English Heritage, 1991 *Management of Archaeological Projects*, second edition, London
- Lancaster University Archaeological Unit, 1993 *Arnsd/Silverdale area of outstanding natural beauty, Cumbria and Lancashire, Rapid identification survey*, Unpubl rep
- Oxford Archaeology North, 2004 *Plotting the course of the River Eden through Carlisle, Documentary search and GIS plot*, Unpubl rep
- Oxford Archaeology North, 2005 *The three towers, Dallam Tower Estate, Cumbria, Draft Management Plan*, Unpubl rep
- UKIC, 1990 *Guidelines for the Preparation of Archives for Long-Term Storage*
- <http://cwis.livjm.ac.uk/bie/fossilmammal/dog%20hole.htm> *Doghole Cave, Haverbrack*

APPENDIX 2: TEST PIT SUMMARIES

Test Pit 1			
Deposit	Depth	Context	Finds
Topsoil. Dark grey/brown sandy clay with very occasional inclusions	0.0-0.3m	3	None
Subsoil. Dark orange-brown clay, with very occasional inclusions	0.3-0.5m	4	None
Natural. Fragmented limestone	0.5m	33	None

Test Pit 2			
Deposit	Depth	Context	Finds
Topsoil. Mid-grey/brown sandy clay with very occasional inclusions	0.0 – 0.3m	1	None
		2	None
Subsoil. Orange-brown sandy clay, with occasional inclusions	0.3 – 0.6m		
Natural. Fragmented limestone	0.6m	34	None

Test Pit 3			
Deposit	Depth	Context	Finds
Topsoil. Grey/brown silty clay with occasional inclusions	0.0 – 0.35m	8	Pottery
Subsoil. Orange-brown silty clay with moderate inclusions	0.35 – 0.76m	9	
Natural. Degraded limestone	0.76m	10	None

Test Pit 4			
Deposit	Depth	Context	Finds
Topsoil. Grey/brown sandy clay with moderate inclusions	0.0 – 0.4m	5	Pottery
Subsoil. Orange-brown sandy clay with occasional inclusions	0.4 – 0.7m	6	None
Natural. Limestone	0.7m	7	None

Test Pit 5			
Deposit	Depth	Context	Finds
Topsoil. Grey/brown sandy clay with occasional inclusions	0.0 – 0.5m	11	None
Natural. Limestone	0.5m	12	None

Test Pit 6			
Deposit	Depth	Context	Finds
Topsoil. Grey/brown sandy clay with occasional inclusions	0.0 – 0.4m	13	None
Subsoil. Orange-brown sandy clay with occasional inclusions	0.4 – 0.8m	14	None
Natural. Fragmented limestone	0.8m	15	None

Test Pit 7			
Deposit	Depth	Context	Finds
Topsoil. Blackish-brown silty clay with occasional inclusions	0.0 – 0.3m	16	None
Natural. Fragmented limestone	0.3m	17	None

Test Pit 8			
Deposit	Depth	Context	Finds
Topsoil. Grey/brown sandy clay with occasional inclusions	0.0 – 0.2m	18	None
Natural. Fragmented Limestone	0.2m	19	None

Test Pit 9			
Deposit	Depth	Context	Finds
Topsoil. Mid-grey/brown sandy clay with occasional inclusions	0.0 – 0.3m	20	None
Subsoil. Dark orange-brown sandy clay with moderate inclusions	0.3 – 0.7m	21	None
Natural. Fragmented limestone	0.7m	22	None

Test Pit 10			
Deposit	Depth	Context	Finds
Topsoil. Light brownish-black sandy clay with occasional inclusions	0.0 – 0.2m	25	None
Subsoil. Light orange-brown sandy clay with occasional inclusions	0.2 – 0.4m	26	None
Natural. Degraded limestone	0.4m	27	None

Test Pit 11			
Deposit	Depth	Context	Finds
Topsoil. Mid-brownish-black sandy clay with occasional inclusions	0.0 – 0.2m	28	None
Natural. Degraded limestone	0.2m	29	None

Test Pit 12			
Deposit	Depth	Context	Finds
Topsoil. Grey/brown sandy clay with occasional inclusions	0.0 – 0.2m	23	None
Natural. Degraded limestone	0.2m	24	None

Test Pit 13			
Deposit	Depth	Context	Finds
Topsoil. Grey/brown sandy clay with occasional inclusions	0.0 – 0.2m	30	None
Subsoil. Orange-brown sandy clay with occasional inclusions	0.2 – 0.3m	31	None
Natural. Fragmented limestone	0.3m	32	None

