

**A1 IN NORTHUMBERLAND
IMPROVEMENTS SCHEME:
CAUSEY PARK ADVANCED WORKS**

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ARCHAEOLOGICAL MITIGATION

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APRIL 2019

PRE-CONSTRUCT ARCHAEOLOGY

A1 in Northumberland: Causey Park Advanced Works

Site Code: CPA20

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A1 NORTHUMBERLAND: CAUSEY PARK ADVANCED WORKS

ARCHAEOLOGICAL MITIGATION REPORT

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1. NON-TECHNICAL SUMMARY

- 1.1 Pre-Construct Archaeology were commissioned by WSP, on behalf of Highways England, to undertake an archaeological Strip, Map and Sample (SMS) including three evaluation trenches and watching brief areas as part of advanced works for the A1 in Northumberland: Morpeth to Felton improvements. The first element of advanced works comprised the diversion of a Northern Gas Networks (NGN) pipeline and a Northern PowerGrid overhead electricity line to the south of Causey Park (NGR NZ 18857 95034). The proposed works, which are located c. 9km north of Morpeth and 5.5km south of Felton, lie within three fields to the west of the A1 at Causey Bridge.
- 1.2 The scheme comprises 12.6km of dualling of the existing A1 single carriageway and in order to construct this scheme, a National Grid gas transmission pipeline to the south of the proposed Causey Park Overbridge would need to be diverted, together with a Northern Gas Networks pipeline and a Northern Powergrid overhead electricity line at this location (hereafter referred to as the proposed works).
- 1.3 To facilitate the diversion of the National Grid High-Pressure Gas Main, underground pipeline (HPGM), the diversion of a section of Northern Powergrid (NPG) overhead electricity line and a section of a Northern Gas Networks (NGN) medium pressure below ground gas pipeline was required. The proposed work detailed in this report comprised the archaeological mitigation required for the diversion of the NPG line and NGN gas pipeline.
- 1.4 The NGN and NPG services currently extend in a north-south direction approximately 400m west of the existing A1 alignment, crossing the offline Section of the Scheme (and the route of the proposed HPGM diversion) at approximate chainage 17500. It is therefore necessary to divert these utilities to allow the Scheme to be constructed.
- 1.5 At their northern extent (Area 1), the NGN and NPG would be diverted east, to the north of Causey Park Road towards Causey Park Lodge. The proposed diversions would then cross Causey Park Road and continue south parallel to the western side of the de-trunked A1 (Area 2), and then follow the existing loop-road that provides access to the existing Oak Inn on its western side, crossing the Earsdon Burn either at the existing road bridge (within the road construction or below the burn by directional drill) or adjacent to the bridge by directional drill, to a connection point approximately 100m west of the Oak Inn (Area 3).
- 1.6 The HEDBA (Application Document Reference: TR010041/APP/6.2) provides a detailed archaeological and historical background for the scheme. Within Area 2, a cropmark of a possible rectilinear enclosure (HER 11367) was identified c.80m to the west of the trench for the gas pipeline. The lidar assessment (Wessex Archaeology 2018) identified traces of this feature and established that it is sub-rectangular and is largely formed of two sections of ditch, approximately 0.5m deep in places but generally shallower than this, with the northern one almost right-angled and acting as the north and eastern boundary the enclosure. In addition to the ditch sections, traces of a slight bank are visible on the western side. The

- enclosed area, covering 2.2 hectares, is defined by the top of a slope. Faint traces of further potential enclosures were also identified in the lidar assessment within the immediate vicinity. The enclosure was of potential prehistoric date.
- 1.7 The geophysical survey (ASDU 2018) identified eight fragmented linear anomalies of potential archaeological origin in the same area, including one immediately adjacent to the gas pipeline trench. They are potentially associated with the rectilinear enclosure feature.
- 1.8 The archaeological investigation was carried out between the 2nd-27th March 2020 over 12 days and consisted of excavating open service trenches under Strip, Map and Sample (SMS) conditions in Area 1, 2 and 3. The electricity trench within Area 2 could not be monitored as there was not enough room for spoil after the excavation of the gas trench and the presence of the diverted Public Right of Way. Areas where services crossed the trench (either below ground gas pipes or overhead electricity cables) could not be excavated due to Health and Safety constraints. The excavations within Areas 1 and 2 at the locations of live overhead electricity cables were monitored under watching brief conditions on the 14th and 17th April 2020, respectively. Within Area 2, the excavation around below ground gas pipes was abandoned.
- 1.9 Five phases of activity were encountered: Phase 1: superficial geology; Phase 2: Undated (Prehistoric) archaeological features uncovered within Trench 1 and 2; Phase 3: Medieval agricultural activity within Area 3; Phase 4: Post-medieval field drain and subsoil and Phase 5: Topsoil.
- 1.10 No archaeological features or deposits of significance were identified within any of the Strip, Map and Sample areas (Areas 1, 2 & 3).
- 1.11 Phase 3 is represented by features and earthworks associated with medieval agricultural use of the landscape. Extensive broad ridge and furrow earthworks survived within the southern part of the site, running on an NNW/SSE alignment across Area 3. A survey of the ridge and furrow earthwork was undertaken recording the top and base of the earthworks breaks of slope. A transect was also undertaken within Area 1 that extended across the system of ridge and furrow to define the form of the earthworks.
- 1.12 Three evaluation trenches (Plates 3, 5 & 7) were sited to target anomalies identified by geophysical survey and lidar assessment (Figure 2). Trench 1 targeted a curvilinear geophysical anomaly that extended across the trench in two locations. To this end two shallow linear features were identified in Trench 1 that closely corresponds to the geophysical anomaly. Although no dateable material was recovered from the fills of the gullies they are assumed to be prehistoric in date. Trench 2 targeted the easternmost NNW/SSE aligned boundary of a possible rectilinear enclosure that was identified as a cropmark (HER 11367) and by later Lidar assessment. To this end no feature was identified that corresponded with the postulated location of the enclosure boundary, however two shallow NE/SW aligned gullies along with an east/west aligned field drain was identified.

Although no dateable material was recovered from the gullies they have tentatively been attributed to the undated but probably prehistoric phase of activity. Trench 3 targeted a curvilinear anomaly that was identified by geophysical survey. No archaeological features were identified within Trench 3 and the cause of the geophysical anomaly is uncertain.

