AN ARCHAEOLOGICAL EVALUATION AT SILVER TOP QUARRY, HALLBANKGATE, BRAMPTON, CUMBRIA

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PCA

PRE-CONSTRUCT ARCHAEOLOGY

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AN ARCHAEOLOGICAL EVALUATION AT SILVER TOP QUARRY, HALLBANKGATE, BRAMPTON, CUMBRIA

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An Archaeological Evaluation at Silver Top Quarry, Hallbankgate, Brampton, Cumbria

Central National Grid Reference: NY 5841 6055

Site Code: STB 13

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1. NON-TECHNICAL SUMMARY

1.1 An archaeological evaluation was undertaken in March 2013 by Pre-Construct Archaeology ahead of a proposed extension to Silver Top Quarry, Hallbankgate, Brampton, Cumbria. The work was commissioned by Thompsons of Prudhoe, who operate the quarry for limestone extraction.

1.2 The site, centred at National Grid Reference NY 5841 6055, is located directly west of the existing quarry, north of the A689 at Hallbankgate. The town of Brampton lies *c*. 5.5 km to the west and the A69 lies *c.* 2 km north. The site comprises undeveloped arable farmland on a south-facing slope. The proposed extension area has two parts, a northern Phase 1 area and a southern Phase 2 area, with the former – covering 2.8 ha - being the subject of the archaeological evaluation.

1.3 Design of the archaeological evaluation was informed by an historic environment desk-based assessment and the overall project was undertaken as a condition of planning permission on the recommendation of the Historic Environment Service of Cumbria County Council's Environment Unit. A Project Design compiled by Pre-Construct Archaeology was approved by the Historic Environment Service ahead of the work.

1.4 The desk-based assessment aimed to determine, as far as reasonably possible from existing records, the nature, extent and significance of the historic environment within a 1.5 km radius of the centre of the site. The assessment concluded that the study site has low potential for prehistoric remains, moderate potential for Roman remains, low potential for Anglo-Saxon remains, high potential for remains related to the use of the site as agricultural land in the medieval and post-medieval periods, and moderate potential for other post-medieval activity, such as quarrying and associated infrastructure. A map regression exercise indicates that the study site has never been previously developed.

1.5 The archaeological evaluation aimed to identify archaeological remains within the Phase 1 area by trial trenching, with a 5% trenching sample being investigated. To this end, 14 machine-excavated trenches (Trenches 1-14), each measuring *c.* 50m x 2m, were investigated.

1.6 The trial trenching revealed features of geological and modern date along with two undated linear archaeological features.

1.7 Natural geological material comprised bedrock overlain by deposits of Devensian till, of varying composition. A sub-soil was recorded intermittently across the area investigated, mostly in the lower-lying northern part. The archaeological features, recorded in Trenches 11 and 13, in the southern part of the area, comprised two gullies from which no dating evidence was recovered. The form and infill of the features indicate that they could be of medieval or earlier date and both were likely derived from agricultural use of the land. A modern drainage feature was recorded and topsoil formed the current ground surface.

1.8 In summary, the evaluation established that the quarry extension proposal will likely destroy archaeological remains of low significance. Archaeological monitoring of topsoil stripping ahead of limestone extraction, with recording of any archaeological remains thus exposed, and any necessary reporting, is recommended as the appropriate mitigation strategy.

2. INTRODUCTION

2.1 Project Background

2.1.1 This report details the methodology and results of an archaeological evaluation undertaken by Pre-Construct Archaeology Limited (PCA) at Silver Top Quarry, Hallbankgate, Cumbria (Figure 1). The work was commissioned by Thompsons of Prudhoe (the Client) as part of a planning condition attached to permission for a western extension to the quarry. The proposed extension area has two parts, a northern 'Phase 1' area and a southern 'Phase 2' area, the former, 2.8 ha in size, being the subject of the archaeological evaluation (Figure 2).

2.1.2 The report also details the methodology and results of an historic environment desk-based assessment of the overall quarry extension site, which was undertaken to inform the design of the evaluation and place the site in a wider historic and archaeological context. The work was carried out in accordance with standards and guidance set out by the Institute for Archaeologists (IfA 2012).

2.1.3 The archaeological evaluation comprised trial trenching in order to identify any surviving archaeological remains within the Phase 1 area. A 5% sample of the Phase 1 area was investigated by a series of mechanically-excavated trenches (Trenches 1-14), each measuring *c.* 50m x 2m at ground level. Again, the work was carried out in line with standards and guidance set out by the Institute for Archaeologists (IfA 2009).

2.1.4 The overall project was undertaken on the recommendation of the Historic Environment Service of Cumbria County Council's Environment Unit. A Project Design compiled by Pre-Construct Archaeology was approved by the Historic Environment Service ahead of the work (PCA 2013).

2.1.5 The **O**nline **A**cces**S** to the **I**ndex of Archaeological Investigation**S** (OASIS) reference number of the project is: preconst1-150722.

2.2 Site Location and Description

2.2.1 Silver Top Quarry lies off the A689 at Hallbankgate within the parish of Farlam, Cumbria (Figure 1). The towns of Brampton and Haltwhistle lie *c.* 5.5 km to the west and *c.* 12.5 km to the east, respectively. The A69 runs roughly west-east *c.* 2 km to the north. The quarry western extension area has a central National Grid Reference of NY 5841 6055.

2.2.2 The northern, Phase 1, portion of the proposed quarry extension site comprises a roughly square parcel of undeveloped agricultural land covering *c.* 2.8 hectares. Centred at National Grid Reference NY 5838 6062, this was the area investigated by the archaeological evaluation herein described (Figure 2). It is bounded to the east by the existing quarry workings, whilst in all other directions it is bounded by arable farmland, with the land to the south, currently forming part of the same field, being the Phase 2 portion of the quarry extension site.

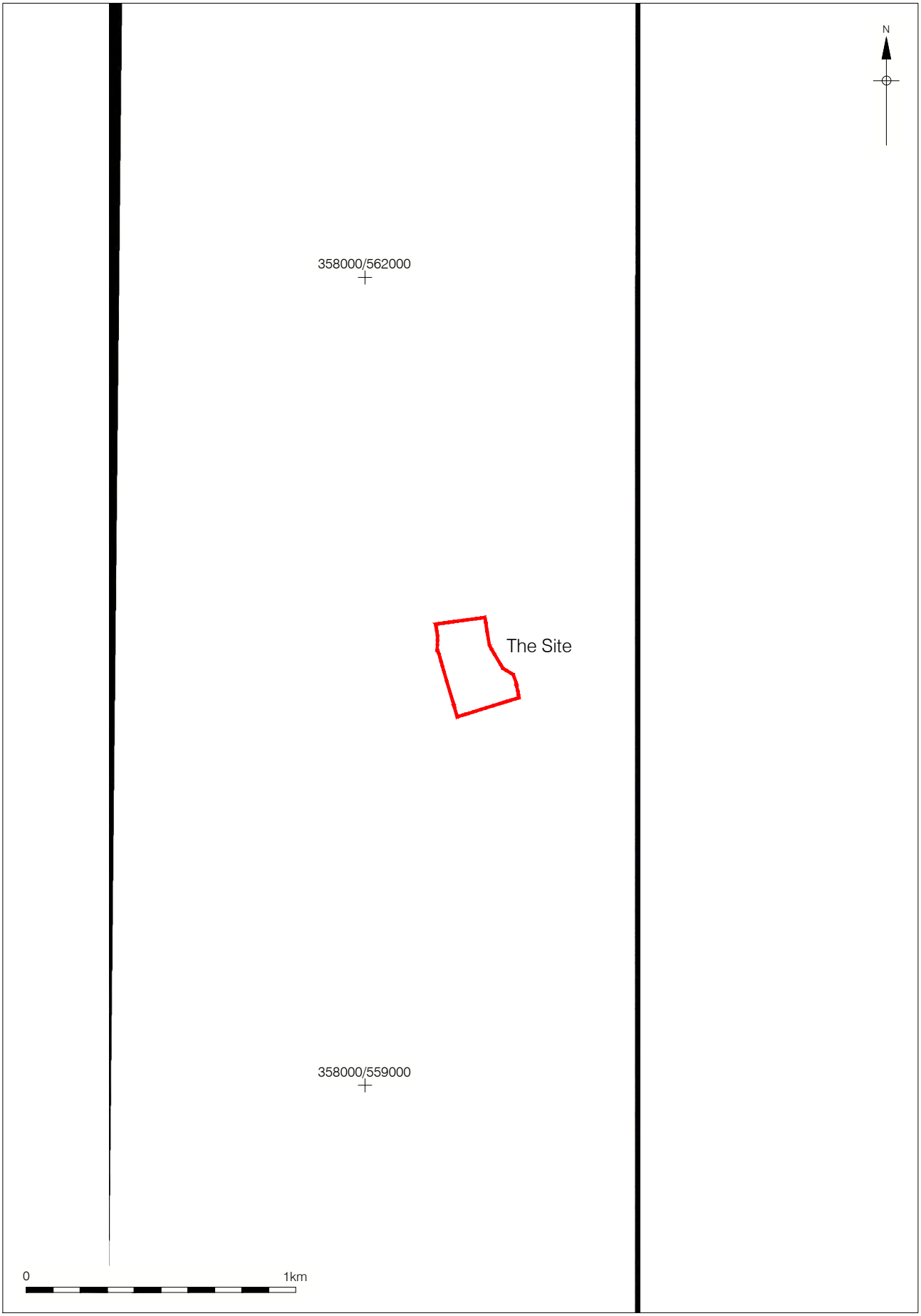

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Figure 1
Site Location
1:20,000 at A4

Survey data provided by Thompsons of Prudhoe (October 2012)

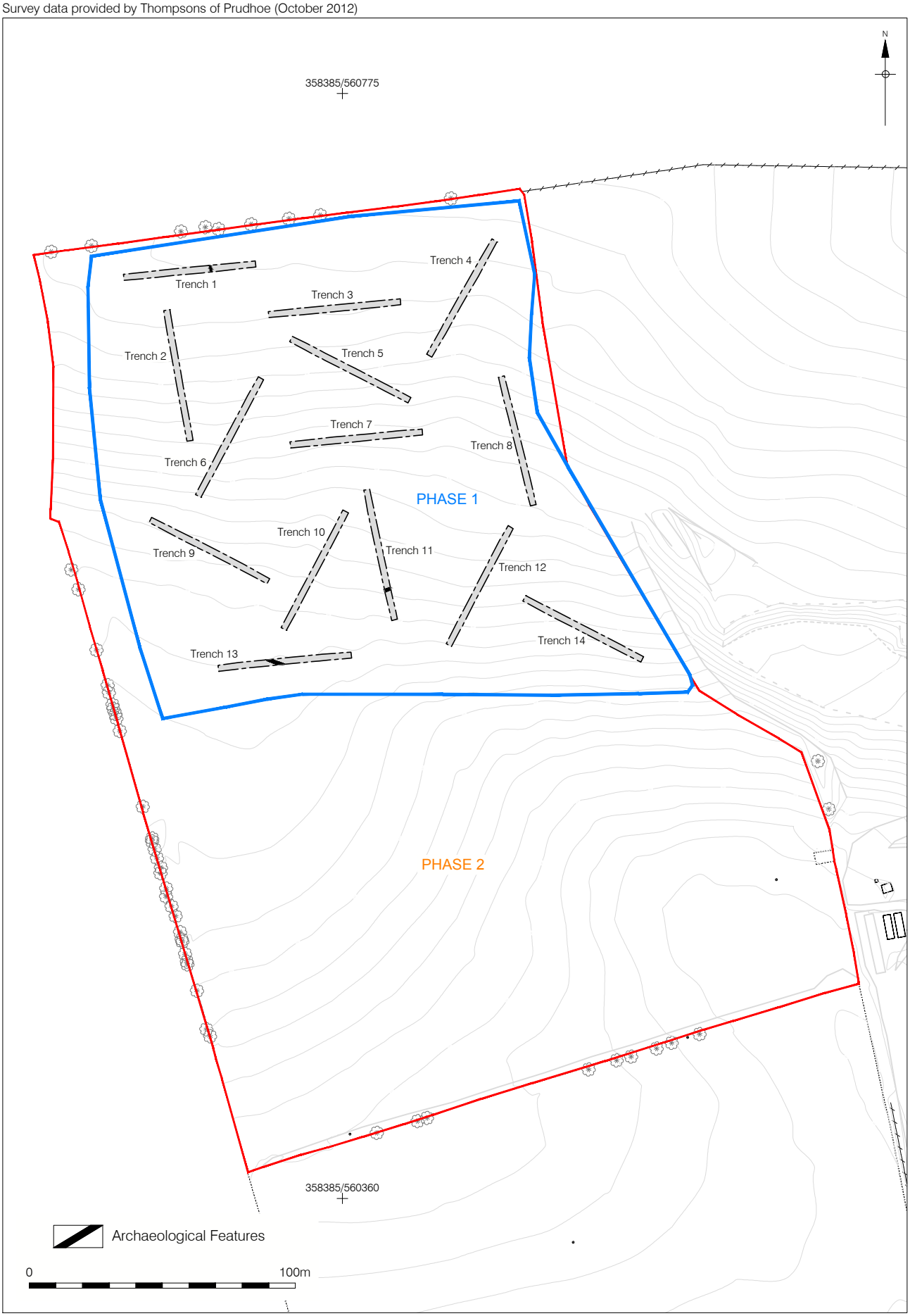

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Figure 2
Site Plan and Trench Location
1:5,000 at A4

