# Low Plains Quarry, Lazonby

## Cumbria

## Archaeological Investigation Report

**Oxford Archaeology North**

May 2003

**Tarmac Ltd**

Issue No: 2002-3/092
OA North Job No: L9197
NGR: NY 4997 4166

**Document Title:** **LOW PLAINS QUARRY, LAZONBY, CUMBRIA**

**Document Type:** **Archaeological Investigation Report**

**Client Name:** **Tarmac Ltd**

**Issue Number:** 2002-3/092

**OA Job Number:** L9197

**National Grid Reference:** NY 4997 4166

| | | |
|---|---|---|
| Prepared by: | Andrew Bates | |
| Position: | Project Supervisor | |
| Date: | May 2003 | |
| Checked by: | Jamie Quartermaine | Signed……. |
| Position: | Project Manager | |
| Date: | May 2003 | |
| Approved by: | Carol Allen | Signed……. |
| Position: | Project Manager | |
| Date: | May 2003 | |
| Document File Location | Jamie/Projects/9197lowplains/Report | |

**Oxford Archaeology North**
Storey Institute
Meeting House Lane
Lancaster
LA1 1TF
t: (0044) 01524 848666
f: (0044) 01524 848606

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk


Janus House
Osney Mead
Oxford
OX2 0EA
t: (0044) 01865 263800
f: (0044) 01865 793496

# CONTENTS

# SUMMARY

Oxford Archaeology North was commissioned by Tarmac Ltd to conduct an archaeologically supervised top-soil strip and excavation at their quarry at Low Plains, Lazonby, Cumbria (NGR: NY 4997 4166), prior to the extension of the quarry. This area included the site of a circular cropmark (Site 16) identified during an archaeological assessment of the area (LUAU 2000).

The site lies within an area of known prehistoric sites, particularly on the nearby Lazonby Fell where Neolithic, Bronze Age and Iron Age sites are located. The programme of works was designed to locate any subsurface feature from which the cropmark resulted, and any other associated archaeological remains.

Following acceptance of a project design produced by OA North in accordance with a verbal brief by Cumbria County Council, an area was stripped covering most of the proposed quarry extension including the area of the cropmark. No features were located of any archaeological significance during the programme of works, although one flint was recovered from the topsoil.

On the basis of these results it is recommended that the proposed topsoil strip for the quarry extension should proceed without further archaeological works.

# ACKNOWLEDGEMENTS

Thanks are due to the staff of Tarmac Ltd and to Robert Nicholson and James Freeman in particular for their help in setting up the project. Metcalf's staff are also to be thanked for their assistance during the fieldwork. Jeremy Parsons, Cumbria County Council Archaeological Service, is particularly to be thanked for his assistance, and guidance in the course of the project.

The archaeological investigation was undertaken by Andrew Bates, Nicola Gaskill and Martin Sowerby. The illustrations were completed by Emma Carter, and the report was compiled by Andrew Bates. Daniel Elsworth commented on the flint. The report was edited by Jamie Quartermaine and Carol Allen. The project was managed by Jamie Quartermaine.

# 1. INTRODUCTION

## 1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 In response to an application for Planning permission by Tarmac Ltd to extend their sand quarry at Low Plains, Lazonby, Cumbria (NGR NY 4997 4166), a programme of archaeological investigation was undertaken to assess and evaluate the archaeological resource affected by the extraction proposals. The initial study, an archaeological assessment of the area (LUAU 2000), identified a broad range of monuments including a circular, cropmark feature. The area of the cropmark was then investigated by geophysical survey (GSB 2002), but this did not identify or confirm the cropmark feature. A project design (*Appendix 1*) for further investigation of this feature and its environs was compiled by OA North in accordance with a verbal brief by Jeremy Parsons, Cumbria County Council Archaeological Service (CCCAS). This allowed for an extensive topsoil strip under archaeological supervision, followed by cleaning of the subsoils and the excavation of any features exposed. Following discussion of the project with Robert Nicholson of Tarmac, OA North was commissioned in February 2003 to undertake the work.

## 1.2 PHYSICAL BACKGROUND

1.2.1 ***Location:*** Low Plains Quarry is at the base of the south facing slopes of Balze Fell on low-lying land in the upper valley of the River Petteril (Fig 1), some *c*10kms north of Penrith (centred NY 4997 4166). Historically it was in Cumberland, but the area has, since 1974, fallen within the county of Cumbria. The place name 'Low Plains' is applied to two separate farmsteads in the area, one at NY 496 417 and one at NY 503 415.

1.2.2 ***Physical Background:*** the site lies in an area of Penrith and Brockram (New Red) Sandstone (Doubleday 1901, 8-9; Higham 1986, 6), but locally the underlying geology is sand and gravel. The solid geology is overlain by well-drained loamy soils, and '*enjoys something of a rain-shadow status*' (Higham 1986, 8) which makes it attractive to arable cultivation. Currently, the land is principally used for arable (barley) with pasture on the steeper slopes to the north-west of Low Plains Farm. Woodland has been planted along the edge of Blackrack Beck.

# 2. BACKGROUND

## 2.1 HISTORICAL BACKGROUND

2.1.1 ***Prehistory:*** the fertile Eden Valley catchment area, and nearby Lazonby Fell, attracted very early settlement. Higham 1986 identified the Eden valley, close to the site, as one of the 'core areas' in which groupings of Neolithic settlement first appeared in the north of England. Lazonby Fell is an area of unploughed heathland which has allowed good survival of Neolithic and Bronze Age monuments including cairns, and there have been antiquarian discoveries of artefacts such as vessels, flint arrowheads and 'sculptured stones' in particularly dense concentrations (LUAU 1994, 50). Jefferson was describing such prehistoric remains when he said that '*Some urns were found on the fell, about sixty years since, which contained bones and ashes...there were then several cairns on the commons*' (Jefferson 1840, 462).