2. INTRODUCTION

2.1 Project Background

- 2.1.1 This report details the results of an archaeological Strip, Map and Sample (SMS) and trial trench evaluation undertaken as part of advanced works for the A1 in Northumberland at Causey Park (Figure 1 & 2). The archaeological investigation was commissioned by WSP on behalf of Highways England and was undertaken by Pre-Construct Archaeology Limited (PCA).
- 2.1.2 The desk-based assessment (Application Document Reference: TR10041/APP/6.2) identified a cropmark of a possible rectilinear enclosure in Area 2 (HER 11367). The lidar assessment identified traces of the possible enclosure and established that it was sub-rectangular and formed of two sections of ditch approximately 0.5m deep in places. Faint traces of further potential enclosures were also identified in lidar assessment within the immediate vicinity (Application Document Reference: TR010041/APP/6.2, Appendix 8.3, Figure 4 and 8). The enclosures are considered to be of possibly prehistoric date.
- 2.1.3 The geophysical survey identified seven fragmented linear anomalies of potential archaeological origin in the same area, including one immediately adjacent to the gas pipeline trench. An archaeological origin has yet to be established, however they are potentially associated with the rectilinear enclosure feature.
- 2.1.4 To mitigate the impact of the work on potential archaeological assets a strategy of 'preservation by record was proposed'. This work took the form of an archaeological SMS excavation within the propose gas and electricity service trenches. Three evaluation trenches sited to target various anomalies identified by geophysical survey and lidar assessment were also undertaken.
- 2.1.5 The scope of works for the archaeological mitigation was set out in a Method Statement produced by WSP (2020). The aim of the SMS was to record any archaeological features uncovered during the excavation of the gas and electricity trenches undertaken during the diversion works. The evaluation trenches aimed to clarify the presence, nature, date and significance of any of the geophysical anomalies including the large enclosure feature identified as a cropmark by the HER (11367). The Method Statement was produced in consultation with Northumberland County Council Conservation Team (NCCCT).
- 2.1.6 The Online Access to the Index of Archaeological Investigation (OASIS) reference number of the project is preconst1-390043.

2.2 Site Location and Description

- 2.2.1 The proposed works, which are located c. 9km north of Morpeth and 5.5km south of Felton, lie within three fields to the west of the A1 at Causey Bridge centred at National Grid Reference NZ 18857 95034 (Figure 1 and 2).

2.3 Geology and Topography

- 2.3.1 The solid geology underlying the site comprises mudstone, siltstone and sandstone of the Stainmore Formation, formed during the Carboniferous Period. This is overlain by till, Devensian (Diamicton), formed up to two million years ago when the local environment was dominated by ice age conditions (*British Geological Survey website*).
- 2.3.2 The topography along the proposed works area rises from approximately 80m above Ordnance Datum (AOD) in the south to 85m AOD in the north.

2.4 Planning Background

- 2.4.1 The archaeological investigation was required, as part of the planning process (pre-determination), to inform the Local Planning Authority (LPA), Northumberland County Council of the character, date, extent and degree of survival of archaeological remains at the site. The advanced works form part of a Development Consent Order application (DCO, Application Document Reference: TR3101110/APP/3.1) and is required in accordance to the National Policy Statement for National Networks (NPS NN 5.142).

2.5 Archaeological and Historical Background

The detailed review of the archaeological potential of the Scheme is presented in the HEDBA (Application Document Reference: TR010041/APP/6.2, Appendix 8.1) and Chapter 8: Cultural Heritage of the ES (Application Document Reference: TR010041/APP/6.1), drawing on the evidence provided from the geophysical survey (Application Document Reference: TR010041/APP/6.2, Appendix 8.2) and lidar assessment (Application Document Reference: TR010041/APP/6.2, Appendix 8.3). The following section presents the archaeological potential for the proposed works area only, presented by period and is taken from the Method Statement produced by WSP (2020).

Prehistoric

- 2.5.1 The Palaeolithic period is typically represented by isolated finds such as the lithics found at Eltringham, near Prudhoe, c.25 km south-east of the proposed works area, however, there is no evidence of Palaeolithic activity recorded in close proximity. The Mesolithic period is represented in The Scheme Study Area by several pieces of worked Mesolithic flint found near West Moor Farm, approximately 4 km to the north. In the wider landscape, the Mesolithic period is represented by a Mesolithic settlement site at Howick, approximately 20 km north-east of Felton. The Neolithic period is represented by isolated finds consisting of an arrowhead and three stone axe heads. Notably, two of the stone axe heads were located in an area where, documentary evidence suggests, there was an undated earthwork 75 m in diameter. The location lies 3.5 km to the north and is now occupied by the disused East Thirston Moor Camp RAF airfield. Bronze Age activity within the area consists of a bowl barrow burial monument, which lies 1.5 km to the north. It is believed that the primary burial in this barrow is undisturbed. There is no evidence of Iron Age activity within the Scheme boundary, however, a complex of un-investigated cropmarks within the Study Area at Silver Hill may date to the period.

Romano-British

- 2.5.2 The proposed works area lies 19 km to the north of Hadrian's Wall and as a result there was limited Roman influence over patterns of land use and settlement in the landscape. It is, therefore, thought that many of the field systems, enclosed settlements and farmsteads identified as cropmarks could have seen continuity in use from the Iron Age to the Romano-British period. Cropmark complexes comprising rectilinear enclosures and circular features, which may reflect Romano-British activity, have been identified throughout the area, including at Northgate Farm, West Shield Hill Farmhouse and Fenrother and at Silver Hill.

Early Medieval

- 2.5.3 There is no evidence of Early Medieval activity recorded near the proposed works area, although it is well represented in the wider landscape. The Anglo-Saxon kingdoms of Bernicia and Deira covered the Northumbria region and between the seventh and eighth centuries the "Golden Age of Northumbria" arose with monasteries being built at Lindisfarne and Hexham. In the late 8th century the Vikings famously raided the east coast, beginning at Lindisfarne however, there is little Viking evidence available.

Late Medieval

- 2.5.4 The origins of the townships within the area surrounding the proposed works site can be traced back to the 13th and 14th centuries and many of the region's churches were founded in this period. Elements of Felton's Church of St Michael and All Angels date to the 13th century and the Church of St Cuthbert in Hebron is thought to have medieval chancel walls of 12th century origin. There is also evidence for a settlement known as Helm, located approximately 1.5 km north of Causey Park Bridge and the site of a 13th century Chapel is recorded 1km to the north.
- 2.5.5 Following the Norman Conquest, 16 motte and bailey castles were built within the region including at Morpeth and Mitford. Several monasteries were established in the area from the mid-12th century, including at Newminster, near Morpeth. The early part of this period also saw the steady increase in the population resulting in the establishment of new settlements and their gradual growth, including Morpeth.
- 2.5.6 War with Scotland and the Black Death outbreak in the 14th century led to population decline and the shrinking of settlements, with some villages being abandoned altogether. There is evidence for this in the Study Area at Bockenfield, Burgham and at Helm. During the 15th century, existing defences at the castles were strengthened and a new type of building, "the tower house", was introduced in many Northumberland villages as part of the Lord's residence. One example of a tower house is located at Causey Park, although documentary evidence points to this being of 16th century date.