2.2.3 The site lies within the 'Carlisle Character Area' as defined by the Cumbria Historic Landscape Characterisation Project (Cumbria County Council 2009), with the landscape broadly described as an urbanised and suburbanised area overlying an historic landscape with its medieval origins still reflected within the outlying common arable fields. The site lies on the north-western boundary of the North Pennines Area of Outstanding Natural Beauty (AONB) and to the south of the 'buffer zone' of the Hadrian's Wall portion of the transnational 'Frontiers of the Roman Empire' World Heritage Site (WHS).

2.2.4 The quarry extension site occupies a south-facing slope. Existing field boundaries are formed by post and wire fencing. At the time of the work herein described, there was no physical boundary delineating the Phase 1 and Phase 2 portions of the extension site. Figure 2 shows in detail the location and layout of the site (along with the locations of the trial trenches). A series of photographs of the site and its environs, taken in February 2013, forms part of Appendix D to this report.

2.3 Geology and Topography

2.3.1 Silver Top Quarry overlies Carboniferous sedimentary bedrock of the Alston Formation, comprising interbedded limestone, sandstone, siltstone and mudstone. The area is notable, however, for bands of outcropping limestone, with Four Fathom Member Limestone occurring at the quarry, this being the material being extracted. The drift geology of the area is formed by Devensian Till (information from the British Geological Survey website).

2.3.2 Ground level falls to the south across the Phase 1 portion of the overall extension site, and then continues to fall, in less dramatic fashion, to the south-east, across the Phase 2 portion. Along the northern limit of the Phase 1 area ground level is at *c.* 234m OD, at the southern limit of the Phase 1 area ground level is at *c.* 210m OD and; in the south-easternmost corner of the Phase 2 area ground level level is at *c.* 205m OD.

2.4 Planning Background

2.4.1 The Client currently has permission until 2042 for limestone extraction at Silver Top Quarry. Permission has been conditionally granted for the quarry to be extended, which would see extraction taking place in a phased manner over the course of a four year period before subsequent restoration of the land. The extension will take place in fields immediately adjacent to the west of the existing workings.

2.4.2 Planning condition 21 for the scheme (planning application reference no. 1/12/9008, this a proposed variation of condition 3 of planning consent 1/97/9021) requires *'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'.* The purpose of this work is to afford the opportunity for the existence of any remains of archaeological or historic interest within the site to be determined.

2.4.3 The Historic Environment Service, part of the Cumbria County Council's Environment Unit, provides archaeological development control advice across the county and to its six local authorities. Discussions with the Historic Environment Officer (Development Control) established that the required programme of archaeological work comprised a trial trenching evaluation of the Phase 1 portion of the site, informed by an historic environment desk-based assessment.

2.4.4 This requirement is in line with planning policy at a national level, as set out in Part 12, 'Conserving and Enhancing the Historic Environment' of the *National Planning Policy Framework* (NPPF) (Department of Communities and Local Government 2012). A key component of current thinking on the historic environment is the recognition of 'heritage assets', those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest.

2.4.5 Heritage assets can be 'designated', for example World Heritage Sites, Scheduled Monuments, Listed Buildings, Registered Battlefields or a Registered Park and Garden, or by virtue of lying within a Conservation Area, or they can be 'non-designated', these being buildings, monuments, sites, places, areas or landscapes identified as having a degree of significance meriting consideration in planning decisions and which are normally identified by local authorities during a pre-application enquiry stage, during decision making or through the plan-making process.

2.4.6 Due to its close proximity to the buffer zone of the WHS, as previously described, the Silver Top Quarry western extension site was considered to have some potential for non-designated heritage assets of archaeological interest, particularly buried Roman period remains.

2.4.7 At a local level, the requirement for archaeological work is in line with Development Control Policy 11 'Historic Environment' in *Development Control Policies,* one of three Development Plan Documents (DPDs) adopted in 2009 by Cumbria County Council in its role as the Minerals and Waste Planning Authority (while adoption of these DPDs formulated the *Cumbria Minerals and Waste Development Framework*, it is of note that the DPDs are currently under review as a County Local Plan emerges, a document which will ultimately replace the Development Framework, with the *Cumbria Minerals and Waste Local Plan* ultimately becoming the relevant document with regard to minerals applications).

- ***Policy DC11 - Historic Environment:*** Proposes that....b) damage, obscure or remove important archaeological sites or other historic features....will not be permitted unless it is demonstrated that the need for and benefits of the development decisively outweigh these interests. Proposal should be accompanied by an assessment of any impacts on the historic environment, including an appropriate level of field investigation if necessary.

2.4.8 Chapter 6 'Local Environment' of the *Carlisle District Local Plan 2001-2016* (adopted 2008) contains various policies with regards to the historic environment, the most relevant of which are:

- ***Policy LE8 – Archaeology on Other Sites:*** On land for which there is no archaeological information, but where there are reasonable grounds for believing remains to be present, the City Council will ensure that the archaeological aspects of development proposals are examined and evaluated before planning applications are determined. Planning permission will not be granted without adequate assessment of the archaeological implications.

- ***Policy LE10 – Archaeological Field Evaluation:*** On all scheduled and other nationally important monuments, sites of archaeological significance and other sites of high archaeological potential, the City Council will ensure that the archaeological aspects of development proposals are examined and evaluated either before planning applications are determined or in exceptional circumstances by the use of a condition. Planning permission will not be granted without adequate assessment of the archaeological implications.

2.4.9 In accordance with the planning condition, the aforementioned Project Design, including a Written Scheme of Investigation (WSI), was compiled by PCA and submitted to and approved by the Historic Environment Officer (Development Control) before work commenced. PCA is a 'Registered Organisation' (RO 23) with the Institute for Archaeologists (IfA).

3. PROJECT AIMS AND RESEARCH OBJECTIVES

3.1 Project Aims

3.1.1 The project was threat-led with potential to destroy important buried archaeological remains of the Roman period in particular, due to its proximity to the Hadrian's Wall corridor.

3.1.2 Hadrian's Wall was inscribed as a UNESCO WHS in 1987. An initial management plan for Hadrian's Wall identified three distinct areas; the 'archaeological core' of the Wall and Vallum (the WHS), the surrounding 'buffer zone' and the outer 'visual envelope' (English Heritage 1996). In 1997 the extent of the WHS and its buffer zone in its rural sections was agreed with the World Heritage Committee. In 2005, UNESCO amalgamated Hadrian's Wall and the German Limes WHS into the transnational 'Frontiers of the Roman Empire' WHS, with the Antonine Wall inscribed as part of the new WHS in 2008.

3.1.3 An updated management plan describes how, in rural parts of the WHS, the buffer zone of the WHS is mapped as a visual envelope agreed by local authorities and extending between 1 km and 6 km from the WHS, depending on the topography (Hadrian's Wall Country 2009, part 2.3, 8). Silver Top Quarry lies immediately to the south of the WHS buffer zone as it is currently mapped by English Heritage (depicted on the MAGIC website).

3.1.4 The project aims to fulfill the requirements of the local authority by undertaking an appropriately specified scheme of archaeological work which will integrate the results of an historic environment desk-based assessment of the overall extension site with those of an archaeological trial trenching evaluation of the Phase 1 portion.

3.1.5 The broad aim of the overall project is thus to establish the potential for and existence of any remains of archaeological of significance at the site in order to inform decisions regarding any action required for the preservation, protection, examination or recording of such remains. This aim was to be achieved by the evaluation fieldwork, informed by the results of the desk-based assessment element of the project.

3.2 Research Objectives

3.2.1 The work at Silver Top Quarry was carried out with reference to the following archaeological research frameworks:

- *The Archaeology of North West England: An Archaeological Research Framework for the North West Region. Volume 1 - Resource Assessment* (Brennand *et al.* 2006);
- *Research and Archaeology in North West England: An Archaeological Research Framework for North West England. Volume 2 - Research Agenda and Strategy* (Brennand *et al*. 2007);
- *Frontiers of Knowledge A Research Framework for Hadrian's Wall, Part of the Frontiers of the Roman Empire World Heritage Site. Volume I - Resource Assessment* (Symonds and Mason, eds. 2009);
- *Frontiers of Knowledge A Research Framework for Hadrian's Wall, Part of the Frontiers of the Roman Empire World Heritage Site. Volume 2 - Agenda and Strategy* (Symonds and Mason, eds. 2009).

3.2.2 The North West Research Framework sets out initiatives for all periods of the past, allowing commercial contractors to demonstrate how their fieldwork relates to wider regional and national priorities for the study of archaeology and the historic environment. The following initiatives within the North West Research Agenda are of particular relevance to this project:

Romano British Agenda:

- ***Identification of new sites: Initiative 3.6:*** Proactive programmes of fieldwork and air reconnaissance are required if we wish to see significant new understanding of rural society and economies, particularly in the uplands, during the Roman period.
- ***Identification of new sites: Initiative 3.7:*** Absence of known distributions should not be regarded as genuine gaps and should be addressed positively through site assessments and evaluations.

3.2.3 The WHS Research Framework identifies and prioritises an agenda of key themes for further research and sets out a strategy by which this initial set of objectives may be achieved. The following themes within the WHS Research Strategy have some relevance to this project:

- **S.2. The Pre-Roman Archaeology of the Tyne-Solway Isthmus**
- **S.6. Landscape and Environment**
- **S.7. Production and Procurement**
- **S.8. Life and Society**

4. METHODOLOGIES

4.1 Desk-Based Assessment

4.1.1 The desk-based assessment element of the project was undertaken in accordance with standards and guidelines set out by the Institute for Archaeologists (IfA 2012). The work was carried out in February-March 2013.

4.1.2 The general approach and methodology was to consider heritage assets at the study site and within a wider study area covering a radius of 1.5 km from the centre of the western extension site (Figure 3), to allow for greater contextual information to be gathered.

4.1.3 The main sources consulted were:

- Cumbria County Council Historic Environment Record (HER). Available online, historic environment data is managed and organised on a computer database, combined with Geographical Information System (GIS) mapping technology. Data on all known heritage assets in the form of HER entries in the wider study area were acquired through this means and supplemented with additional information provided by the Historic Environment Service HER Officer.
- Carlisle Archive Centre, Petteril Bank Road, Carlisle. Holds local history information, historic photographs and historic mapping, including Ordnance Survey maps; material was examined or acquired by a visit in person.
- The National Heritage List for England. A searchable database of all designated heritage assets, available online at the English Heritage website.