2.1.2 Remnant Iron Age field systems, trackways and other settlement remains suggest that in later prehistory, small-scale cultivation and livestock management took place in increasingly centralised communities. One settlement is known, dating from this period, about 0.6km south-east of the site at around NY 5003 4042, with contemporary trackways and field boundaries (LUAU 1994, 53). The site is described as '*a small, circular or kidney-shaped enclosure with stone walls, and a large hut with stone walls, located on a rise and reminiscent of a small hillfort*'.

2.1.3 ***Roman:*** Roman occupation, from *c*AD 70, had less impact on Cumbria than on other parts of Britain. Nonetheless, the '*grand military way*' (Nicholson and Burn 1777, 420), now called the A6, was established and gave Cumbria a vital transport link which is still one of its major roads. The road was built in the first century (Margary 1957) and may have had an impact on and around the study area, immediately to its east. Temporary marching camps were constructed close to the road, for example at Petteril Green *c*1km west of the area, and there is a likelihood that further Roman sites exist in the vicinity (Lambert 1996, 15).

2.1.4 ***Medieval:*** there is no documented activity within the vicinity of the study area. However, there are numerous settlements in the Eden valley, whose names have Anglian origins (Rollinson 1996, 35). The place-name 'Elkrington', seen in field names in the vicinity of the site, includes elements often seen in Anglo-Saxon place names, but this is not sufficient evidence to be confident of settlement.

2.1.5 There is also no specific evidence for occupation or use of the study area in the medieval period; however, there is a reference in an antiquarian report of '*a place called Castle Rigg the ruins of a building appear, moated round*' (Hutchinson 1794, i, 289). This corresponds to the nearby Castlerigg Castle, but there are no longer any extant medieval remains at the site (Perriam and Robinson 1998, 210).

2.1.6 The site is believed to have lain within the extensive estates of the Dacre family (Dilley 1972 264) and the parish of Lazonby, an area of rural and agricultural character throughout the Middle Ages. By the late eighteenth century, the parish was home to '*about 115 families, four whereof are presbyterians*' according to Nicholson and Burn (1777, 416).

2.1.7 ***Post-Medieval:*** at the beginning of the nineteenth century, changes in land tenure and farming practice may have been partly responsible for a brief and rapid spate of population growth in the area. An Act of Parliament enclosed the local commons

in 1803; the population of Lazonby township at that time was around 320. In 1811 it was 384, but by 1821 had risen steeply to 533 (Whellan 1860, 575). Thereafter it grew more slowly. There is no record of how many of these people lived in the study area, but it is possible that the two Low Plains farms were established on newly enclosed ground in the early nineteenth century.

2.1.8 The economy of the area reflected that of the parish at large, whose inhabitants were '*engaged in agricultural pursuits, and in quarrying, large quantities of red sandstone, etc, being sent from this parish*' (Whellan 1860, 575).

2.1.9 Ordnance Survey maps show that the area itself has remained almost entirely unchanged since 1845, With the exception of small stone quarries, the area has remained rural and agricultural in character throughout the twentieth century, until its recent appropriation for quarrying on a larger scale.

## 2.2 ARCHAEOLOGICAL BACKGROUND - SUMMARY OF THE ASSESSMENT RESULTS

2.2.1 In the area of the proposed quarry extension there were four sites identified by the assessment (LUAU 2000), Sites 02, 15, 16 and17. Site 02 is a large enclosure or field system identified from a cropmark, and its extent is indicated by hatching on Fig 2. No features relating to the site were identified in the course of the survey. This area of the site has yet to be developed as part of the present extraction programme. Site 15 is a modern sand quarry, set into the side of a prominent sand dune. This dune has been quarried away since the assessment in 2000. Site 16 is a 12m diameter cropmark ring feature, which was identified both from aerial photographs and from ground observation (Plates 1 and 2). Once the barley crop had been removed there was no surface expression for the feature. Site 17 is a linear cropmark, which is 35m x 10m in extent, but it was not evident whether this was an archaeological or a geological feature.

# 3. METHODOLOGY

## 3.1 PROJECT DESIGN

3.1.1 A project design (*Appendix 1*) was submitted by OA North, in accordance with a project brief by CCCAS, for an archaeological investigation of an area of proposed extraction which includes Site 16. The project design provided for a top-soil strip, the selective cleaning of the area and the excavation of features revealed. The project design was adhered to in full and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

## 3.2 WATCHING BRIEF AND EXCAVATION

3.2.1 The programme of work included the removal of topsoil within the defined area (Fig 2); this was undertaken with a 16 ton 360º tracked excavator, using a toothless ditching bucket, under constant archaeological supervision. The topsoil was taken off in spits down to the interface with natural subsoils. The ground surface, following mechanical excavation, was relatively clean, sufficient to reveal most features, but across 25% of the area the ground surface was subject to manual cleaning with hoes. On the discovery of archaeological features these were subject to manual excavation, and they were then subject to detailed recording. All archaeological features, horizons and any artefacts found during the excavation were recorded and located by means of differential GPS equipment, which can locate to an accuracy of 0.25m. All spoil was scanned for finds during the excavation.

3.2.2 The recording comprised a full description and preliminary classification of features or structures revealed, on OA North *pro-forma* sheets, and their accurate location in plan. A plan of the area excavated was produced by means of the GPS equipment (Fig 2). A photographic record in colour slide and monochrome formats was also compiled.

## 3.3 THE ARCHIVE

3.3.1 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 will be deposited in the Cumbria Record Office with a copy to the Cumbria SMR.

# 4. RESULTS

## 4.1 THE EXCAVATION

4.1.1 An area of approximately 3385m$^2$ (Fig 3) was stripped of 0.3m to 0.6m of a dark-grey, silty fine sand topsoil to reveal the underlying natural glacial till (Plate 4). This consisted of areas of mid-red and mid-grey orange fine to medium sand containing a band of sandy gravels and silts. The trench was extended in the area of the potential ring ditch (Site 16) indicated by the cropmark up to the line of a modern fence, which defines the limit of the current quarry extension (Fig 3).