Post-medieval

- 2.5.7 The Post-Medieval period appears to be one of the most prosperous periods for the area surrounding the Scheme, and there are a large number of heritage assets near the Scheme from this period. The majority of these assets are buildings, milestone markers and headstones. The Grade II* Sundial from Causey Park, approximately 700 m to the west of the proposed work site, is rare, and contains the dated name of a local man: "William Ogle 1703". The agricultural heritage assets within the area indicate the prosperity of the agricultural sector during this time. Many landowners reorganised their fields and converted arable land into intensive pasture, resulting in the preservation of areas of ridge and furrow cultivation as earthworks throughout the area.

Industrial

- 2.5.8 In the wider landscape coal mining became the dominant industry within the region and improved transport links allowed for greater trade links and a steady supply of workers. As a result, the population grew and between 1801 and 1891 it doubled in Northumberland. This increase was reflected in the expansion of towns and villages.

Modern

- 2.5.9 World War II remains dominate evidence of the Modern period within the landscape around the area. RAF Eshott Airfield was built between World War I and World War II and the site contained accommodation, air raid shelters and hangers. Further evidence comprises a crash site of a Republic P47 Thunderbolt and a Royal Air Force Spitfire, a Grade II Listed Pillbox near West Thirston and a tank depot at Felton Park.

Buried Archaeological Remains within the Scheme

- 2.5.10 There are no designated heritage assets located within the proposed works site.
- 2.5.11 The Northumberland Historic Environment Record has identified a cropmark of a possible rectilinear enclosure, located within the proposed works site (HER 11367). The lidar assessment (Wessex Archaeology 2018) identified traces of this feature and established that it is sub-rectangular in form and is largely formed of two sections of ditch, approximately 0.5 m in depth in places but generally shallower than this, with the northern one almost right-angled and acting as the north and eastern boundary of the enclosure. In addition to the ditch sections, traces of a slight bank are visible on the western side. The enclosed area, covering 2.2 hectares, is defined by the top of a slope. Faint traces of further potential enclosures were also identified by lidar assessment in the immediate vicinity. The enclosure is potentially of Prehistoric date, however without further investigation the date is unknown. The value of the potential heritage assets cannot be determined at this stage without further investigation.
- 2.5.12 The geophysical survey (ASDU 2018) identified eight fragmented linear anomalies of potential archaeological origin in the same area, both within and immediately outside of the proposed works site. An archaeological origin has yet to be established, however they are potentially associated with the rectilinear enclosure feature (HER 11367).

3. PROJECT AIMS AND RESEARCH OBJECTIVES

3.1 Project Aims

- 3.1.1 The aim of the investigation was to clarify the presence, nature, date and extent of any archaeological remains that might be present within the site. To mitigate the impact on the identified archaeological remains, and as yet unknown assets, a strategy of 'preservation by record' was proposed. This work took the form of an archaeological SMS excavation within the proposed works site, where any ground disturbance was required. The SMS took place within the open trenches required for the installation of the diverted gas and electricity services and also the location of the launch and exit pits for the installation via direct drilling of the diverted Northern Gas Networks. Due to ground conditions an open cut was machined in Area 1 for the diverted Northern Gas Network rather than the initially proposed drill pits 2-5. Open trenches were also utilised in Area 3 for the diverted Northern Gas Network however, areas below the overhead electricity cables could not be excavated due to health and safety constraints with these areas monitored later under watching brief conditions.
- 3.1.2 SMS is usually reserved for larger areas to capture an overall plan of remains, the different phases present and the activity represented. It involves rapid archaeological excavation, recording and sampling and is suitable for large areas of impact where complex/deep archaeological remains are not anticipated. The strategy aims to record remains without causing significant delays to the construction programme.
- 3.1.3 An archaeological excavation, which includes the approach of strip, map and sample is defined by the Chartered Institute for Archaeologists is '*a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made, and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design*' (ClfAa).
- 3.1.4 Three evaluation trenches (Trenches 1-3) were also undertaken to determine if there was an archaeological origin of the anomalies identified by geophysical survey and subsequent lidar assessment of the area. The objective of trial trench evaluation as defined by the Chartered Institute for Archaeologists (ClfA) is to 'determine, as far as is reasonably possible, the nature of the archaeological resource within a specified area using appropriate methods and practices' (ClfA 2014b). The results of the evaluation will inform an appropriate mitigation strategy for any archaeological remains, if required.

3.2 Research Objectives

- 3.2.1 The project was undertaken with reference to the research framework set out in *Shared Visions: The North-East Regional Research Framework for the Historic Environment*

(NERRF) (Petts and Gerrard 2006), which highlights the importance of research as a vital element of development-led archaeological work. By setting out key research priorities for all periods of the past, NERRF allows archaeological projects to be related to wider regional and national priorities for the study of archaeology and the historic environment.

3.2.2 The Method Statement (WSP 2020) sets out the research aims of the works and are summarised as follows:

- Are there any remains of the rectilinear enclosure within the proposed works area?
- Can a date for the rectilinear enclosure identified through cropmark and LiDAR assessment be determined?
- Can the function and purpose of the enclosure be determined?
- Are there any internal features preserved within the enclosure?
- Are there any external features associated with the enclosure?
- Is there any evidence for human activity not associated with the rectilinear enclosure within the proposed works area?
- Are the geophysical survey anomalies of archaeological origin? If so, what do they represent?
- How reliable is the geophysical survey for predicting the presence of and density of the archaeological remains?

3.2.3 An appropriate level of reporting on the work was required, including, if necessary, full analysis and publication of any notable archaeological findings upon completion of the evaluation. Thus, the results of the work constitute the preservation by record of any archaeological remains encountered and subsequently removed during the course of works.