4.1.4 A visual examination was made of the site to determine the presence of any surface features of potential archaeological interest, areas that have conceivably been disturbed and the identification of any possible constraints that may apply to further archaeological work on site (for example public footpaths or live services).

4.1.5 The available historic environment information relating to the wider study area was collated (Section 5) and then analysed in order to assess the historic environment potential of the quarry extension site, with the potential for buried archaeological remains being the principle focus (Section 6).

4.2 Trial Trenching Evaluation

4.2.1 The fieldwork was undertaken in accordance with the aforementioned standards and guidelines set out by the Institute for Archaeologists. The work was carried out 13-26 March 2013.

4.2.2 A total of 14 evaluation trenches were set-out using a Leica Viva Smart Rover Global Navigation Satellite System (GNSS), with pre-programmed co-ordinate data determined by an office-based CAD operative. The 14 trenches comprised a 5% sample of the Phase 1 area; all trenches measured *c.* 50m x 2m at ground level.

4.2.3 Ground level in the trenches was reduced using a tracked mechanical excavator utilising a wide blade, ditching bucket (with no teeth). Successive spits of no more than 0.25m depth were removed until either the top of the first significant archaeological horizon or the top of the natural geological sub-stratum was reached. All ground reduction was carried out under archaeological supervision. Excavated spoil was examined for artefactual material by hand and eye.

4.2.4 The investigation of archaeological levels was by hand, with cleaning, examination and recording both in plan and in section, where appropriate. Investigations within the trenches followed the normal principles of stratigraphic excavation and were conducted in accordance with the methodology set out in the field manual of PCA (PCA 2009).

4.2.5 Deposits and cut features were individually recorded on the *pro-forma* 'Trench Recording Sheet' and 'Context Recording Sheet'. All site records were marked with the unique-number 'Site Code' (STB 13). All archaeological features were excavated by hand tools and recorded in plan at 1:20 or in section at 1:10 using standard 'single context recording' methods. A representative sample of one long section from each trench was drawn to scale. The height of all principal strata and features was calculated in metres above Ordnance Datum (m OD) and indicated on appropriate plans and sections.

4.2.6 A detailed photographic record of the evaluation was prepared using SLR cameras (35mm film black and white prints and colour transparencies for archive purposes) and by digital photography. All detailed photographs included a legible graduated metric scale. The photographic record illustrated both in detail and general context archaeological exposures and specific features in all trenches. The photographic record also incorporated 'working shots' to illustrate more generally the nature of the archaeological operation mounted. A selection of digital photographs from the fieldwork is included within Appendix D of this report.

4.3 Post Excavation

4.3.1 The stratigraphic data generated by the evaluation is represented by the written, drawn and photographic records. A total of 57 archaeological contexts were defined in the 14 trenches (Appendix B). Post-excavation work involved checking and collating site records, grouping contexts and phasing the stratigraphic data (Appendix A). A written summary of the archaeological sequence was then compiled, as described in Section 7.

4.3.2 During the evaluation, no artefactual material was collected and thus no material was recovered that required specialist stabilisation or an assessment of its potential for conservation research.

4.3.3 The palaeoenvironmental sampling strategy of the project was to recover bulk samples where appropriate, from well-dated (where possible) stratified deposits covering the main periods or phases of occupation and the range of feature types represented, with specific reference to the objectives of the evaluation. To this end, two deposits – neither of which produced artefactual material - were sampled, although due to a visible lack of charcoal and organic remains they were deemed unsuitable for assessment to provide material for absolute dating. No other biological material was recovered.

4.3.4 The complete Site Archive, in this case comprising only the written, drawn and photographic records (including all material generated electronically during post-excavation) will be packaged for long term curation. In preparing the Site Archive for deposition, all relevant standards and guidelines documents referenced in the Archaeological Archives Forum guidelines document (Brown 2007) will be adhered to, in particular a well-established United Kingdom Institute for Conservation (UKIC) document (Walker, UKIC 1990) and the most recent IfA publication relating to archiving (IfA 2008). The depositional requirements of the body to which the Site Archive will be ultimately transferred will be met in full.

4.3.5 At the time of writing the Site Archive is housed at the Northern Office of PCA, Unit N19a Tursdale Business Park, Durham, DH6 5PG. When complete, the Site Archive will be deposited with Tullie House Museum, Castle Street, Carlisle, under the site code STB 13. The Site Archive will be organised as to be compatible with the other archaeological archives produced in the county. A completed transfer of title deed will accompany the Site Archive on deposition.

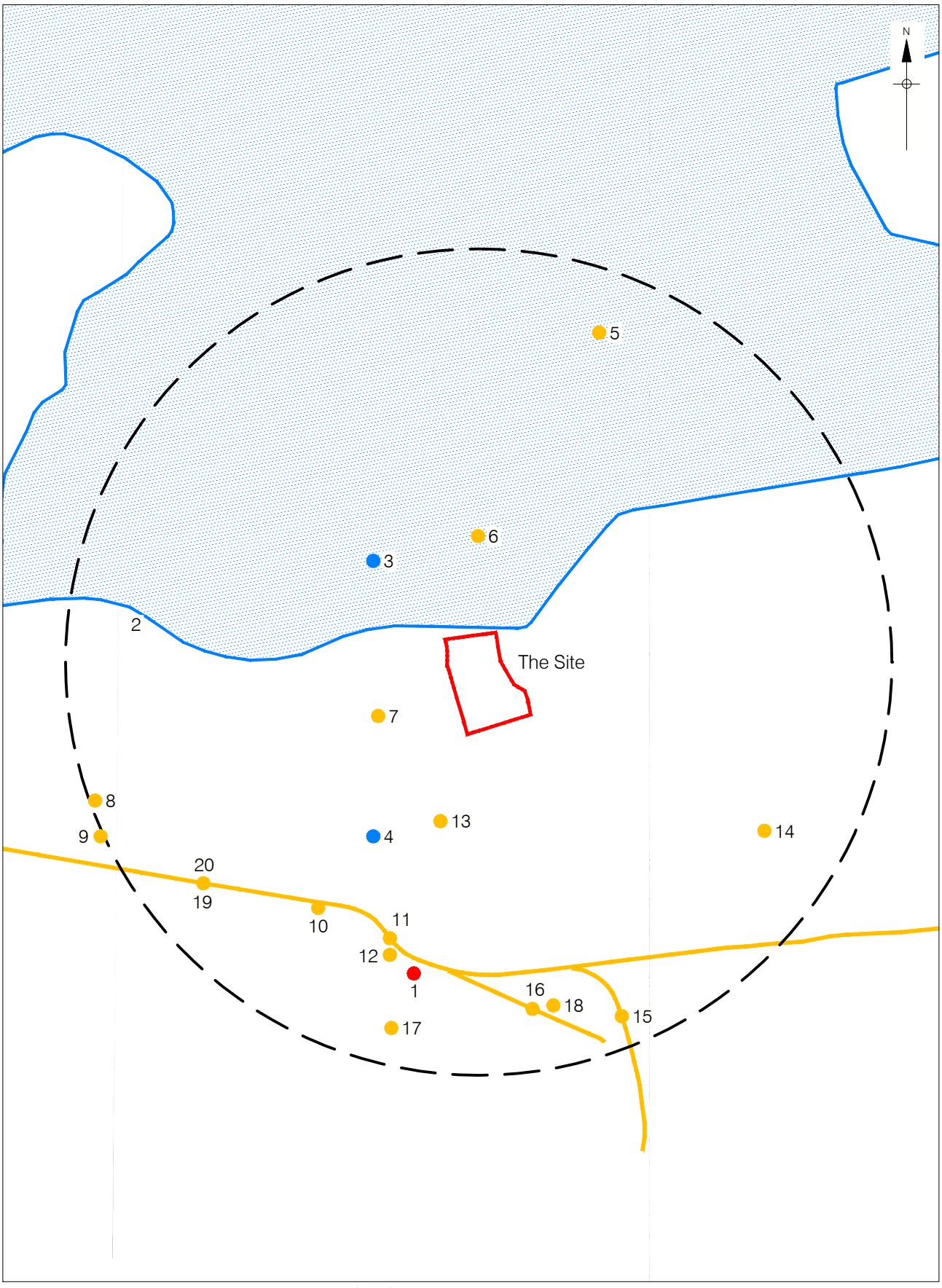

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Figure 3
Heritage Asset Locations
1:20,000 at A4

4. HISTORIC ENVIRONMENT BASELINE DATA

4.1 Introduction

4.1.1 This section has, at its core, data acquired from the Cumbria HER, which includes information on all heritage assets, including archaeological sites and historic buildings, and archaeological 'events' (*i.e.* archaeological fieldwork and historic building recording/survey). Each HER entry is allocated a reference number, *e.g.* HER 1234. A wider study area of radius 1.5 km from the centre of the quarry extension site was examined.

4.1.2 All heritage assets located within the wider study area have been plotted with sequential reference numbers arranged by archaeological period on a supporting figure (Figure 3). Details are set out in a catalogue of heritage assets which forms Appendix C to this report. Sites beyond the 1.5 km radius are referred to by their Cumbria HER number or by their List Entry Number (LEN), as detailed within the aforementioned National Heritage List for England.

4.1.3 The assessment does not attempt to set out a comprehensive history of land use in the Hallbankgate area of Cumbria. The broad intention is only to predict and extrapolate likely archaeological conditions within the study site from finds and research in the vicinity. Analysis of archaeological discoveries made in the wider area of the study site is a crucial component of the process of assessment, since it is recognised that finds and sites entered onto the HER are at best a small and unrepresentative sample of the total buried heritage resource.

4.2 Designated Heritage Assets

4.2.1 The site does not lie within a World Heritage Site, but approximately the northern half of the wider study area lies within the defined buffer zone of the Hadrian's Wall portion of the transnational 'Frontiers of the Roman Empire' WHS (Figure 3; Ref. 2). The study site lies immediately to the south of the defined WHS buffer zone, with the Wall itself situated *c*. 4.5 km to the north.

4.2.2 There are no Scheduled Monuments upon the study site or within the wider study area. The nearest example is Tower Tye Ringwork (LEN 1013969), a medieval fortification occupied from the Anglo-Saxon period, which lies *c.* 2.5 km to the north-west of the study site. To the east, industrialisation of the wider Carlisle district is demonstrated by Scheduled Monuments at Roachburn Colliery (LEN 1017643) and the 19th-century zinc spelter works (LEN 1019761), situated *c.* 3.5 km from the study site.

4.2.3 There are five Listed Buildings within the wider study area, all Grade II. New Garth (Figure 3; Ref. 7), located *c.* 0.3 km to the west of the study site, is a house of late 16th-century origin, mentioned in a survey of 1603 as the house of John Hall, but with various later additions. The other Listed Buildings are located slightly further afield. Farlam Hall Country House Hotel (Figure 3; Ref. 8) and the associated Farlam Hall Cottages (Figure 3; Ref 9) are situated *c.* 1.3 km to the south-west of the study site, whilst Plane Head (Figure 3; Ref. 10) is located *c.* 0.7 km to the SSW near Hallbankgate.

4.2.4 The core of Farlam Hall Country House Hotel is probably mid-18th century, built upon the site of an earlier building, and was extended twice during the 19th century for the Thompson Family. Farlam Hall Cottages, Nos. 5 and 6, were formerly a single bastle house thought to have originated in the late 16th century but display evidence of mid-19th-century alterations. Plane Head, now a house, was formerly a colliery office built in 1836-38; its name was taken from a nearby waggonway with an inclined plane.

4.2.5 The final Listed Building in the wider study area is a sandstone Drinking Trough Memorial (Figure 3; Ref. 14) located *c.* 1 km south-east of the study site, at Coalfell. Bronze plaques attached to the trough commemorate victims of a disaster in 1908 at Roachburn Mine, while a more recent plaque was added by the North Pennines AONB Partnership and Farlam Parish Council to commemorate the centenary of the disaster.