4.1.2 The excavation revealed a series of modern features, which included four animal burials and two geotechnical pits (Fig 3); these were not investigated further after they were proven to be of modern date. The animal burials were obviously twentieth century judging by their state of decomposition, and the geotechnical pits were observed cutting the topsoil during machining. A further three features were noted within the trench. Feature ***01*** comprised a sub-square, flat bottomed, u-shaped cut, 0.4m long and 0.3m wide, with straight, near vertical, sides. It was filled with a mid-grey-brown friable silty sand, ***02***. Feature ***06*** was very similar in nature, it had a sub-square cut, 0.2m in length, 0.15m wide and 0.05m deep, with a flat base and straight near vertical sides. It was also filled with a mid-grey-brown friable sand, ***05***. Both of these features are thought to be the remains of a modern temporary fence, although no direct dating evidence was retrieved. All contexts are listed in *Appendix 2*.

4.1.3 The third feature, ***04***, comprised a sub-circular cut, 0.78m in diameter and 0.20m deep, with concave sides and base. It was filled with a loose mid-grey-brown silty sand, ***03***. This may represent the base of a pit, or alternatively where a stone has been removed by ploughing and the remaining hole filled with topsoil. The area was also crossed by plough marks, which lined up with the current ploughing visible in the adjacent crop.

4.1.4 The ring cropmark feature (Site 16) was very specifically searched for. The ground location for the feature was established by manual survey from the coordinates in the assessment (LUAU 2000), and this was checked by means of survey based on ground photographs taken at the time of the assessment. The two locational methods corroborated each other and the reported location was subject to very careful, observed mechanical excavation. This was followed by careful manual cleaning across the full extent of the possible location for the feature; however, no evidence for the feature, or any associated features was discovered (Plate 3). The top-soil strip area was extended by 8m to the north-west, to check if the feature extended, in this direction, but to no avail.

## 4.2 THE FINDS

4.2.1 A single mid-brown 'toffee coloured' flint, with some cortex present, was recovered from the topsoil. It was a retouched, regular flint flake, reminiscent of an end blade scrapper, with re-working at the proximal end to remove the bulb of percussion. The form of the flint is not inherently datable, but could potentially be Neolithic in origin.

# 5. CONCLUSIONS AND RECOMMENDATIONS

## 5.1 DISCUSSION

5.1.1 The ring-shaped cropmark was clearly identified in the course of the assessment (LUAU 2000) from both aerial photographs and ground observation and photographs. However, there was no corresponding anomaly identified by the geophysical survey (GSB 2002), nor was one encountered in the course of the present programme of exploration as a negative feature cutting into the natural sand. It can only be assumed that the cropmark was the result of an anomaly entirely contained within the topsoil, and was not necessarily of any antiquity.

5.1.2 ***Impact:*** while it is evident that the current quarry extension will have an adverse effect on any surviving archaeological remains within the area of the quarry extension, no significant archaeological resource was identified or confirmed by the geophysical survey or excavation. The presence of the flint, however, does suggest some prehistoric activity within the vicinity.

## 5.2 RECOMMENDATIONS

5.2.1 Given the absence of any definitive, confirmed archaeological remains within the extent of the reported ring feature, as a result of both the geophysical survey and the archaeologically observed topsoil strip, it is recommended that the proposed quarry extension (as defined in Fig 3) should proceed without any additional archaeological works. However, it is recognised that the general area has considerable archaeological potential. Any additional episodes of quarry extension in the environs of the Site 02 enclosure or field system, identified in the assessment (see Fig 2), will need to involve a programme of archaeological evaluation. This should be undertaken in accordance with the January 2003 OA North project design for Low Plains Quarry, Lazonby (*Appendix 1*).

# 6. BIBLIOGRAPHY

## 6.1 UNPUBLISHED SOURCES

CRO DRC/8/115 1845 Tithe map and apportionment by Sylvanus Miller

Dilley, RS, 1972 Common Land in Cumberland 1500-185, unpubl PhD thesis, Cambridge

Ordnance Survey First edition (1860) 25" to 1 mile - Cumberland, Sheet 39.8

## 6.2 SECONDARY SOURCES

Doubleday, HA, 1901 *The Victoria History of the County of Cumberland*, **1**, London

English Heritage, 1991 The *Management of Archaeological Projects,* 2nd edition, London

GSB Prospection 2002 Low *Plains Quarry, Cumbria, Geophysical Survey Report*, GSB Report 2002/98

Higham, N, 1986 The *Northern Counties to AD 1000*, London

Hutchinson, W, 1794 The *History of the County of Cumberland*, 2 vols, repr 1974, Wakefield

Jefferson, S, 1840 The *History and Antiquities of Leath Ward, in the County of Cumberland*, Carlisle

LUAU (Lancaster University Archaeological Unit), 1994 *North West Ethylene Pipeline, English Section: Archaeological Studies 1988-1994,* Unpubl rep

LUAU (Lancaster University Archaeological Unit), 2000 *Low Plains Quarry, Lazonby, Cumbria: assessment report*, Unpubl rep

Lambert, J (ed), 1996 Transect *through time: the Archaeological Landscape of the Shell North Western Ethylene Pipeline,* Lancaster Imprints, **1**, Lancaster

Margary, ID, 1957 Roman *Roads in Britain*, London

Nicholson, J, and Burn, R, 1777 (1976 reprint) The *History and Antiquities of the Counties of Westmorland and Cumberland*, **2**, Ilkley

Perriam, DR, and Robinson, J, 1998 The *medieval fortified buildings of Cumbria,* Cumberland Westmorland Antiq Archaeol Soc, Extra Series, **29**, Kendal

Rollinson, W, 1996 *A History of Cumberland and Westmorland* (2nd ed), Chichester