4. ARCHAEOLOGICAL METHODOLOGY

4.1 Fieldwork

- 4.1.1 The fieldwork was undertaken in compliance with the codes and practice of the Chartered Institute for Archaeologists and the relevant ClfA standard and guidance document (ClfA 2014 a, b & c). PCA is a CIFA 'Registered Organisation'. All fieldwork and post-excavation was carried out in accordance with the Yorkshire, the Humber & The North East: Regional Statement of Good Practice (SYAS 2011).
- 4.1.2 The project was managed in line with principles set out in Historic England's *'Management of Research Projects in the Historic Environment'* (MoRPHE) published in 2006.
- 4.1.3 All archaeological staff involved in the project were suitably qualified and experienced for their project roles. The project was overseen for PCA by Jennifer Proctor, Regional Manager at PCA's Durham Office. All relevant Health and Safety legislation, regulations and codes of practice were respected. PCA's Health and Safety (H&S) Policy is the starting point for managing H&S at all locations where PCA carries out its operations.
- 4.1.4 The scope of the work for the archaeological mitigation was set out in a detailed Method Statement compiled by WSP (2020).
- 4.1.5 The three trenches have been sited to target anomalies identified by geophysical survey and lidar assessment during an earlier phase of archaeological investigation.
- 4.1.6 This phase of archaeological investigation was carried out between the 2nd-13th March 2020 over ten days and consisted of excavating open service trenches in Area 1, 2 and 3, and the three evaluation trenches in Area 2 (Figure 2). Areas where services crossed the trench (either below ground gas pipes or overhead electricity cables) could not be excavated due to Health and Safety constraints and were monitored under watching brief conditions. The electricity trench within Area 2 could not be monitored as there was not enough room for spoil after the excavation of the gas trench and the presence of the diverted Public Right of Way.
- 4.1.7 Survey of ridge and furrow earthworks that survive within the southern part of the site in Area 3 was undertaken using Leica Viva Smart Rover Global Navigation Satellite System (GNSS) and used to take points at appropriate intervals to define the earthwork features. A transect across the ridge and furrow in Area 3 was also undertaken using Leica Viva Smart Rover Global Navigation Satellite System (GNSS) at appropriate intervals to define the earthworks form.
- 4.1.8 The SMS areas and 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.

- 4.1.9 Ground level in the trenches was reduced using a 13-tonne tracked excavator utilising a toothless ditching bucket. Successive spits of no more than 100mm depth were removed until either the top of the first archaeological horizon or the top of superficial geological deposits was reached. All ground reduction was carried out under archaeological supervision.
- 4.1.10 Superficial geology was encountered within all areas. No archaeology was observed within the service trenches of the SMS however several undated features were uncovered within evaluation Trenches 1 and 2.
- 4.1.11 The table below summarises the dimensions and findings of the archaeological SMS and evaluation:

Area/Trench	Length	Width	Maximum Depth	Superficial Geology	Archaeology
Area 1 Gas Trench 1	c. 233.27m	1.8m	0.40m	Yes	No
Area 1 Electricity Trench 1	c. 320m	1.8m	0.44m	Yes	No
Area 2 Gas Trench 2	c. 399m	1.8m	0.31m	Yes	No
Area 2 Evaluation Trench 1	20m	1.8m	0.30m	Yes	Yes
Area 2 Evaluation Trench 2	20m	3.7m	0.25m	Yes	Yes
Area 2 Evaluation Trench 3	20m	1.8m	0.20m	Yes	No
Area 3 Gas Trench 3	c. 65m	1.8m	1.00m	Yes	No
Area 3 Electricity Trench 2	c.56.80m	1.8m	0.71m	Yes	No

Archaeological SMS areas and trench summary

- 4.1.12 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) and the Museum of London Site Manual (Museum of London 1994).
- 4.1.13 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 CPA20 (site code).
- 4.1.14 The height of all principal strata and features was calculated in metres above Ordnance Datum (m AOD). A detailed photographic record of the evaluation was prepared using SLR 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.

4.2 Post-excavation

- 4.2.1 The stratigraphic data for the project comprises written and photographic records. A total of 27 archaeological contexts were defined within the Strip, Map & Sample areas and evaluation trenches (Appendix 2). Post-excavation work involved checking and collating site records, grouping contexts and phasing the stratigraphic data. A written summary of the archaeological sequence was then compiled, as described in Section 5.
- 4.2.2 During the works, no artefactual material was recovered from the archaeological features and deposits encountered.
- 4.2.3 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 ClfA publication relating to archiving (ClfA 2014c).
- 4.2.4 At the time of writing the Site Archive was housed at the Durham Office of PCA, The Rope Works, Broadwood View, Chester-le-Street, County Durham, DH3 3AF. When complete, the site Archive will be deposited at the Great North Museum, Newcastle-upon-Tyne, under the site code CPA20.

5. RESULTS: THE ARCHAEOLOGICAL SEQUENCE

During the archaeological investigation, separate stratigraphic entities were assigned unique and individual context numbers, which are indicated in the following text as, for example [123]. The context numbers for the Strip, Map & Sample area have been assigned contexts from [100] onwards and the evaluation trench contexts have been assigned per trench therefore contexts from Trench 1 are in the [1000]s and contexts from Trench 2 in the [2000]s etc. 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. The figures can be found in Appendix 1 with the context index and stratigraphic matrix located in Appendix 2 and 3 respectively. A selection of plates can be found within Appendix 4.

5.1 Phase 1: Superficial Geology

5.1.1 Phase 1 represents superficial geological deposits that were observed within the Strip, Map and Sample areas and all evaluation trenches. At the northern and central parts of the site (Areas 1 & 2, respectively), within the gas and electricity trenches, the geological material generally comprised stiff mid brownish yellow clay. At the southern part of the site (Area 3), within the gas trench and electricity trenches, the natural geological material comprised stiff to firm mid orangey brown silty sandy clay and soft clayey sand. The table below summarises the depth below ground level and metres above Ordnance Datum (AOD) height of geological deposits within the trenches:

Trench/Area	Context	Depth (below ground level)	m AOD	
			Highest	Lowest
Area 1 Gas Trench 1	(104)	>0.51m	85.91 (central)	84.84 (west)
Area 1 Electricity Trench 1	(104)	0.29m	85.86 (central)	82.85 (west)
Area 2 Gas Trench 2	(101)	0.22m	83.49 (north)	81.22 (central)
Area 2 Evaluation Trench 1	(1001)	0.30m	81.77 (south)	81.59 (north)
Area 2 Evaluation Trench 2	(2001)	0.25m	81.15 (east)	81.03 (west)
Area 2 Evaluation Trench 3	(3001)	0.20m	81.67 (west)	81.54 (north)
Area 3 Gas Trench 3	(105)	0.30m	82.90 (west)	76.77 (east)
Area 3 Electricity Trench 2	(105)	0.70m	77.63 (west)	76.63 (east)