4.2.6 The study site does not lie within a Registered Battlefield or Registered Park and Garden and there are no examples of such designations within the wider study area or within its immediate vicinity.

4.3 Undesignated Heritage Assets

Prehistoric (c. 500,000 BP - 43 AD)

4.3.1 There is a single HER entry from the various prehistoric eras within the study area, this located *c.* 0.9 km to the south of the quarry extension to the immediate south of Hallbankgate. Hallbankgate Mound (Figure 3; Ref. 1) is recorded as a possible Bronze Age barrow with evidence of later quarrying, although there is some uncertainly about whether this may actually be a natural feature.

4.3.2 There are indications of prehistoric activity in the wider landscape with barrows (HER 546 and 573) located just over 1.5 km to the south-west of the site and the Tortie Stone cup and ring marks (HER 6058) located *c.* 2.5 km to the south. Excavations carried out in the vicinity of that site in 2011 produced a collection of flints that dated from between *c.* 7000-2000 BC (information from the North Pennines website). The low density of these sites however suggests only limited exploitation of the wider area in prehistory.

Roman (43 AD – 410 AD)

4.3.3 It is for the Roman period that the study site is considered to have the most potential. As previously mentioned the Hadrian's Wall buffer zone crosses the northern half of the wider study area, almost bounding the Phase 1 portion of the quarry extension site to the north (Figure 3; Ref. 2). There are two further Roman period HER entries located within the wider study area.

4.3.4 The Reverend G. Rome Hall mentioned Carnetley Temporary Camp (Figure 3; Ref. 3) within a publication of 1882, although the precise location of this site remains unknown.

4.3.5 A Roman altar was found at Moss Hill, *c.* 0.5 km south-west of the study site (Figure 3; Ref. 4). The HER entry states that two sculptured stones which may represent the figures of Janus and Silvanus (Roman gods of uncultivated land, doorways and beginnings) were walled into a house. They were said to have been in perfect condition in the 1880s, though their present location is unknown.

Early Medieval/Anglo-Saxon (410 – 1066 AD)

4.3.6 There are no HER entries from the early medieval/Anglo-Saxon period on the study site or within the wider study area, the closest being that of the aforementioned Tower Tye Ringwork, situated beyond the 1.5 km wider search area radius.

Medieval (1066 - c. 1540 AD)

4.3.7 There are no HER entries from the medieval period on the study site, the closest being the Church of St. Thomas (HER 574) located *c.* 1.8 km to the WSW of the study site. This was replaced in 1860 by the current Church of St. Thomas-a-Becket (LEN 1335604), a Grade II Listed Building.

Post-medieval (AD 1540 – 1939)

4.3.8 There are 16 post-medieval period heritage assets within the wider study area (Figure 3; Refs. 5-20), although none lie within the boundaries of study site. These broadly reflect the industrialisation of the wider area in later post-medieval period and consist of various quarries, waggonways, railways and associated buildings.

4.3.9 Two quarries, Craigwood located *c.* 1.1 km north-east of the study site (Figure 3; Ref. 5), and Carnetley (Figure 3; Ref. 6), *c.* 0.5 km north, are the only assets within the northern half of the wider study area. There is little specific information for these quarries, although the scars of this activity can still be seen on aerial photographs.

4.3.10 Aside from the previously mentioned designated heritage assets, two further buildings are located within the wider study area. A former Wesleyan Chapel and School (Figure 3; Ref. 12), which is now a private dwelling, lies *c.* 0.7 km to the SSW of the study site in Hallbankgate. First erected in 1856, funded by Henry and Mary Pears of Williamgill (Kelly 1858), it was enlarged in 1883. The final building is Lord Carlisle's Railway Engine House (Figure 3; Ref. 11), located *c*. 0.7 km south of the study site. This was built in *c.* 1840, originally as a unique two-road locomotive shed, and was later converted for agricultural use. The railway serviced by this engine shed began as a waggonway running between Brampton and Midgeholm (Figure 3; Ref. 19), the alignment of which was later developed into the Brampton and Hartleyburn Railway (Figure 3; Ref. 20). The embankment from this railway survives at Hallbankgate and is used as a public footpath.

4.3.11 Two further railways connect to the main Brampton to Hartleyburn line, these being the Blacksike Railway (Figure 3; Ref. 15) and an unnamed railway associated with Coalfell Mining Remains (Figure 3; Ref. 16). The Blacksike Railway ran from the Brampton to Hartley Burn Railway southwards to connect the Blacksike Colliery to Foresthead Quarry (HER 10181) *c.* 2.5 km south of the study site. Within the vicinity of Foresthead the remains of Blacksike Railway are scheduled (LEN 1021017) as part of the Foresthead lime kilns, quarry and associated buildings complex. The junction of this railway within the wider study area can still be seen as an earthwork. The unnamed railway associated with the Coalfell mining remains are in the area of an old tramway embankment and earthworks (Figure 3; Ref. 18).

4.3.12 The remaining HER entries within the wider study area also relate to the development of the railways and industrialisation of the area in the post-medieval period. Mosshill Mine (Figure 3; Ref. 13), located *c.* 0.3 km south of the study site, was already disused by the time of the 1st edition Ordnance Survey map of 1868. Clement Leazes Lime Kiln, located *c.* 1.1 km south of the study site (Figure 3, Ref. 17), although shown on the 1st edition Ordnance Survey map, is annotated 'Old Lime Kiln' on the 2nd edition in 1900.

Modern (AD 1939 – to the present)

4.3.13 There are no HER entries for the modern era on the study site or within the wider study area.

4.4 Historic Maps, Plans and Other Documentary Material

4.4.1 Selected historic maps have been reproduced herein as Figures 4-8.

Pre-Ordnance Survey Mapping

4.4.2 No detailed maps are available for the wider study area prior to the Ordnance Survey series.

4.4.3 Richard Blome's map of 1673 does show the name of Farlam and illustrates the 'Picts Wall' to the north, along with Brampton to the west depicting a structure at this location thought to represent the castle. A place named Silverside is also mentioned, this presumably the same Silverside as is shown on the 1st edition Ordnance Survey map of 1868, situated to the immediate west of the study site. These details can also be seen in Robert Morden's map of *c.* 1720, this time in slightly finer detail.

4.4.4 No Tithe map was evidently produced for the area.

Ordnance Survey Mapping

4.4.5 The field boundaries at the study site have changed very little since the 1st edition Ordnance Survey map of 1868.

4.4.6 The 1st edition 6-inch scale map (Figure 4) shows that the quarry extension site lies in the northern half of a long rectangular field, with the western, northern and part of the eastern limits of the current site formed by the field boundaries. This map also depicts several of the aforementioned heritage assets within the vicinity of the site, particularly in and around Hallbankgate. Further settlements that survive today appear within the wider study area, such as Carnetley Farm and Longhirst Farm (shown on this map as 'Long Hurst') to the north, and various village buildings to the south.

4.4.7 The study site and surrounding area remain largely unchanged on the 2nd edition 6-inch scale map, produced in 1899 (Figure 5). The extent of previous stone quarrying in the area is more evident with various former workings shown to the west, north and east of the study area. This map also shows the aforementioned possible Bronze Age barrow (annotated as a 'Tumulus') to the south-east of Hallbankgate. The former quarries are also depicted on the 25-inch scale edition of the 2nd edition map of 1900 (Figure 6), with a further area of working depicted directly to the east of the study site.

4.4.8 These maps clearly illustrate how a rural, agricultural landscape was being affected by industrialisation with the Brampton and Hartleyburn Railway and the Blacksike Railway to the south of the study site, shown on both the 1st and 2nd editions, and the latter also depicting the 'Old Tramway' at Clowsgill Holme. The presence of these features within what remained an essentially rural agricultural landscape clearly demonstrates the juxtaposition of mining and farming within the late post-medieval/industrial era landscape of this part of Cumbria.

4.4.9 The study site remained largely unchanged throughout the following decades with the next significant changes occurring in the middle of the 20th century. The current field boundaries, along with the quarrying directly to the east, developing into the modern day workings, appear for the first time on the 1957 edition map (Figure 7). By 1979, the quarry had extended to its present size (Figure 8).

4.5 Previous Archaeological Work

4.5.1 There has been no previous archaeological work undertaken within the study site and just one historic building recording project within the wider study area, this being work on the aforementioned engine shed associated with Lord Carlisle's Railway system (Jones 2004).

4.6 Site Visit

4.6.1 A site visit was undertaken in February 2013; a selection of photographs taken at this time form part of Appendix D to this report. The study site (taking in the entirety of the western quarry extension) comprised an open field, occupying a south-facing slope (Plate 1). The ground cover was open grassland with some scrubland along the southern extent. The field boundaries were mostly post and barbed wire fence, although a drystone wall runs parallel to the post and wire fencing along the western boundary of the Phase 1 area (Plate 2).

4.6.2 Silver Top Quarry looks northwards to the Hadrian's Wall buffer zone to the north (Plate 3), and southwards to the North Pennines AONB (Plate 4). There were no surface features of potential archaeological interest, and no areas that have obviously been disturbed within the study site itself. An overhead cable ran across the southern extent of the Phase 2 area (Plate 5).

4.6.3 Although there were no surface features noted within the study site, the fields bounding the site to the north were noted to have earthwork remains of broad ridge and furrow visible (Plate 6). Various linear features could also be seen in the fields to the north-west of the study site and although their origins cannot be certain, it is possible that these relate to earlier quarrying activity or trackways (Plate 7).

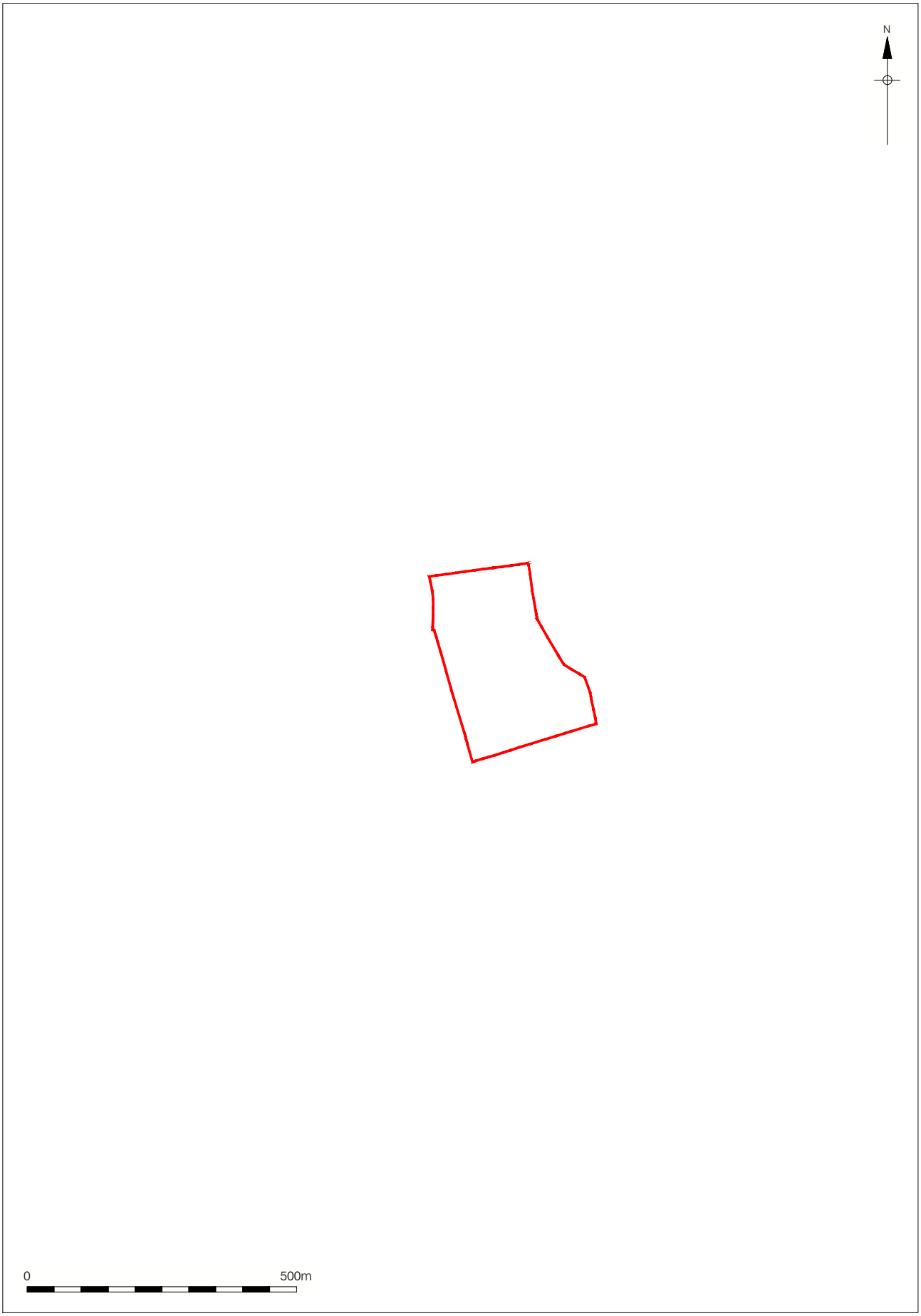

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Figure 4
Ordnance Survey First Edition map (6" scale), 1868
1:10,000 at A4