Whellan, W, 1860 The *History and Topography of the Counties of Cumberland and Westmoreland*, Manchester

# APPENDIX 1
# PROJECT DESIGN

**Oxford**

**Archaeology**

**January 2003** **North**

## LOW PLAINS QUARRY, LAZONBY

## CUMBRIA

## ARCHAEOLOGICAL EVALUATION

***Proposals***

*The following project design is offered in response to a request from Tarmac Quarry Products Ltd for an archaeological evaluation of the Low Plains Quarry site.*

# 1. INTRODUCTION

## 1.1 CONTRACT BACKGROUND

1.1.1 Oxford Archaeology North (OA North) has been invited by Tarmac Northern Ltd to submit a project design and costs for an archaeological evaluation of selected sites of Low Plains Quarry, Lazonby, Cumbria, in advance of a proposed sand and gravel extraction. This follows on from and is informed by an archaeological assessment of the overall study area undertaken by LUAU in July and December 1999 (LUAU 2000) and a geophysical survey by GSB Prospection in December 2002. The project design is in accordance with a verbal brief by the Assistant Archaeologist for Cumbria County Council.

## 1.2 ARCHAEOLOGICAL BACKGROUND

1.2.1 The assessment identified a potentially significant sub-surface resource on the eastern side of the study area, which comprises a series of curvilinear crop-marks across an extended area (Site 02), and also a localised sub-circular cropmark (Site 16) to the north of a sand hill. The larger cropmark site (02) suggests the existence of boundaries or enclosures; although field inspection has not encountered archaeological remains, there is a possibility that sub-surface features may survive. The site 02 extensive curvilinear features appear to be elements of a sub-elliptical field system. One of the boundaries is apparently an extension of one of the extant boundaries around the eastern Low Plains farm enclosure, and would appear to be a part of an earlier field system. There is no evidence, however, of these boundaries on the 1845 tithe map (CRO/DRC/8/115) and this then must pre-date the map.

1.2.2 The small cropmark (Site 16) was seemingly a small enclosure and was very clear even from surface observation and comprised a series of concentric circles indicative of a small enclosure, which was no more than 12m across; this also contains some irregular internal features. The features were marked by high growth of crop, and therefore these are likely to reflect sub-surface ditches. Close examination of the site revealed no surface indications beyond those of the enhanced crops, reflecting the fact that the field has been subject to repeated ploughing.

1.2.3 A geophysical survey (GSB 2002) was undertaken in the area of Site 16 but did not identify the enclosure, and the feature is only imprecisely located as a cropmark (there is no crop presently on the site).

## 1.3 OXFORD ARCHAEOLOGY NORTH

1.3.1 OA North has considerable experience of the evaluation and excavation of sites of all periods, having undertaken a great number of small and large scale projects during the past 18 years. Evaluations and assessments have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. OA North undertook the initial assessment of the site and OA North has also undertaken the definitive archaeological study of the Shell pipeline, which examined a one kilometre wide corridor, which included part of the Low Plains study area. OA North has also undertook numerous assessment, landscape survey and evaluations on similar quarry or opencast extraction sites such as the nearby gravel extraction site at Kirkby Thore. OA North has the professional expertise and resource to undertake the project detailed below to a high level of quality and efficiency. OA North and all its members of staff operate subject to the Institute of Field Archaeologists (IFA) Code of Conduct.

# 2. OBJECTIVES

2.1 The following programme has been designed in accordance with a verbal brief by Jeremy Parsons,Assistant Archaeologist for Cumbria County Council to provide an accurate archaeological evaluation of selected sites within the study area, that were highlighted by the earlier assessment, and to undertake a topsoil strip and excavation. The required stages to achieve these ends are as follows:

## 2.2 SURPERVISED TOPSOIL STRIP AND CLEANING

2.2.1 A watching brief will be maintained in the course of a topsoil strip of an area of 3500m2 centred on the reported location of Site 16. Following the topsoil strip the site will be subject to manual cleaning of the site concentrating in areas of observed features.

**2.3 EXCAVATION**

2.3.1 Excavation of features identified in the area of the topsoil strip by means of manual techniques.

**2.5 TRIAL TRENCHING**

2.5.1 The north-western part of Site 02 is within an area of proposed extraction. A series of trial trenches will be set across the lines of cropmark features, that have been identified by aerial photography. The trenching is intended to inform the sub-surface survival of the boundaries and also to locate the lines of these features.

**2.6 EVALUATION / EXCAVATION REPORT**

2.6.1 A written evaluation report will assess the significance of the data generated by this programme within a local and regional context. It will advise on the requirements for further evaluation or recording measures as necessary.

## 3. METHODS STATEMENT

3.1 The following work programme is submitted in line with the stages and objectives of the archaeological work summarised above.

**3.2 SUPERVISED TOP-SOIL STRIP AND CLEANING**

3.2.1 The area around the reported location of Site 16, an area of *c*3500m2 will be topsoil stripped, using plant to be provided by the client, down to the level of a significant archaeological resource. Excavation of the uppermost levels of modern overburden material will be undertaken in successive, level spits, by a machine fitted with a toothless ditching bucket to the top of the first significant archaeological level. The work will be supervised by a suitably experienced archaeologist.

3.2.2 Thereafter, the area will be selectively cleaned by hand and subsequent excavation of any identified features and/or deposits will for the most part be manual. It is anticipated that this would involve the cleaning of one quarter of the stripped area (880m2). If the enclosure is not identified as a result of the selective cleaning, or if the character of the stratigraphy is such that archaeological features will not be evident following the machine strip, then there will be a need to clean the rest of the site. The costs for the full clean is defined as a contingency.

**3.3 EXCAVATION**

3.3.1 Following the cleaning of the site and the identification of the archaeological resource a programme of excavation will be implemented. The costs and time on site for this element are totally reliant on the extent of the features identified during the topsoil strip. It is therefore proposed to cost for this element following the site cleaning.