Summary of superficial geology depths and levels

5.2 Phase 2: Undated (Prehistoric)

- 5.2.1 Phase 2 represents undated but probably prehistoric activity recorded in Area 1 and Trenches 1 & 2. Geophysical survey and Lidar assessment identified several anomalies within Area 2 that were suggestive of sub-surface archaeological features and Trenches 1-3 were sited to target these anomalies (Figure 2).
- 5.2.2 Trench 1 was sited to target a curvilinear geophysical anomaly identified by geophysical survey that was considered to represent a ring ditch of prehistoric origin (Figure 2; Plate 3). To this end two shallow NE/SW aligned gullies, [1003] & [1005], were recorded truncating the superficial geology (1011) at the northern end and central part of the trench, respectively (Figure 3: Plan). These gullies closely correspond with the curvilinear anomaly identified by geophysical survey and would account for this (Figure 2).
- 5.2.3 The northernmost NE/SW aligned gully [1003] was exposed for a distance of 2.40m and was up to 0.97m wide by 70mm thick (Figure 3: Section 2; Plate 4). No finds were recovered from its single firm mid brownish grey clay fill (1002).
- 5.2.4 Located c. 7.00m to the south of gully [1003] was a similarly NE/SW aligned gully [1005] that was exposed for a distance of 2.20m and was up to 0.57m wide by 60mm deep (Figure 3: Section 3). Its single fill comprised firm mid reddish brown silty clay (1004) from which no finds were recovered.
- 5.2.5 Trench 2 was sited to target the easternmost NNW/SSE aligned boundary of a possible rectilinear enclosure that was identified as a cropmark (HER 11367) and by later Lidar assessment (Figure 2; Plate 5). Although no feature was identified that would account for the cropmark, two NE/SW aligned shallow gullies, [2006] & [2008], were recorded truncating the natural geology (2001) across the north-eastern half of the trench (Figure 4: Plan; Plate 6). The cropmark that was considered to represent a rectilinear enclosure is probably the result of underlying geology and fluvial processes associated with the water course situated immediately to the west.
- 5.2.6 The north-westernmost NE-SW aligned gully [2006] was exposed for a distance of c. 13.70m and was up to 0.55m wide by 0.10m deep (Figure 4: Section 4; Plate 6). No finds were recovered from its single friable mid grey silty clay fill (2005).
- 5.2.7 Located immediately to the south-east of gully [2006] was a similarly NE/SW aligned gully [2008] that was exposed for a distance of 1.80m. The gully was up to 0.38m wide by 0.17m deep (Figure 4: Section 4; Plate 6), had a rounded terminus to the NNE, and continued to the SW beyond the limit of excavation. No finds were recovered from its single friable mid grey silty clay fill (2007).
- 5.2.8 Gullies [2006] & [2008] were not identified by the geophysical survey and may represent drainage features of probably prehistoric date.

5.3 Phase 3: Medieval Agricultural Activity

5.3.1 Earthworks associated with agricultural use of the site survived within the southernmost part of the site (Area 3) and comprised an extensive, regular arrangement of NNW/SSE aligned ridge and furrows, assigned to Phase 3 medieval activity (Figure 6: Plan & Transect; Plate 8).

5.3.2 Survey of ridge and furrow earthworks recorded that they were spaced c. 4.00m to 9.00m apart, measuring from the mid points of adjacent furrows; such spacing being typical of that expected for a 'broad' ridge and furrow agricultural system typical of the medieval period. A sample section undertaken with the central portion of the Area 3 gas trench recorded the furrows, [107], were up 3.06m wide by least 0.38m deep (Figure 5: Section 1) and contained a single soft mid brownish grey silty clay fill, (106), from which no finds were recovered.

5.4 Phase 4: Post-Medieval

5.4.1 Subsoil was recorded in Trench 2 and within the western extent of the gas trench in Area 1 and within the north-eastern part of the gas trench and the electricity trench in Area 3. The subsoil in Area 1 comprised compact mid yellowish brown clayey silt (103) up to 0.22m thick and in Area 3 comprised firm mid greyish brown silty clay (109) up to 0.42m thick. No datable material was recovered from these deposits therefore the date that these deposits were formed is uncertain and has only tentatively been attributed to the post-medieval phase.

5.4.2 An ENE/WSW aligned field drain [2004] was recorded truncating the superficial geology (2001) extending along the northern edge of Trench for a distance of 10.40m. Its single friable dark grey silty clay backfill (2004) contained a ceramic pipe (2003).

5.5 Phase 5: Modern Topsoil

5.5.1 Phase 5 is represented by topsoil that was encountered across the site and comprised dark grey sandy clay. The table below summarises the thickness and metres above Ordnance Datum height for topsoil within the Strip, Map and Sample area and all three trenches:

Trench/Area	Context	Thickness	m AOD	
			Highest	Lowest
Area 1 Gas Trench 1	[102]	0.29m	86.20 (central)	85.07 (west)
Area 1 Electricity Trench 1	[102]	0.29m	86.19 (east)	82.14 (west)
Area 2 Gas Trench 2	[100]	0.22m	84.34 (north)	81.43 (central)
Area 2 Evaluation Trench 1	[1000]	0.30m	82.14 (south)	81.84 (north)

Area 2 Evaluation Trench 2	[2000]	0.25m	81.55 (ENE)	81.32 (WSW)
Area 2 Evaluation Trench 3	[3000]	0.20m	82.00 (south)	81.80 (north)
Area 3 Gas Trench 3	[105]	0.30m	84.03 (north)	77.34 (east)
Area 3 Electricity Trench 2	[105]	0.30m	78.12 (west)	77.52 (east)

Summary of topsoil thickness and levels

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

6.1.1 The archaeological investigations comprised the Strip, Map and Sample of gas and electricity services within Areas 1, 2 & 3 and three trial trenches within Area 2. Geological deposits, undated but probably prehistoric features, medieval ridge and furrow, subsoil and topsoil were encountered. This activity was assigned to five phases of activity:

- Phase 1: Superficial geological deposits comprising glaciofluvial deposits of clay and clayey sand were encountered within all Strip, Map and Sample areas and all three trenches;
- Phase 2: Undated but probably prehistoric gullies were encountered in Trenches 1 & 2;
- Phase 3: Undated but probably medieval agricultural activity comprising ridge and furrow earthworks were encountered in Area 3;
- Phase 4: Undated subsoil was encountered in Areas 1 & 3 and a post-medieval field drain was recorded in Trench 2;
- Phase 5: Topsoil was encountered in all Strip, Map & Sample areas and all three trial trenches.

6.1.2 The earliest features encountered on the site comprised two shallow gullies in Trench 1 and two gullies in Trench 2. Although no datable material was recovered from any of the gullies, based on the sterile nature of their fills, they have been broadly attributed to the prehistoric period (Phase 2).

6.1.3 Trench 1 was sited to target a curvilinear anomaly identified by geophysical survey. To this end two gullies were recorded that closely correspond with the curvilinear anomaly and probably represent a ring ditch of prehistoric date (Phase 2).