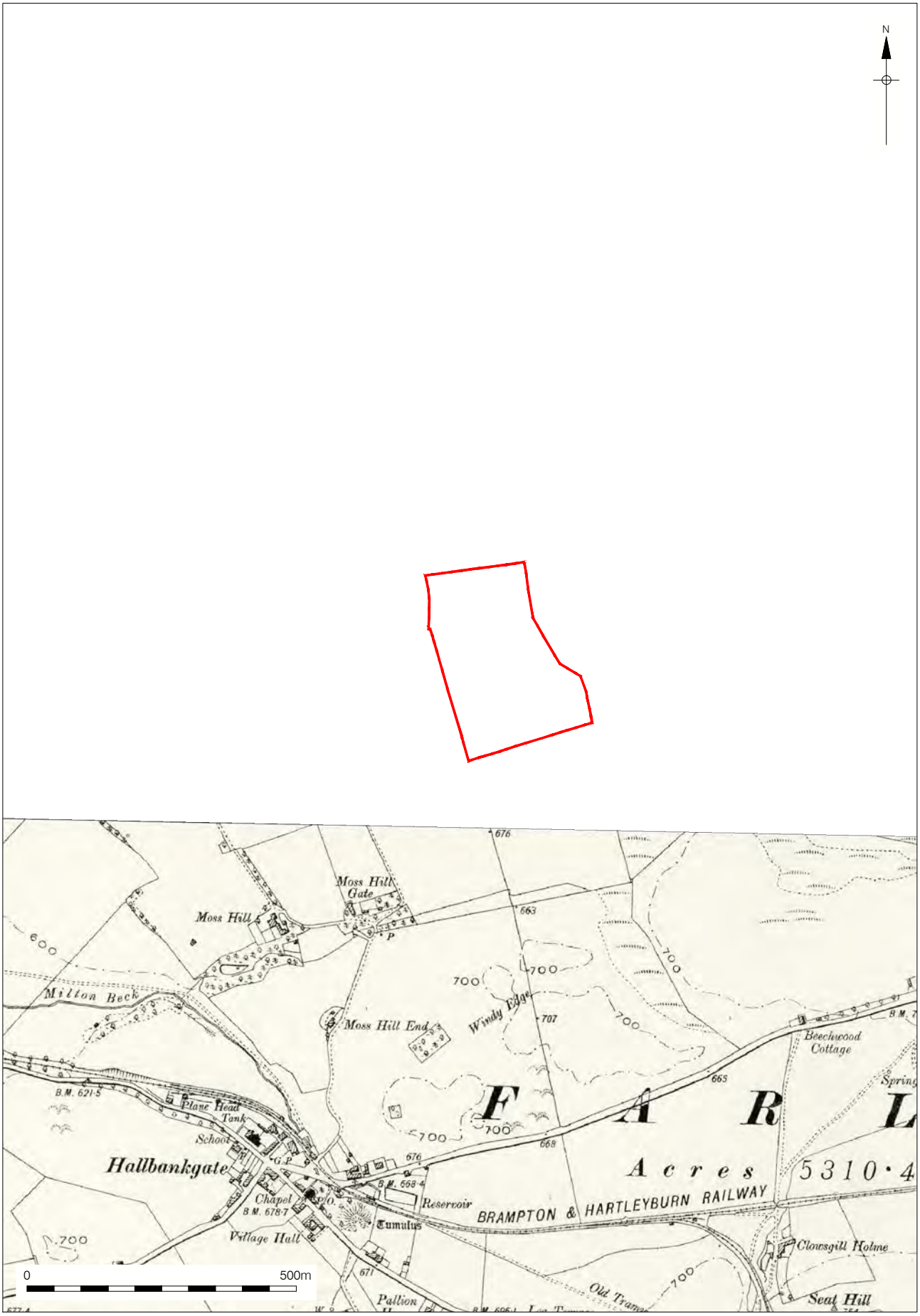

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Figure 5
Ordnance Survey Second Edition map (6" scale), 1899
1:10,000 at A4

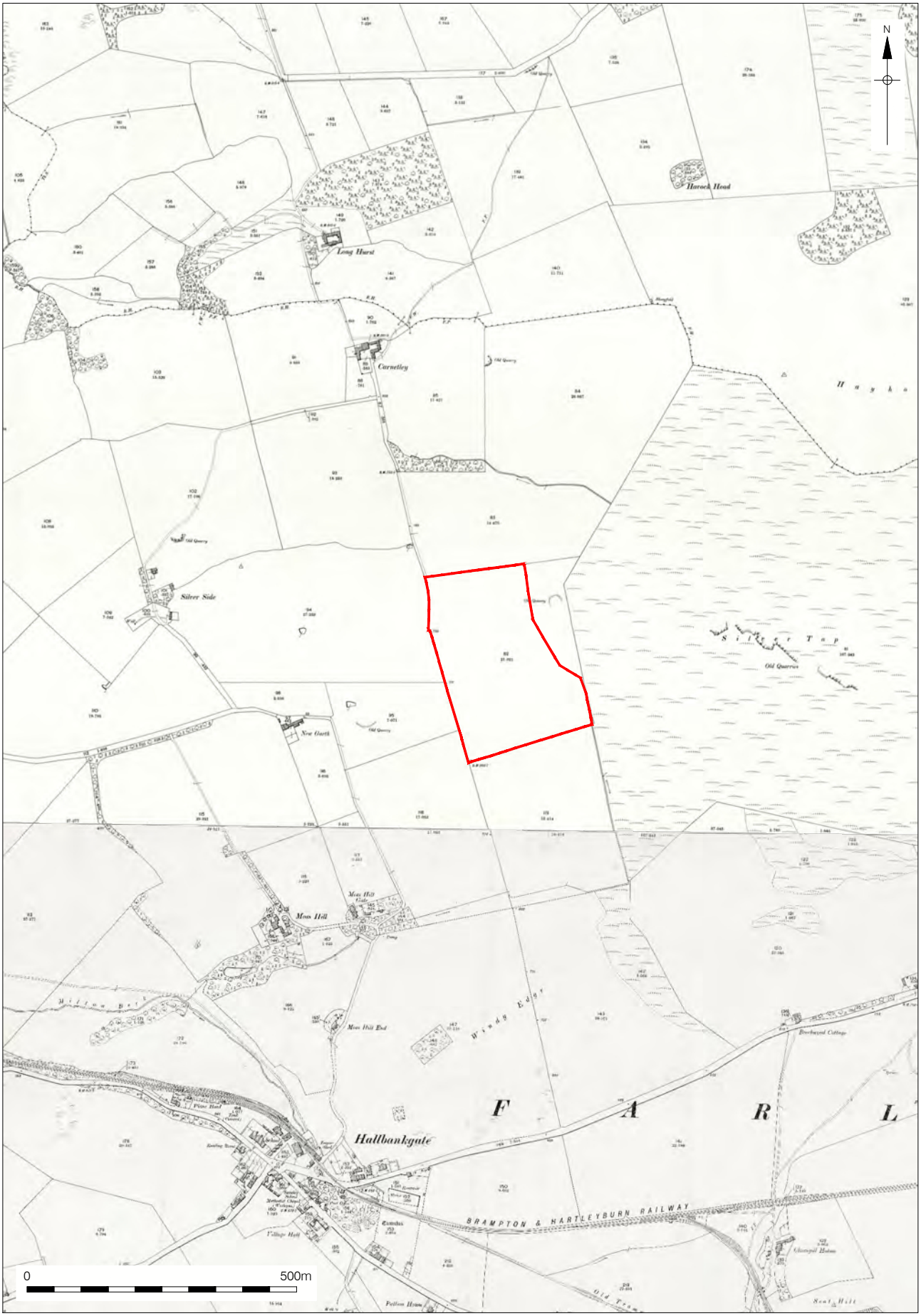

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Figure 6
Ordnance Survey Second Edition map (25" scale), 1900
1:10,000 at A4

Figure 7
Ordnance Survey (1:10,560 scale), 1957

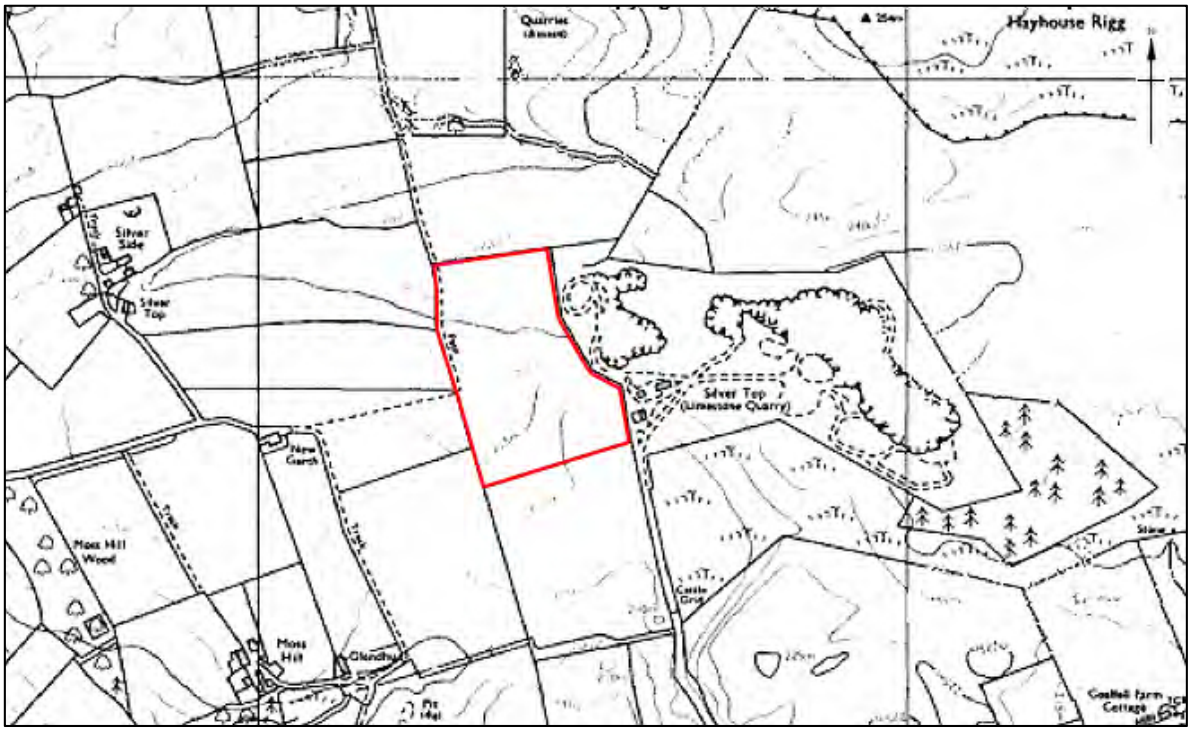


Figure 8
Ordnance Survey (1:10,000 scale), 1979

6. ASSESSEMENT OF ARCHAEOLOGICAL POTENTIAL

6.1 Summary of the Known Historic Environment Resource

6.1.1 There are no designated heritage assets within the study site, but six are recorded within the 1.5 km radius wider study area. With the exception of the Hadrian's Wall buffer zone, these consist of post-medieval Listed Buildings, with all but one of these located towards the southern margin of the wider study area, the exception being New Garth, which lies *c.* 0.3 km to the west of the study site. Approximately the northern half of the wider study area lies within the defined buffer zone of the Hadrian's Wall WHS, with the study site lying immediately to the south of the buffer zone; the Wall itself is situated *c.* 4.5 km to the north.