3.3.2 Excavation will be by manual techniques. Pits and postholes will be subject to a 50% by volume controlled stratigraphic excavation, with the remainder of the feature, should it prove necessary to be removed in entirety, excavated quickly keeping only that dating evidence which is securely derived from the feature in question.

3.3.3 Linear cut features, such as ditches and gullies, will be subject to up to a maximum of 20% by volume controlled stratigraphic excavation, with the excavation concentrating on any terminals and intersections with other features which would provide important stratigraphic information. As with pits and postholes, should it prove necessary to remove the remainder of the feature to expose underlying features and/or deposits, it will be excavated quickly keeping only that dating evidence which is securely derived from the feature in question.

3.3.4 Extensive linear deposits or homogeneous spreads of material will be sample excavated by hand to a maximum of 10-20% by volume (the size of the sample to be agreed following consultation with the Assistant Archaeologist). If features/deposits are revealed which need to be removed and which are suitable for machine excavation, such as large-scale dump deposits (such as post-

medieval spread 164), or substantial linear cut features, then they would be sample excavated to confirm their homogeneity before being removed by machine.

3.3.5 Structural remains will be excavated manually to define their extent, nature, form and, where possible, date. Any hearths and/or internal features will be 100% sample excavated to provide information on their date and function, and the extent of any associated floor surfaces will be determined.

3.3.6 It should be noted that no archaeological deposits will be entirely removed from the site unless their excavation is necessary to reveal other features and/or deposits. If the excavation is to proceed below a depth of 1.2m then the sides will be stepped in. Cut features identified against the edges of the excavation will not be excavated below a safe working limit of 1.2m unless it is confirmed by the Assistant Archaeologist that they are of exceptional importance.

3.3.7 Any cremations and inhumations that are discovered will be subject to a 100% by volume controlled stratigraphic excavation (it should be noted, however, that should intact cremations be revealed then the vessels will be lifted whole for excavation later under laboratory conditions). All human remains will be recorded using OA North's skeleton recording forms. The grave cut and/or coffin and contents will be recorded in plan at 1:20. Significant details of any grave goods, should they be discovered, will be planned at 1:10. Photography will be used to provide a further detailed record of the skeleton. The removal of such remains will be carried out with due care and sensitivity under Home Office Licence as required by the *Burials Act 1857*.

3.3.8 All information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by the 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.

3.3.9 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, following on-site processing, will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

3.2.10 Environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from suitable deposits (ie. the deposits are reasonably well dated and are from contexts the derivation of which can be understood with a degree of confidence).

3.2.11 Samples will also be collected for technological, pedological and chronological analysis as appropriate. If necessary, access to conservation advice and facilities can be made available. OA North maintains close relationships with Ancient Monuments Laboratory staff at the Universities of Durham and York and, in addition, employs artefact and palaeoecology specialists with considerable expertise in the investigation, excavation and finds management of sites of all periods and types, who are readily available for consultation.

3.2.12 The position of the excavation will be recorded using a total station. The information will be tied in to OD.

### 3.4 EVALUATION TRENCHING

3.4.1 ***Targeted Trenching:*** this programme of trenching will establish the presence or absence of suspected archaeological deposits and, if established, will then briefly test their date, nature, and quality of preservation. Excavation will assess the character of all archaeological deposits and will be continued to the depth of natural sub-soils. This element of the trial trenching is invaluable in order to assess those parts, within the proposed study area, where there is a potential for archaeological deposits to survive which are not visible on the surface, and will concentrate on the identified putative field boundaries that have been identified from aerial photography (LUAU 2000) around the north-eastern part of Site 02, which will be directly affected by the summer 2000 programme of extraction.

3.4.2 A series of eight 20m x 2m machine excavated trenches will be excavated across the line of the putative boundary ditch, but will be contained within the extent of the area of proposed extraction, as defined on a plan provided by Tarmac Quarry Products Ltd (March 2000). The trenches are intended to explore the extent, character and line of the feature. The precise locations of the

trenches may be subject to discussions with the client and Assistant Archaeologist of Cumbria County Council at the outset of the project.

3.4.3 ***Methodology:*** to maximise the speed and efficiency of the operation the removal of overburden will be undertaken by machine (with a standard five or six foot toothless ditching bucket), although in areas where ephemeral remains are encountered elements may be hand dug. All trenches will be excavated in a stratigraphical manner, whether by machine or by hand. Trenches will be accurately located with regard to surrounding features, by use of a total station survey instrument.

3.4.4 ***Recording:*** all information identified in the course of the site works will be recorded stratigraphically, 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.

3.4.5 Results of the field investigation will be recorded using a system, adapted from that used by Centre for Archaeology of English Heritage. The 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. Samples will be collected for technological, pedological, palaeoenvironmental and chronological analysis as appropriate, but it is only intended to process such material for assessment at this stage. If necessary, access to conservation advice and facilities can be made available. OA North maintains close relationships with Ancient Monuments Laboratory staff at the Universities of Durham and York and, in addition, employs artefact and palaeoecology specialists with considerable expertise in the investigation, excavation and finds management of sites of all periods and types, who are readily available for consultation.

### 3.5 EVALUATION AND EXCAVATION REPORT

3.5.1 ***Archive:*** the results of Stages 3.1-3.4 above will form the basis of 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. The deposition of a properly quantified, ordered, and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the Institute of Field Archaeologists in that organisation's Code of Conduct. This archive will be provided in the English Heritage Centre for Archaeology format, as a printed document, and a synthesis (the evaluation report and index of the archive) will be submitted to the relevant Sites and Monuments Record. The archive will be deposited with the County SMR within 6 months of the end of the fieldwork.