6.1.4 Trench 2 was sited to test a possible boundary ditch that formed part of a rectilinear enclosure identified as a crop mark (HER 11367) and by lidar assessment. Although no features were identified that corresponded with this anomaly two shallow gullies were recorded that probably represent drainage features of probably prehistoric date. Therefore, the anomaly interpreted as a possible rectilinear enclosure is likely to be geological in origin.

6.1.5 Trench 3 was sited to target a curvilinear anomaly identified by geophysical survey. To this end no archaeological features were identified that would account for this anomaly.

6.1.6 Undated ridge and furrow earthworks survive within Area 3. Survey of the ridge and furrow earthworks and a transect was undertaken using Leica Viva Smart Rover Global Navigation Satellite System (GNSS) to characterise the ridge and furrow earthworks. To this end the spacing of the ridge and furrows were c. 4.00m – 9.00m meters apart which is typical for a 'broad' ridge and furrow system of the medieval period.

6.1.7 No features of archaeological significance were recorded within any of the Strip, Map and Sample areas (Areas 1, 2 & 3).

6.2 Recommendations

6.2.1 No further work is required on the information recovered during this phase of archaeological investigation, with the Site Archive (including this report), forming the permanent record of the strata encountered. The results of the three evaluation trenches will be incorporated into the later proposed phase of archaeological work involving further Strip, Map and Sample.

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7.2 Online Sources

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

8. ACKNOWLEDGEMENTS AND CREDITS

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PCA Credits

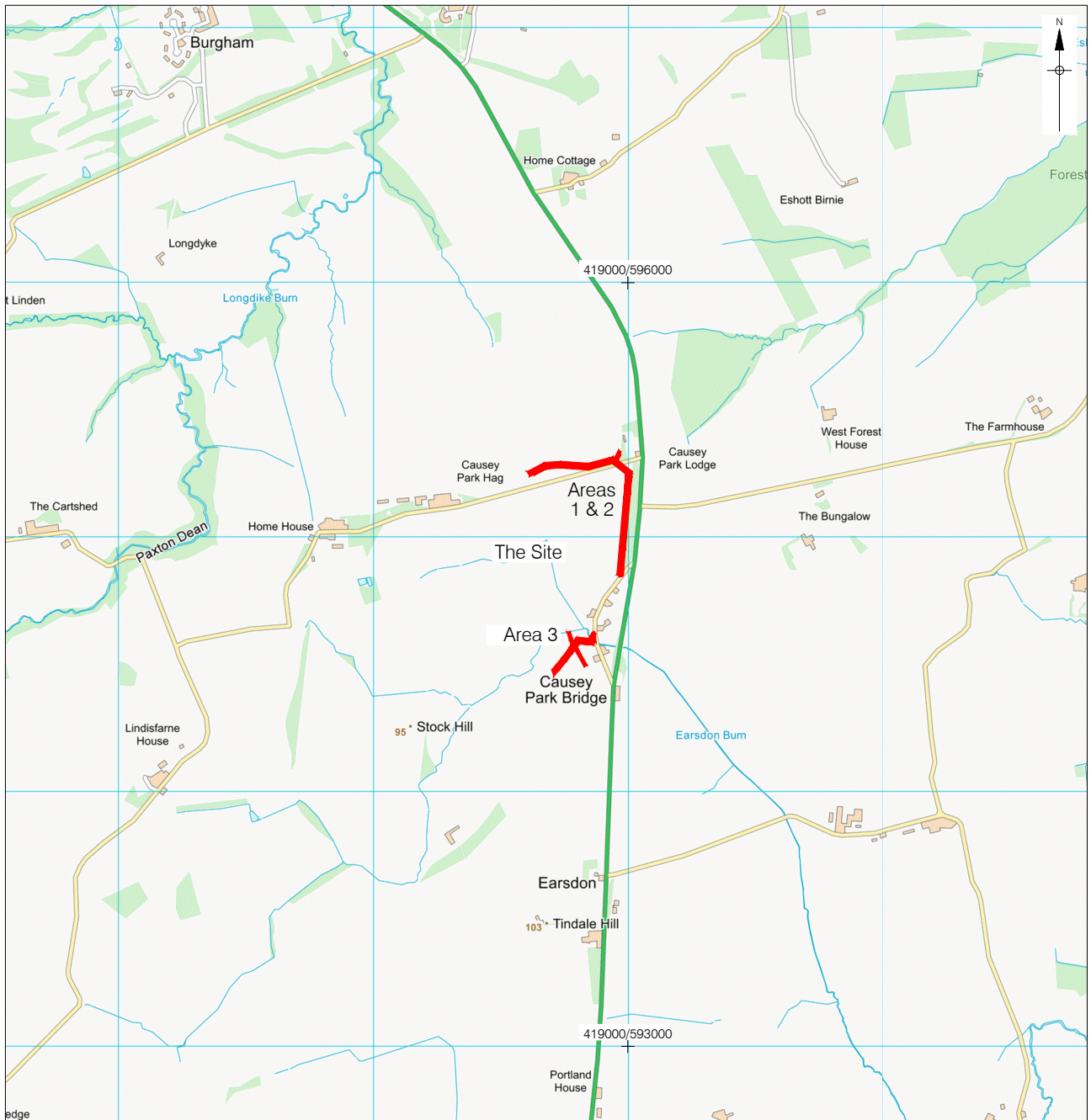
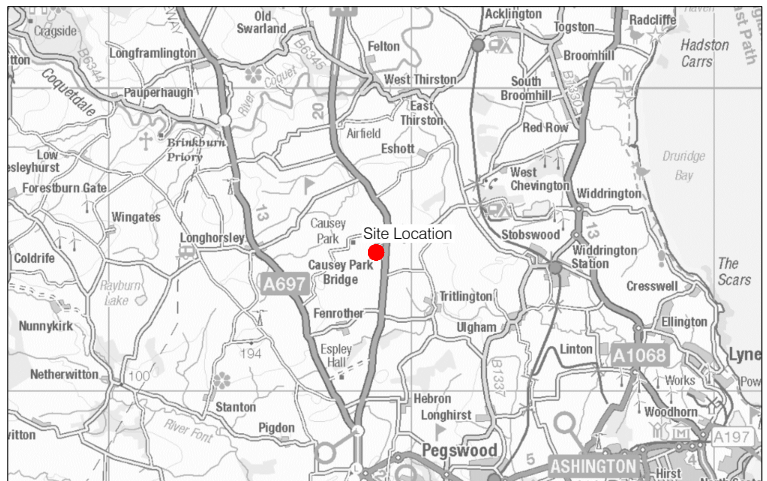
Fieldwork: Scott Vance (Project Office), Andrew Abson, James Hopper and Fred Garrett