6.1.2 There are no known non-designated heritage assets within the study site.

6.2 Summary Statement of Archaeological Potential

6.2.1 The assessment has determined the potential for heritage assets with archaeological interest at the study site – specifically buried archaeological remains – through consideration of known heritage assets within the wider area.

6.2.2 There is very limited evidence of prehistoric activity in the wider study area; therefore, the evidence base only very broadly suggests that the study site may have seen human occupation or other exploitation during prehistory. The potential for archaeological remains of prehistoric date at the site is therefore considered low to moderate. Any such remains would likely be considered non-designated heritage assets of low to medium significance, with potential to contribute to local or regional research objectives.

6.2.3 There is limited evidence of Roman period activity in the wider study area, although the defined buffer zone of the Hadrian's Wall WHS lies immediately to the north of the study site. Although there may have been settlement activity in the wider landscape during the Roman period, the topography of the site itself suggests that any activity of this period is probably more likely to have been related to the agricultural use of the land. The potential for Roman period archaeological remains at the site is therefore considered moderate at best. Any such remains would likely be considered non-designated heritage assets of low to medium significance, with potential to contribute to local or regional research objectives.

6.2.4 The potential for early medieval/Anglo-Saxon archaeological remains at the study site is considered low. Such remains would likely be considered non-designated heritage assets of low significance, with potential to contribute to local research objectives.

6.2.5 The study site was likely associated with the field systems of outlying farmsteads from the medieval period onwards, continuing into the modern era. Low ridge and furrow earthworks observed directly north of the study site during the site visit provide evidence for medieval or post-medieval agriculture. Therefore, there is considered to be moderate to high potential for archaeological remains relating to medieval and post-medieval agricultural usage of the site. In broad terms though, this location is not considered to be particularly sensitive with regard to medieval and post-medieval archaeological remains, since evidence of ploughing, improved agricultural soils, drainage features and former land boundaries of these eras would be of low significance, with potential to contribute only to, at best, local research objectives.

6.2.6 The site has evidently seen no previous development and map regression indicates that its internal layout has seen little change, apart from variations to field boundaries in the mid-20th century. Therefore, the potential for sub-surface archaeological remains of late post-medieval and modern date is considered low. Any such remains are most likely to relate to former field boundaries and general agricultural practices and would be of low or negligible significance, of very limited or no archaeological interest.

6.3 Summary of Past Impacts

6.3.1 The study site has evidently seen no previous development and has likely remained in use as arable or pastoral land since the medieval period, although there is some potential for quarrying having taken place during the post-medieval period, given the extent of such activity in the vicinity.

6.3.2 The impact of previous arable use of the site since the medieval period on potential archaeological remains of earlier eras could range from negligible to high, while if quarrying had taken place in the post-medieval period, its impact would likely be high.

6.4 Summary of Potential Impacts

6.4.1 With no designated heritage assets upon the study site, it is concluded that the proposed quarry extension will have no direct impacts on designated heritage assets. With no known non-designated heritage assets upon the study site, including known archaeological remains, it is concluded that the proposed development scheme would have no direct impacts on known non-designated heritage assets.

6.4.2 In terms of potential heritage assets of archaeological interest at the study site, specifically buried archaeological remains, the magnitude of direct impact on such assets would be high as they will almost certainly be entirely lost. The trial trenching evaluation therefore aimed to establish the presence, character, date and extent of archaeological remains at the site, so that an appropriate mitigation strategy can be formulated.

6.4.3 Through consideration of the settings of heritage assets in the vicinity of the study site, indirect impacts of the proposed scheme on the significance of the historic environment are also considered. The Grade II Listed Building at New Garth, which is visible from the site, is a designated heritage asset of moderate importance. This, along with the visual envelope of the Hadrian's Wall buffer zone, could therefore be seen as having greater sensitivity to change in setting. That said, as the proposed scheme is an extension to an existing, long-established quarry, the magnitude of change within the settings of these heritage assets is considered to be low. Therefore, the overall impact on the settings of these heritage assets is considered likely to be negligible or, at worst, minor.

7. EVALUATION RESULTS: THE ARCHAEOLOGICAL SEQUENCE

During the evaluation, separate stratigraphic entities were assigned unique and individual 'context' numbers, which are indicated in the following text as, for example [123]. The archaeological sequence is described by placing stratigraphic sequences within broad phases, assigned on a site-wide basis in this case. An attempt has been made to add interpretation to the data, and correlate these phases with recognised historical and geological periods.

7.1 Phase 1: Natural Sub-stratum

7.1.1 Phase 1 represents the solid and superficial geological material of the site, as described in Section 2.3.1

7.1.2 Bedrock observed within Trenches 2, 6, 7, 8 and 12 comprised limestone, often fragmented at the surface. It was recorded at a highest level of 230.92m OD within the north-eastern end of Trench 6, located in the western part of the Phase 1 area, and a lowest level of *c*. 225.0m OD within the north-eastern end of Trench 12, located towards the south-eastern corner of the Phase 1 area (Figure 2).

7.1.3 Superficial geological material was variable throughout the area investigated with various compositions of clays, silts, sands and gravel observed (see Appendix B). Within Trench 1, located in the north-western corner of the Phase 1 area, the superficial geology was observed at a depth of 0.15m below ground level at a height of 234.51m OD, directly overlain by topsoil. The level of the superficial geology followed the natural sloping topography of the ground and at its lowest point, within Trench 14 in the south-eastern corner of the investigated area, it was observed at a depth of 0.45m below ground level at a height of 219.56m OD. At this location, natural material was overlain by a sub-soil, discussed below.

7.2 Phase 2: Undated

7.2.1 Remains assigned to Phase 2 comprise various deposits interpreted as sub-soil recorded in Trenches 2, 5, 6-10 and 12-14 and two linear features recorded in Trenches 11 and 13 (see Figure 2). No datable material was recovered from the two linear features and their period of origin therefore remains uncertain. Their form and the nature of their infills, however, suggests that they may be of medieval or earlier origin.

7.2.2 A sub-soil deposit was observed in parts of Trenches 2, 5, 6, 8, 10 and parts of Trenches 10, 12, 13 and 14, as well as rather more intermittently in Trenches 7 and 9. Sub-soil was not recorded in the higher northern part of the site, *e.g.* in Trenches 1-3, and its deposition therefore may have been due in part to colluvial action. Where encountered, sub-soil predominantly comprised soft, mid brownish orange clayey silt, up to 0.30m thick, and it was recorded at a highest level of 230.60m OD at the southern end of Trench 2.

7.2.3 A linear gully [11/3] running on a roughly east-west alignment was recorded in Trench 11. This measured 1.07m wide and 0.23m deep and was of broad U-shaped profile (Figure 9). A single fill [11/2] comprised soft, dark greyish brown clayey silt, containing frequent small sub-rounded and sub-angular stones, no other inclusions were noted. The feature was directly overlain by topsoil and was recorded at a maximum height of 222.54m OD.

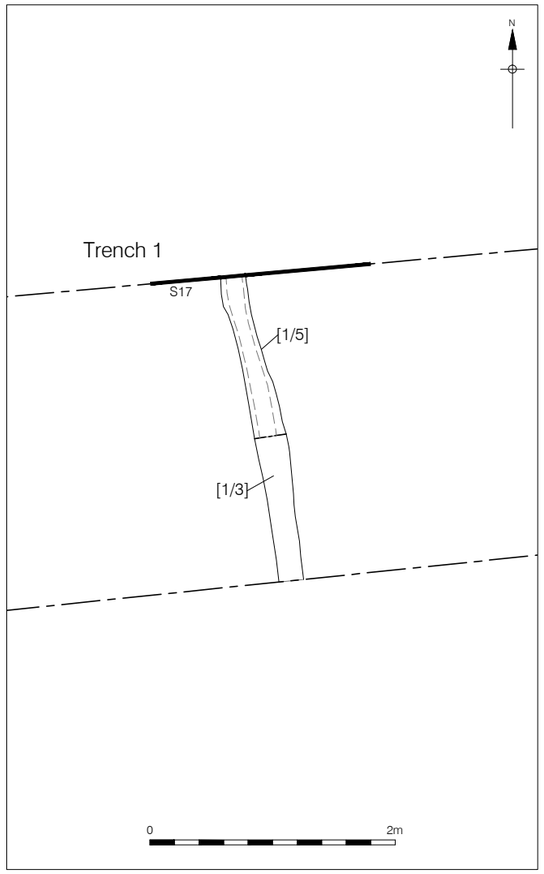
7.2.4 A gully [13/4] recorded in Trench 13 ran on a NW-SE alignment and was visible for 5.50m in length within the limits of the trench. It had a gently sloping side along its north-eastern edge, with a steeper slope to the south-west and a concave base. It measured 0.97m wide and 0.20m deep and was recorded at a maximum height of 220.22m OD. This feature also contained a single fill [13/3] which comprised soft, dark brownish grey clayey silt, with occasional small sub-angular pebbles throughout.

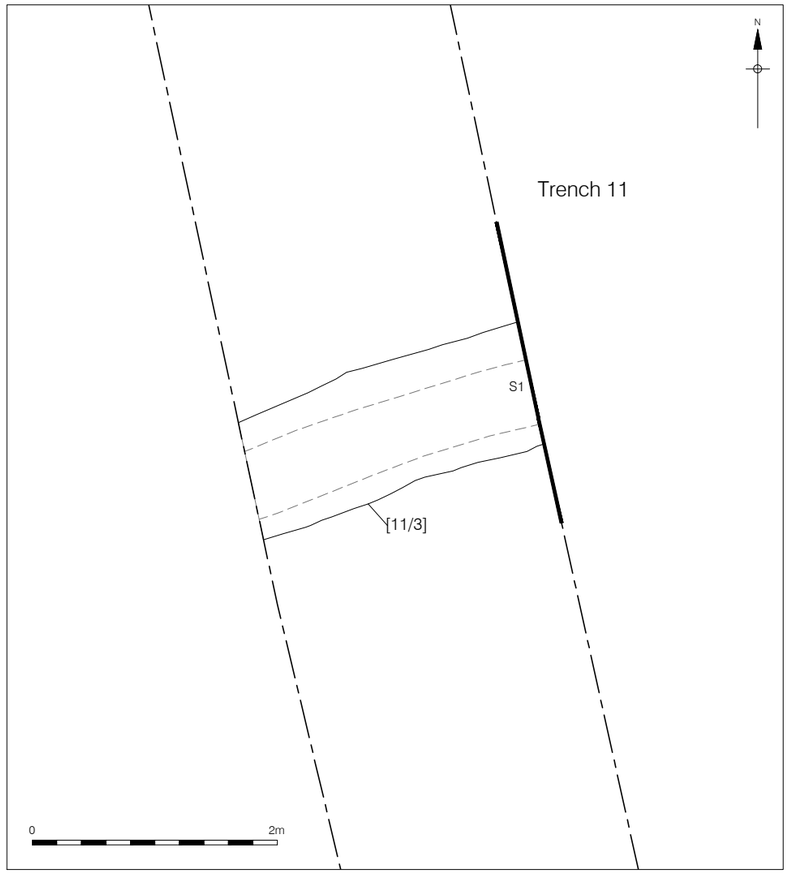
7.2.5 The composition of the fills of these gullies and the alignment of the Trench 13 gully in relation to the long-established field boundaries suggests an early origin for these features and it is possible that they are of pre-medieval origin, potentially of Roman or prehistoric date.