3.5.2 The archive will be formed of all the primary documentation, including the following:

- Context Records
- Finds Records
- Sample Records
- Field / Inked Drawings and digital copies of CAD data
- Photographic negatives, prints and colour transparencies
- Written report
- Administrative records
- Conservation records.

3.5.3 ***Report:*** two copies of a written synthetic report will be submitted to the client and a further copy to the SMR. The report will present, summarise, and interpret the results of the programme detailed in Stages 3.1-3.3 above, and will include an index of archaeological features identified in the course of the project, with an assessment of the sites development. It will incorporate appropriate illustrations, including a location map, geophysical survey results, copies of the site plans and section drawings, and the trench location plan all reduced to an appropriate scale. The report will consist of an acknowledgements statement, list of contents, executive summary, introduction summarising the brief and project design and any agreed departures from them, methodology, interpretative account of the archaeological stratigraphy and details of the features

and stratigraphy recorded from each trench, table of contexts, a complete bibliography of sources from which data has been derived, and a list of further sources identified during the programme of work. If required the report will make recommendations for further mitigative recording. The report will be in the same basic format as this project design.

### 3.6 OTHER MATTERS

3.6.1 ***Health and Safety:*** full regard will, of course, be given to all constraints (services etc) during the excavation of the trenches, 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. 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 risk assessments are implemented for all projects. 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.

3.6.2 ***Reinstatement and Security:*** land disturbed as a result of the evaluation will be reinstated to the Client's satisfaction, although OA North as a matter of course replaces material in a stratigraphic manner and relays the surface, if possible. It is presumed that the Client will have responsibility for site security. In addition, any deep sections of open trench would be fenced off to prevent any accidents occurring to OA North/client staff.

3.6.3 ***Project Monitoring*:** OA North will consult with the Client regarding access to land within the study area. This consultation will include, if required, the attendance of the Cumbria County Archaeologist. Any proposed changes to the project brief or the project design will be agreed with the Assistant Archaeologist, Cumbria County Council, in conjunction with the client.

## 4. WORK PROGRAMME

4.1 The work can be undertaken within eight days and OA North can execute projects at very short notice once an agreement has been signed with the client.

4.2 The project will be under the management of **Jamie Quartermaine, BA, Surv Dip, MIFA** (Unit Project Manager) to whom all correspondence should be addressed. All Unit staff are experienced, qualified archaeologists, each with several years professional expertise.

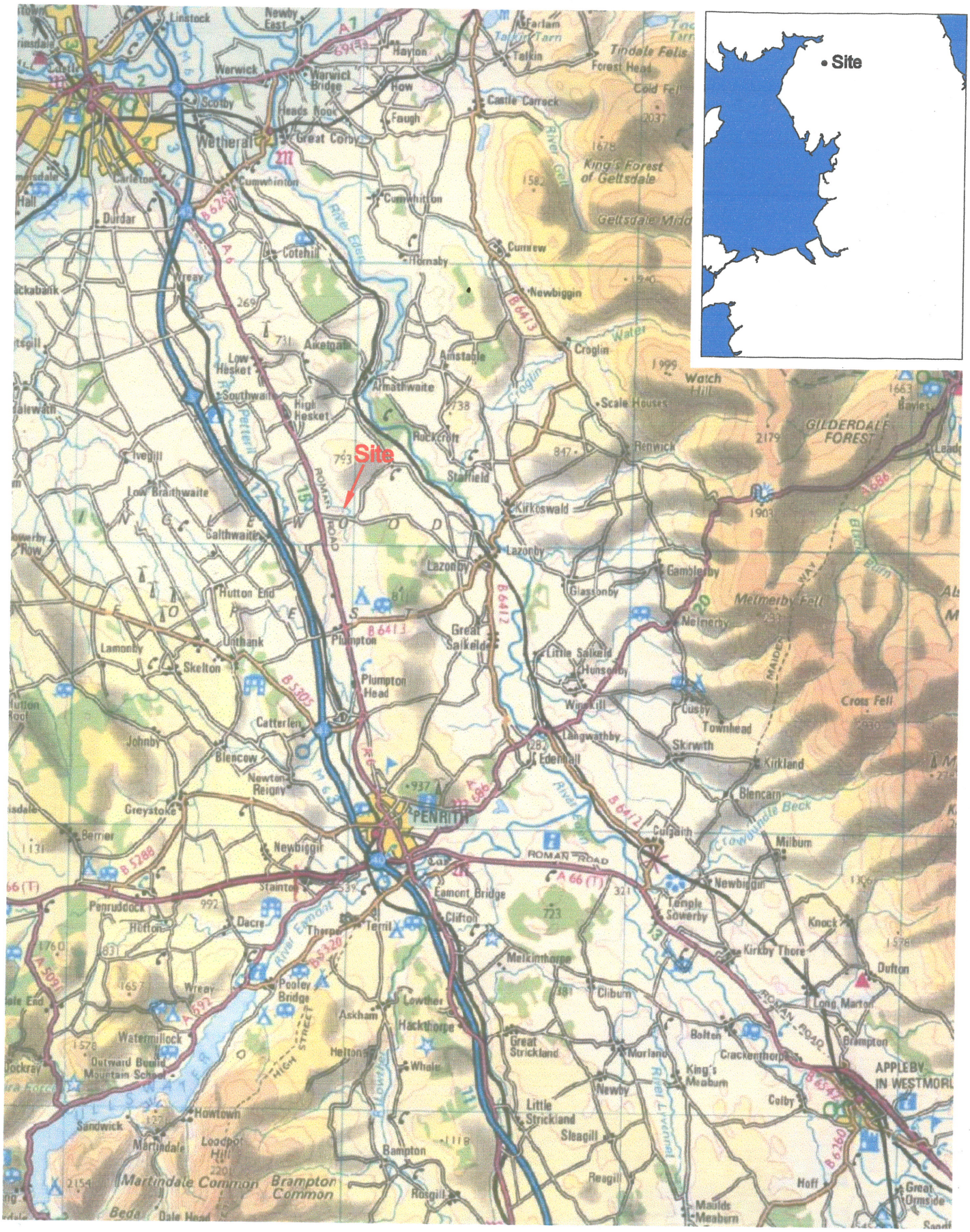
# APPENDIX 2
# CONTEXT LIST

| Context Number | Description |
|---|---|
| ***01*** | Pit / Posthole |
| ***02*** | Fill of ***01*** |
| ***03*** | Fill of ***04*** |
| ***04*** | Possible Pit |
| ***05*** | Fill of ***06*** |
| ***06*** | Pit / Posthole |