Report: Scott Vance

Project Manager: Aaron Goode

CAD: Ray Murphy

APPENDIX 1: FIGURES



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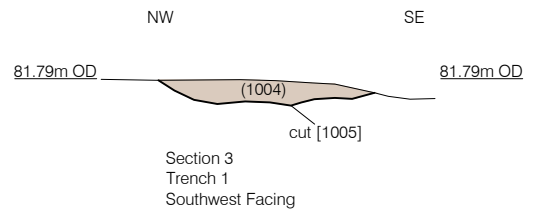
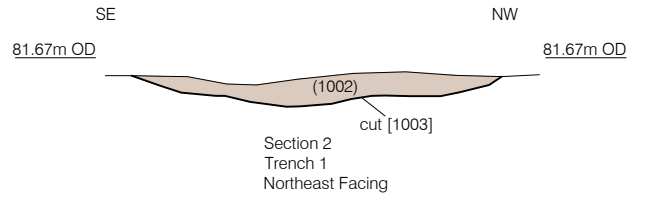
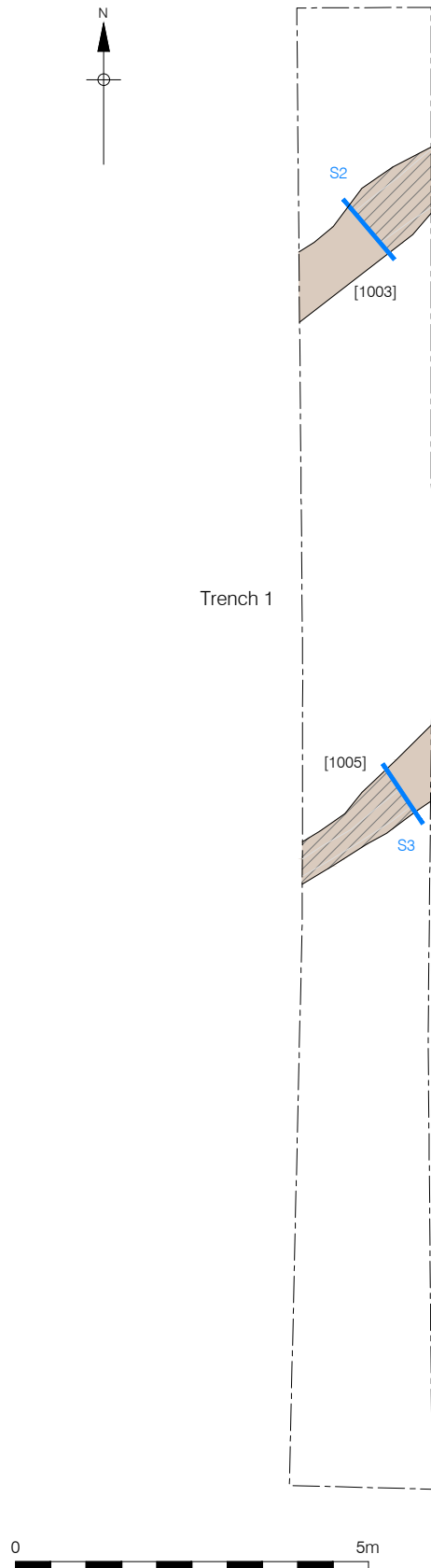