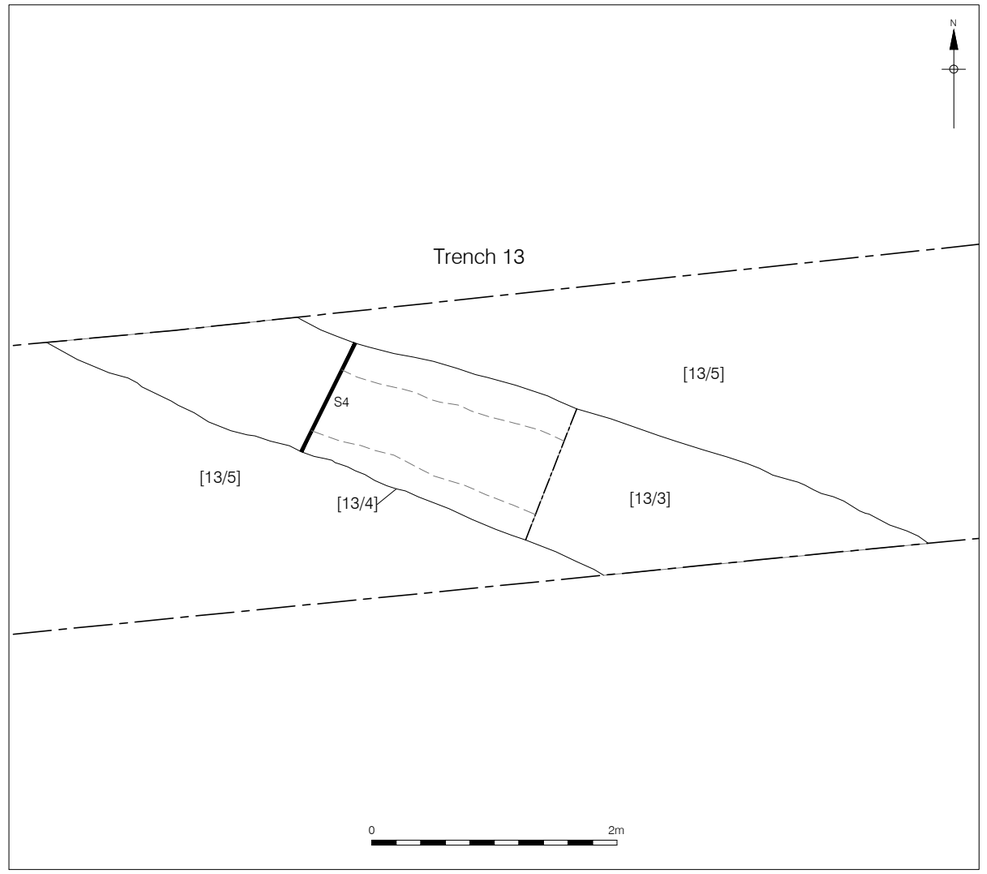
7.3 Phase 3: Modern

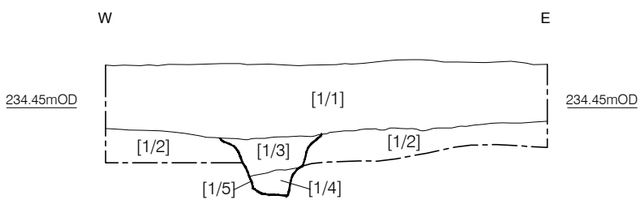
7.3.1 A shallow, narrow gully [1/5] was recorded running on a roughly north-south alignment across Trench 1. This measured 0.39m wide and 0.24m deep and had steeply sloping irregular sides and a flat base. It contained two fills, a soft, light yellowish grey clayey silt primary fill [1/4] and an upper fill [1/3], which was very similar in composition to the overlying topsoil. This feature has been interpreted as a feature of modern date, possibly associated with drainage in the area.

7.3.2 Topsoil, which was on average 0.30m thick across the investigated area, comprised soft, mid brown clayey silt which was dark greyish brown in Trenches 1, 3, 11 and 13 and dark orange brown in Trench 8. The existing ground surface ranged from a maximum of 235.18m OD at the north-eastern extent of Trench 4 to a minimum of 219.60m OD at the south-eastern end of Trench 14.

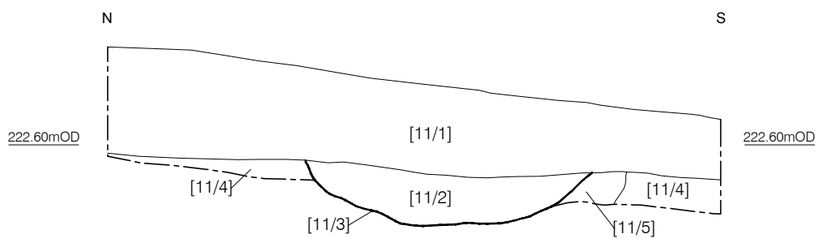




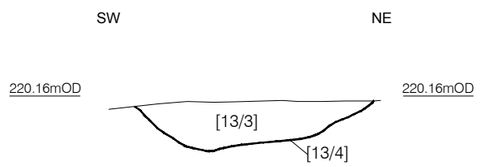




Section 17
Trench 1
South facing



Section 1
Trench 11
West facing



Section 4
Trench 13
Southeast facing

18/04/13 MR

Figure 9
Features, plans and sections
Plans - 1:50, Sections - 1:40 at A3

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

8.1.1 Geological deposits and archaeological deposits and features encountered during the trial trenching evaluation have been assigned to three phases of activity:

- Phase 1 - natural sub-stratum; limestone bedrock was observed in Trenches 2, 6, 7, 8 and 12, overlain by varying superficial geological deposits. Natural deposits were observed at a highest level of 234.51m OD at the northern end of the across the investigated area, falling to a minimum height of 219.56m OD at the southern end.
- Phase 2 - undated; two gullies of uncertain period of origin were recorded, in Trenches 11 and 13. Given their form and composition of their infills, it is possible that these may be of medieval or earlier date, possibly Roman or prehistoric; they most likely relate to agricultural use of the land whatever their period of origin. Sub-soil was recorded intermittently across the investigated area. No subsoil was present within the trenches in the higher, northern part of the site, and it is considered likely that the sub-soil may therefore have been deposited through colluvial action, at least in part.
- Phase 3 - modern; a narrow linear drainage feature recorded within Trench 1 is likely to be of modern origin, given the composition of its infill. Topsoil was recorded across all trenches, this forming the present ground surface, which dropped from a height 235.18m OD in the north to 219.60m OD at the southern limits of the investigated area.

8.1.2 It is concluded that archaeological remains of uncertain period of origin were recorded in Trenches 11 and 13. If these remains do represent Roman period or prehistoric activity, then they would be heritage asset of archaeological interest, probably of importance at a local level, depending on the extent of their survival. The quarry extension scheme will destroy these and any associated archaeological remains.

8.2 Recommendations

8.2.1 It is recommended that an appropriate mitigation strategy should be implemented in association with the programme of limestone extraction in the Phase 1 area. The recommended work is archaeological monitoring during the initial topsoil strip prior to extraction, with recording of all archaeological features as exposed, and all necessary subsequent reporting.

9. BIBLIOGRAPHY AND SOURCES CONSULTED

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Maps, Documents and Other Sources

Carlisle Archive Centre

Paper copies of various historical maps were examined during the visit and digital copies (supplied on CD) of relevant extracts of the following were requested:

The 1st edition Ordnance Survey (6" to 1 mile) map, published 1868 (extract reproduced as Figure 4).

The 2nd edition Ordnance Survey (6" to 1 mile) map, published 1899 (extract reproduced as Figure 5).

The 2nd edition Ordnance Survey (25" to 1 mile) map, published 1900 (extract reproduced as Figure 6).

Online Sources

The **British Geological Survey** website: *www.bgs.ac.uk.* This was consulted for information regarding the geology of the study area.

The **Cumbria County Council** website: *www.cumbria.gov.uk/planning.* This was consulted for local planning policy guidance and the report on the Cumbria Historic Landscape Characterisation project.

The **English Heritage** website: *http://www.english-heritage.org.uk/.* This was consulted for designated heritage asset information.

The **MAGIC** website: *www.magic.gov.uk/website/magic/.* MAGIC is a partnership project involving six government organisations including English Heritage and Natural England. The website is essentially an interactive map collecting information on key environmental schemes and designations.

The **North Pennines** website: *www.northpennines.org.uk*

10. ACKNOWLEDGEMENTS AND CREDITS

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The role of Jeremy Parsons, Historic Environment Officer for Cumbria County Council is acknowledged and Jo Mackintosh, Historic Environment Record Officer is thanked for her assistance.

PCA Credits

Project Manager: Robin Taylor-Wilson

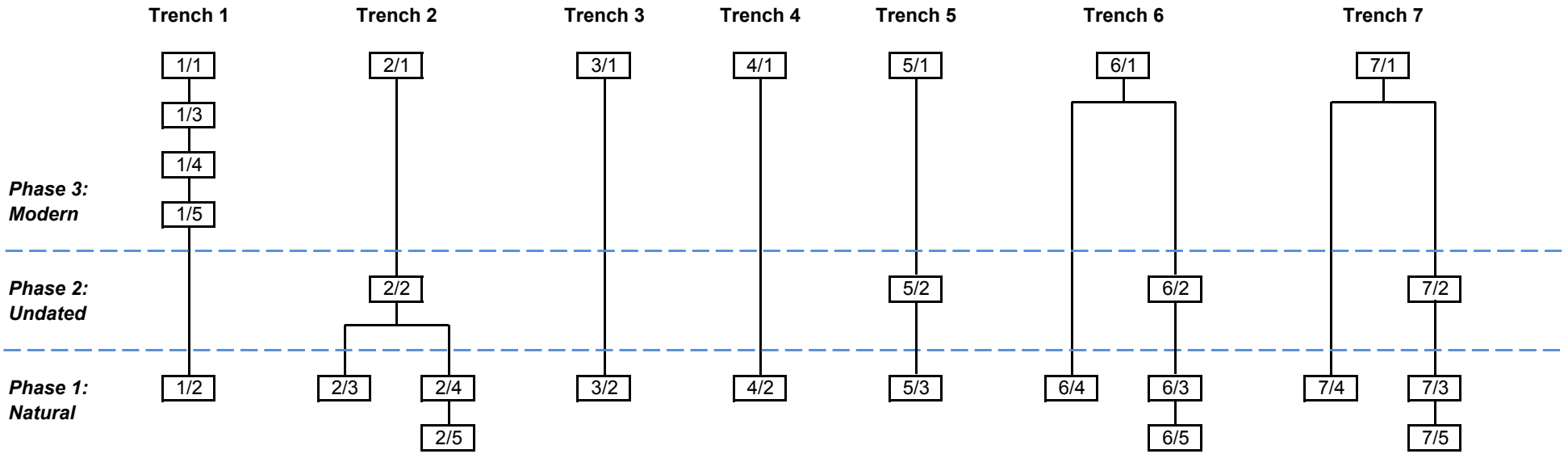
Fieldwork: Amy Roberts (Site Supervisor) and Scott Vance