# ILLUSTRATIONS






based upon the Ordnance Survey 1:50000
with the permission of the controller of HMSO
© Crown Copyright

oa north

0 2000
metres

Figure 1: Location Map

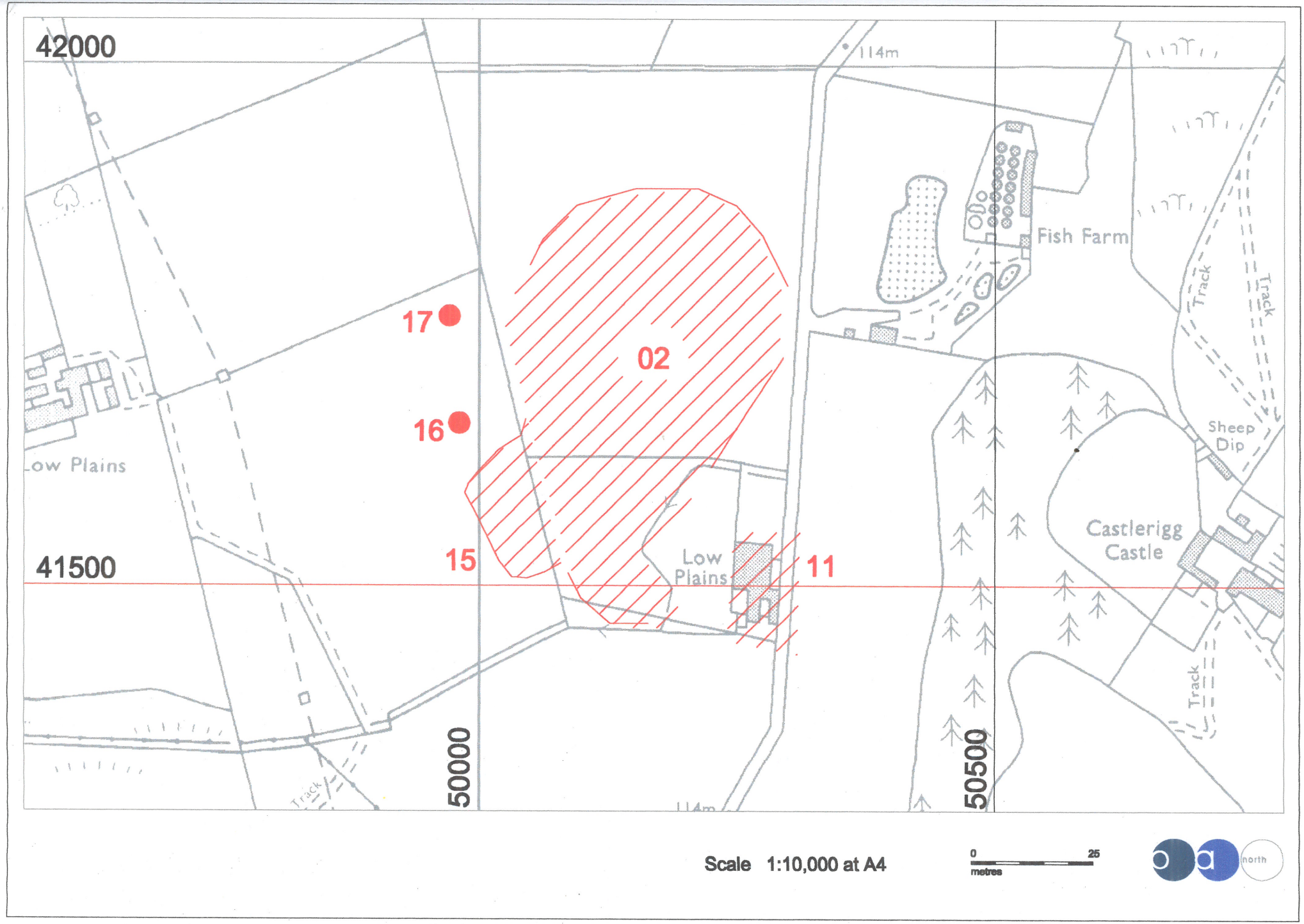



Figure 2 : Assessment survey plan showing the area around Site 16

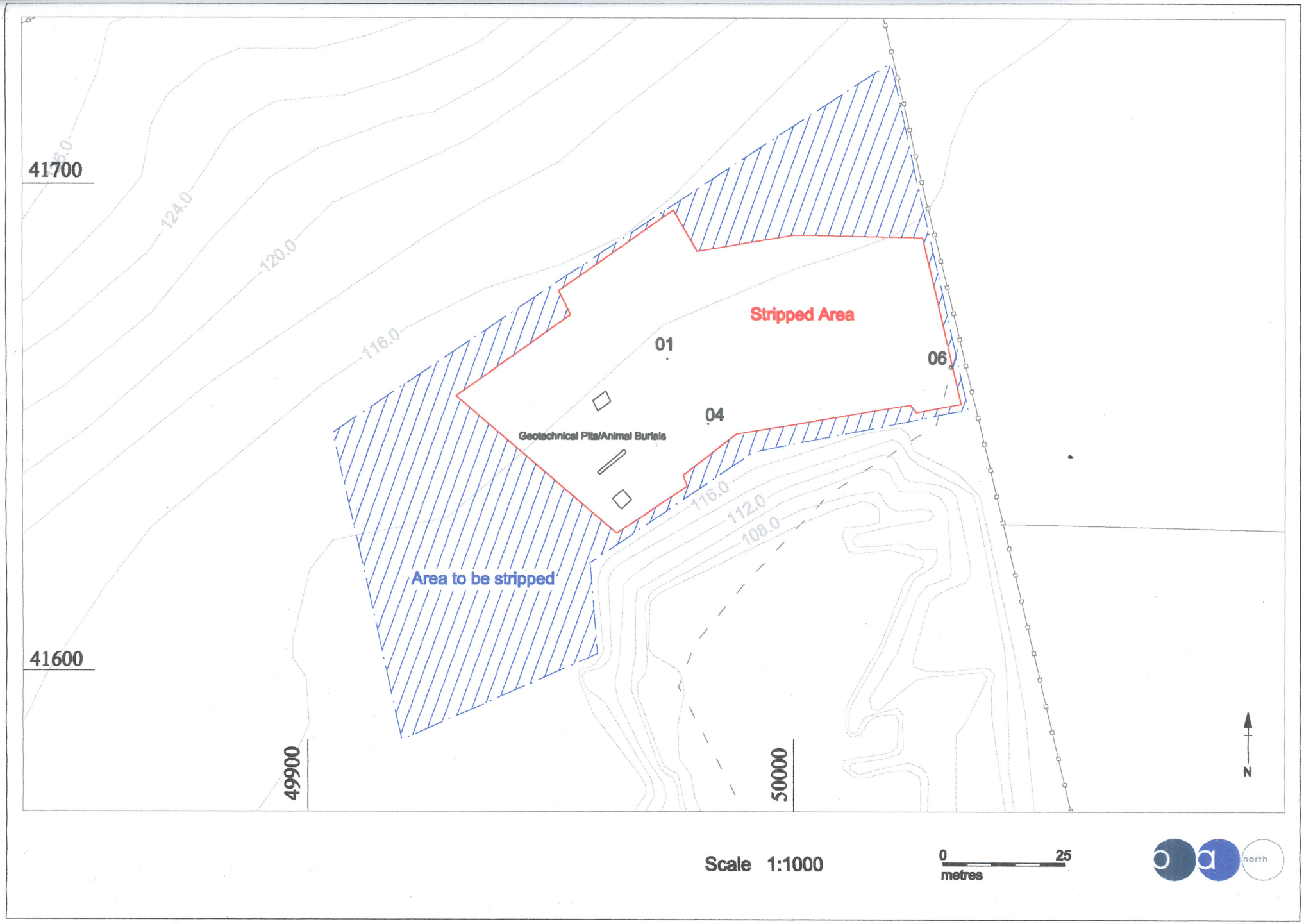



Figure 3 : Site plan showing the extent of the archaeologically