APPENDIX 3: FINDS SUMMARY

Test Pit	Context	Qty	Category	Description	Date range
3	8, Topsoil	5	Pottery	Red earthenware with white slip.	Nineteenth - early twentieth century
4	5, Topsoil	1	Pottery	White earthenware, blue transfer-printed willow pattern	Nineteenth - early twentieth century



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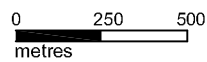


Figure 1: Location Map

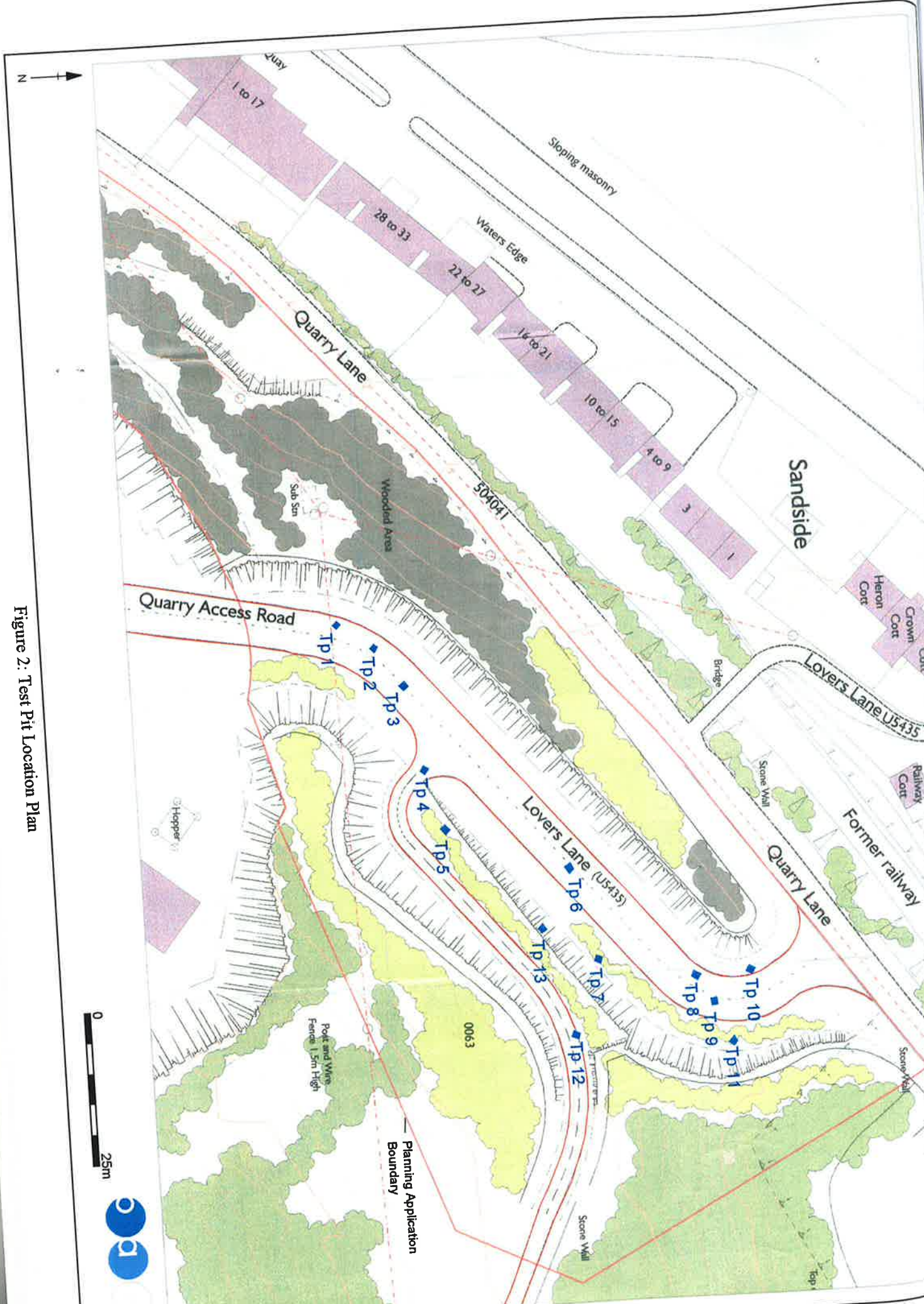


Figure 2: Test Pit Location Plan



Plate 1: The wooded slope on which the evaluation took place, looking east



Plate 2: Test Pit 4, post-excavation