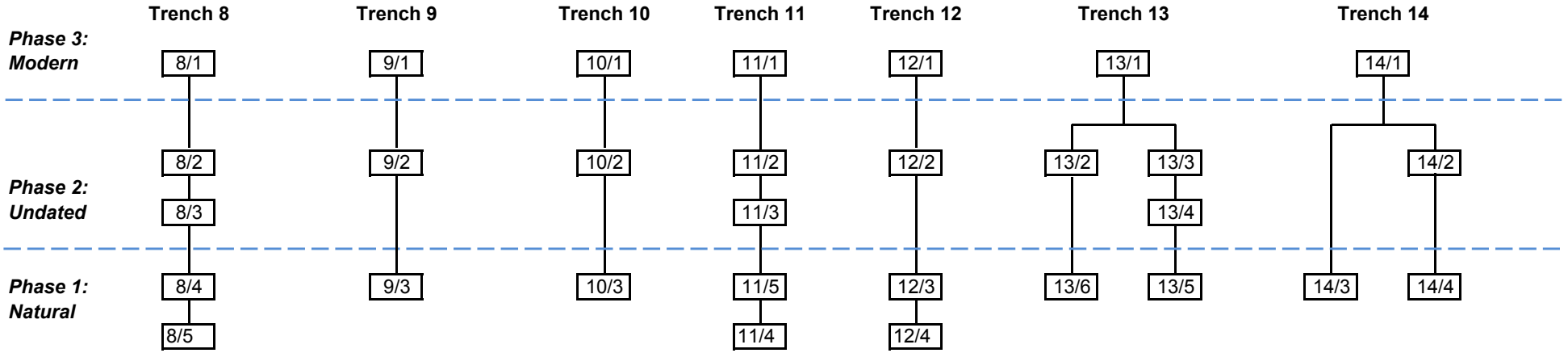
Report: Jenny Proctor and Amy Roberts

Illustrations: Mark Roughley

APPENDIX A
STRATIGRAPHIC MATRICES

STB 13: STRATIGRAPHIC MATRICES





APPENDIX B
CONTEXT INDEX

STB 13: CONTEXT INDEX

Context	*Trench*	*Phase*	*Type 1*	*Type 2*	*Interpretation*
1/1	1	3	Deposit	Layer	Topsoil
1/2	1	1	Deposit	Layer	Natural clay
1/3	1	3	Deposit	Fill	Secondary fill of gully [1/5]
1/4	1	3	Deposit	Fill	Primary fill of gully [1/5]
1/5	1	3	Cut	Linear	Gully filled by [1/3] & [1/4]
2/1	2	3	Deposit	Layer	Topsoil
2/2	2	2	Deposit	Layer	Sub-soil
2/3	2	1	Deposit	Layer	Natural clay
2/4	2	1	Deposit	Layer	Natural sandy clay silt
2/5	2	1	Deposit	Layer	Bedrock
3/1	3	3	Deposit	Layer	Topsoil
3/2	3	1	Deposit	Layer	Natural clay
4/1	4	3	Deposit	Layer	Topsoil
4/2	4	1	Deposit	Layer	Natural clay
5/1	5	3	Deposit	Layer	Topsoil
5/2	5	2	Deposit	Layer	Sub-soil
5/3	5	1	Deposit	Layer	Natural sandy clay and clayey silt
6/1	6	3	Deposit	Layer	Topsoil
6/2	6	2	Deposit	Layer	Sub-soil
6/3	6	1	Deposit	Layer	Natural clayey silt
6/4	6	1	Deposit	Layer	Natural clay
6/5	6	1	Deposit	Layer	Bedrock
7/1	7	3	Deposit	Layer	Topsoil
7/2	7	2	Deposit	Layer	Sub-soil
7/3	7	1	Deposit	Layer	Natural clayey silt
7/4	7	1	Deposit	Layer	Natural sandy clay
7/5	7	1	Deposit	Layer	Bedrock
8/1	8	3	Deposit	Layer	Topsoil
8/2	8	2	Deposit	Layer	Sub-soil
8/3	8	2	Deposit	Layer	Sub-soil
8/4	8	1	Deposit	Layer	Natural clayey silt
8/5	8	1	Deposit	Layer	Bedrock
9/1	9	3	Deposit	Layer	Topsoil
9/2	9	2	Deposit	Layer	Sub-soil
9/3	9	1	Deposit	Layer	Natural clayey silt
10/1	10	3	Deposit	Layer	Topsoil
10/2	10	2	Deposit	Layer	Sub-soil
10/3	10	1	Deposit	Layer	Natural sandy clay and clayey silt
11/1	11	3	Deposit	Layer	Topsoil
11/2	11	2	Deposit	Fill	Fill of gully [11/3]
11/3	11	2	Cut	Linear	Gully filled by [11/2]
11/4	11	1	Deposit	Layer	Natural clay
11/5	11	1	Deposit	Layer	Natural silty sand
12/1	12	3	Deposit	Layer	Topsoil
12/2	12	2	Deposit	Layer	Sub-soil
12/3	12	1	Deposit	Layer	Natural clayey silt
12/4	12	1	Deposit	Layer	Bedrock
13/1	13	3	Deposit	Layer	Topsoil
13/2	13	2	Deposit	Layer	Sub-soil
13/3	13	2	Deposit	Fill	Fill of gully [13/4]
13/4	13	2	Cut	Linear	Gully filled by [13/3]
13/5	13	1	Deposit	Layer	Natural clay
13/6	13	1	Deposit	Layer	Natural clayey silt
14/1	14	3	Deposit	Layer	Topsoil
14/2	14	2	Deposit	Layer	Sub-soil
14/3	14	1	Deposit	Layer	Natural sandy gravel
14/4	14	1	Deposit	Layer	Natural silty clay

APPENDIX C
CATALOGUE OF HERITAGE ASSETS

APPENDIX C: CATALOGUE OF HERITAGE ASSETS

Fig. 3 Ref.	HER No.	EH LEN No.	100km Square	NGR Easting	NGR Northing	Site Name	Site Type	Period
1	547	N/A	NY	5815	5951	Hallbankgate Mound	Barrow	Bronze Age
2	N/A	1000098	NY	5696	6086	Hadrian's Wall Buffer Zone	WHS	Roman
"	N/A	"	NY	5987	6088	"	"	"
3	4257	N/A	NY	5800	6100	Carnetley Temporary Camp	Temporary Camp	Roman
4	4258	N/A	NY	5800	6000	Altar Find, Moss Hill	Spot Find	Roman
5	10031	N/A	NY	5880	6185	Craigwood Quarry	Quarry	Post-medieval
6	11076	N/A	NY	5843	6110	Carnetley Quarries	Quarry	Post-medieval
7	240	1342745	NY	5800	6043	New Garth Fortified House	Listed Building	Post-medieval
8	N/A	1077003	NY	5699	6013	Farlam Hall Country House Hotel	Listed Building	Post-medieval
9	241	1335566	NY	5701	6000	Farlam Hall Cottages	Listed Buildings	Post-medieval
10	N/A	1067760	NY	5780	5974	Plane Head	Listed Building	Post-medieval
11	19485	N/A	NY	5806	5963	Lord Carlisle's Railway Engine House	Engine House	Post-medieval
12	19588	N/A	NY	5806	5957	Hallbankgate Wesleyan Chapel	Chapel and School	Post-medieval
13	10342	N/A	NY	5823	6002	Mosshill Mine, Farlam	Mine	Post-medieval
14	N/A	1087583	NY	5942	6002	Drinking Trough Memorial	Listed Building	Post-medieval
15	11391	N/A	NY	5875	5953	Blacksike Railway, Farlam	Railway	Post-medieval
"	"	N/A	NY	5896	5911	"	"	"
16	7975	N/A	NY	5958	5961	Coalfell Mining Remains, Farlam	Earthwork	Post-medieval
17	10180	N/A	NY	5806	5930	Clement Leazes Lime Kiln, Farlam	Lime Kiln	Post-medieval
18	7973	N/A	NY	5876	5942	Clowsgill Holme Tramway	Tramway Embankment	Post-medieval
19	11228	N/A	NY	5701	5989	Lord Carlisle's Railway, Brampton-Midgeholme	Waggonway/Railway	Post-medieval
"	"	N/A	NY	5959	5963	"	"	"
20	10011	N/A	NY	5701	5989	Brampton and Hartleyburn Railway	Railway	Post-medieval
"	"	N/A	NY	5959	5963	"	"	"

APPENDIX D
PLATES (SITE VISIT AND EVALUATION)

Plate 1. Overview of study site, looking south

Plate 2. Northernmost portion of study site, looking west

Plate 3. View across the Hadrian's Wall buffer zone, looking north

Plate 4. View towards the North Pennines AONB, looking south

Plate 5. View of study site entrance, looking south-east

Plate 6. Ridge and furrow in the field to the north of the study site, looking north-west

Plate 7. Linear features in the field to the north-east of the study site, looking ENE

Plate 8. Trench 1, gully [1/5], south facing section *(scale 1m)*

Plate 9. Trench 11, gully [11/3], west facing section *(scale 1m)*

Plate 10. Trench 11, gully [11/3], post-excavation overview, looking north *(scale 1m)*

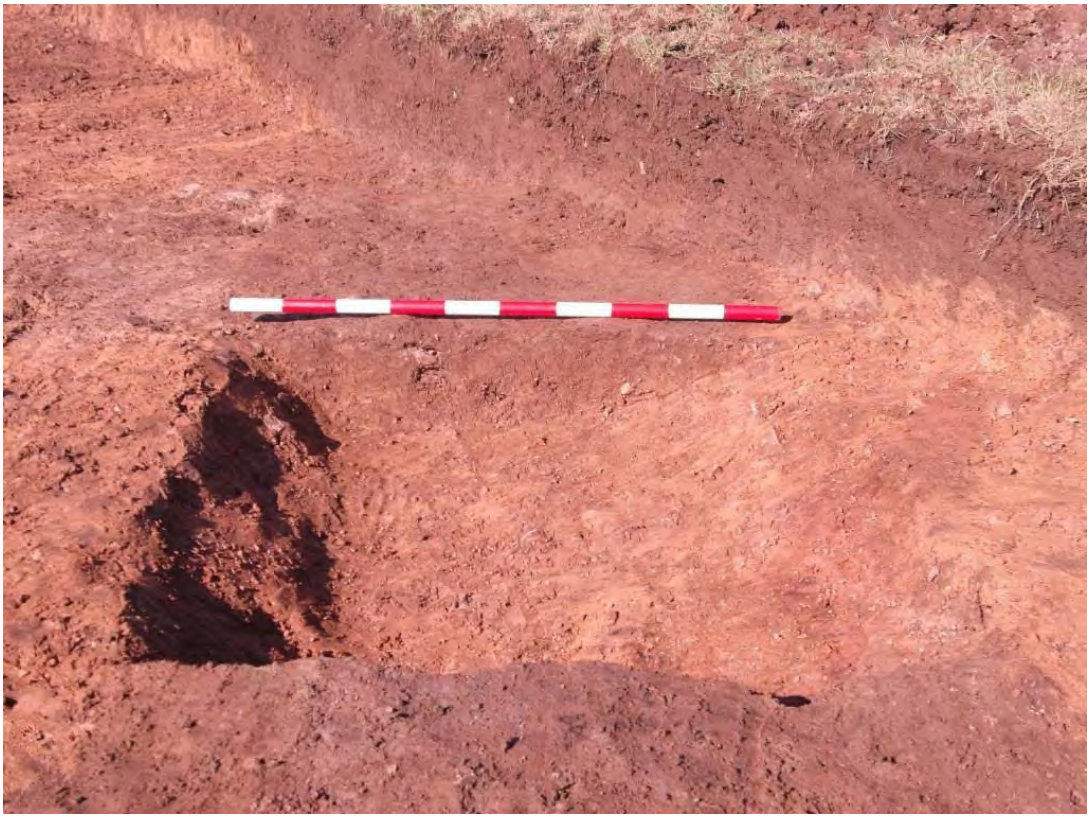


Plate 11. Trench 13, ditch [13/4], south-east facing section *(scale 1m)*

Plate 12. Trench 13, ditch [13/4], post-excavation overview, looking NNW *(scale 1m)*

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