supervised top-soil strip and that of the proposed quarry extraction

# PLATES



Plate 1 Aerial Photograph looking east towards Low Plains Farm; Site 16 is located in the foreground

Plate 2 Site 16 cropmarks in the foreground - looking north

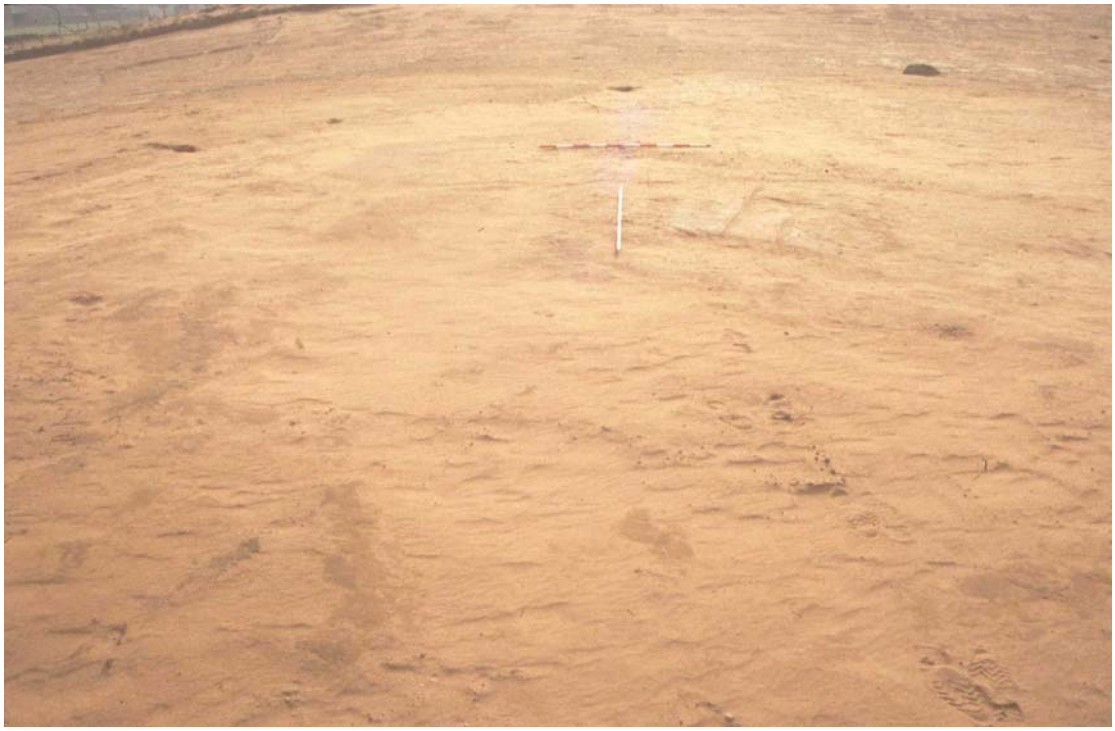


Plate 3: Area of the potential ring ditch (Site 16), looking south

Plate 4:  General view of the site, looking north