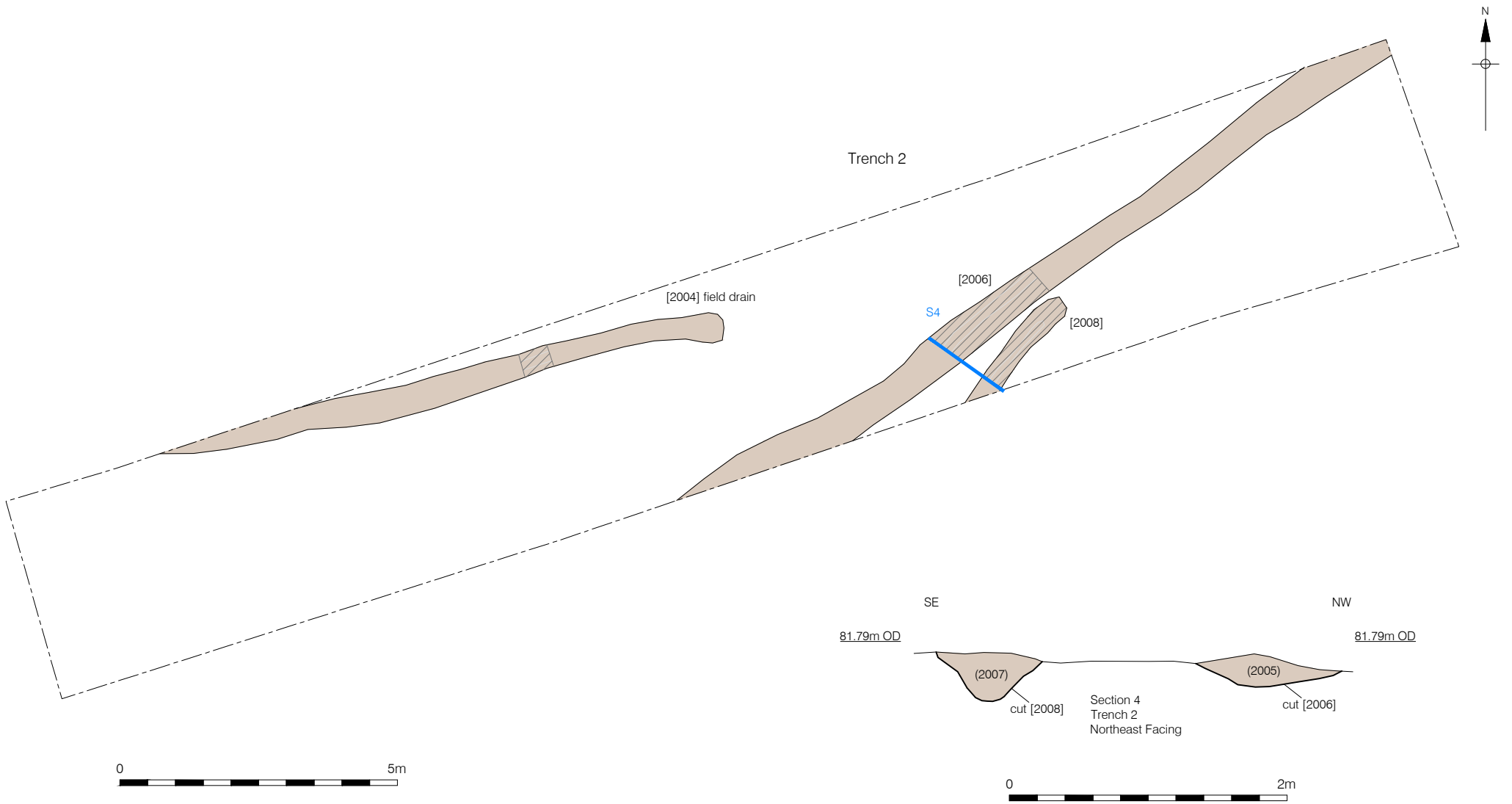
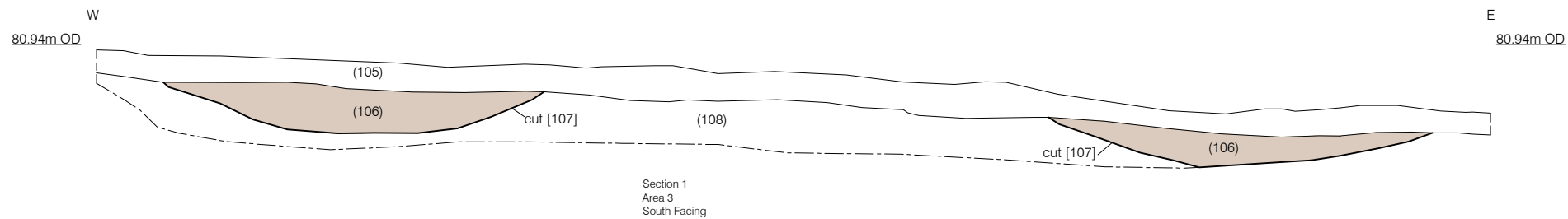
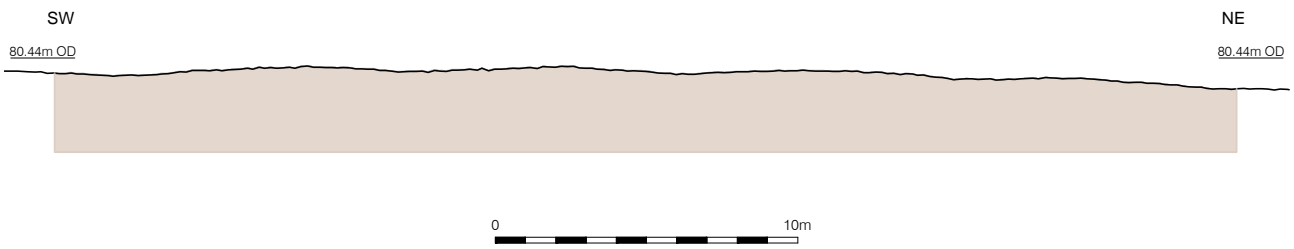
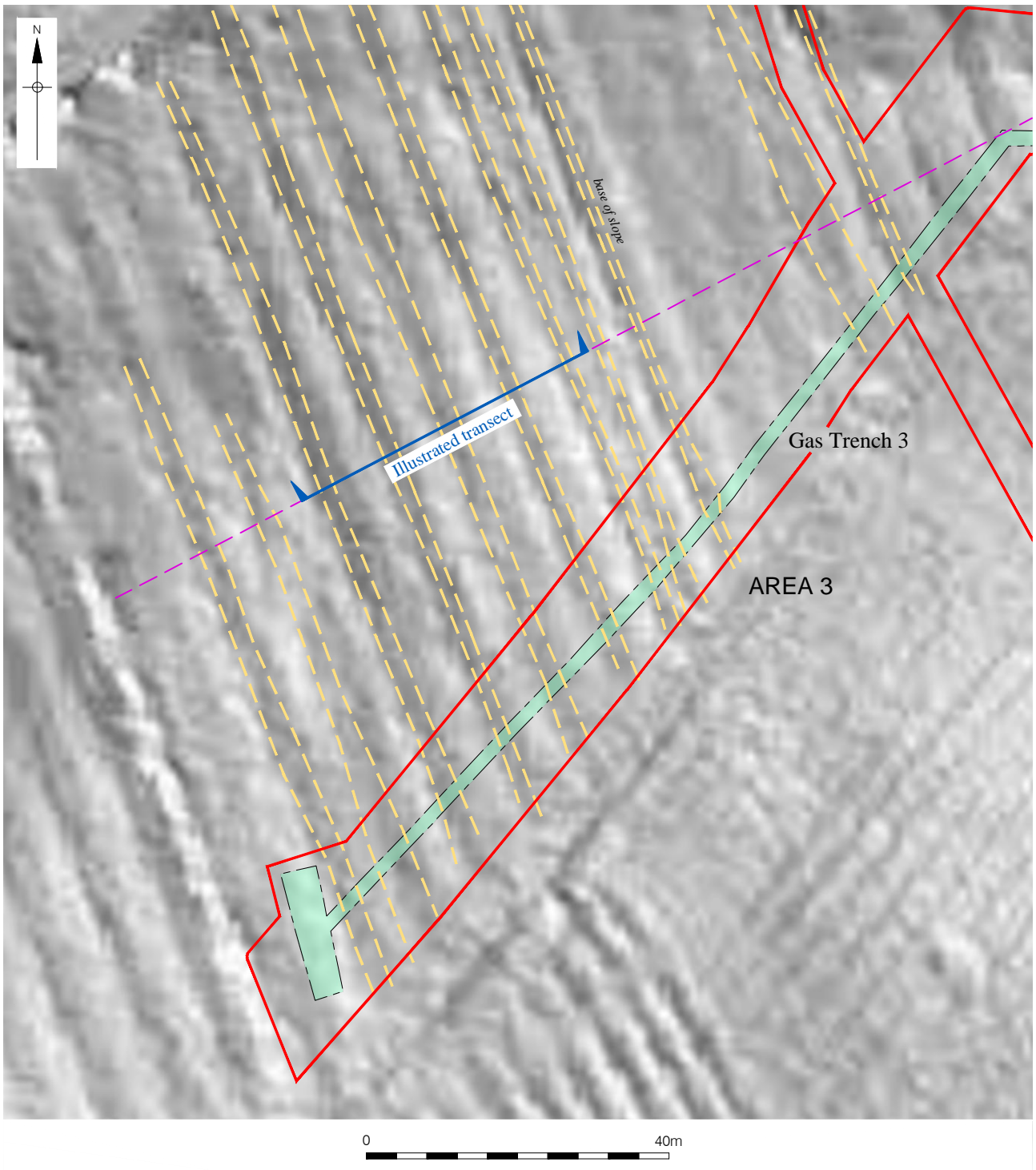


Figure 3
Plan and Sections of Trench 1
Plan 1:100 and Sections 1:40 at A4



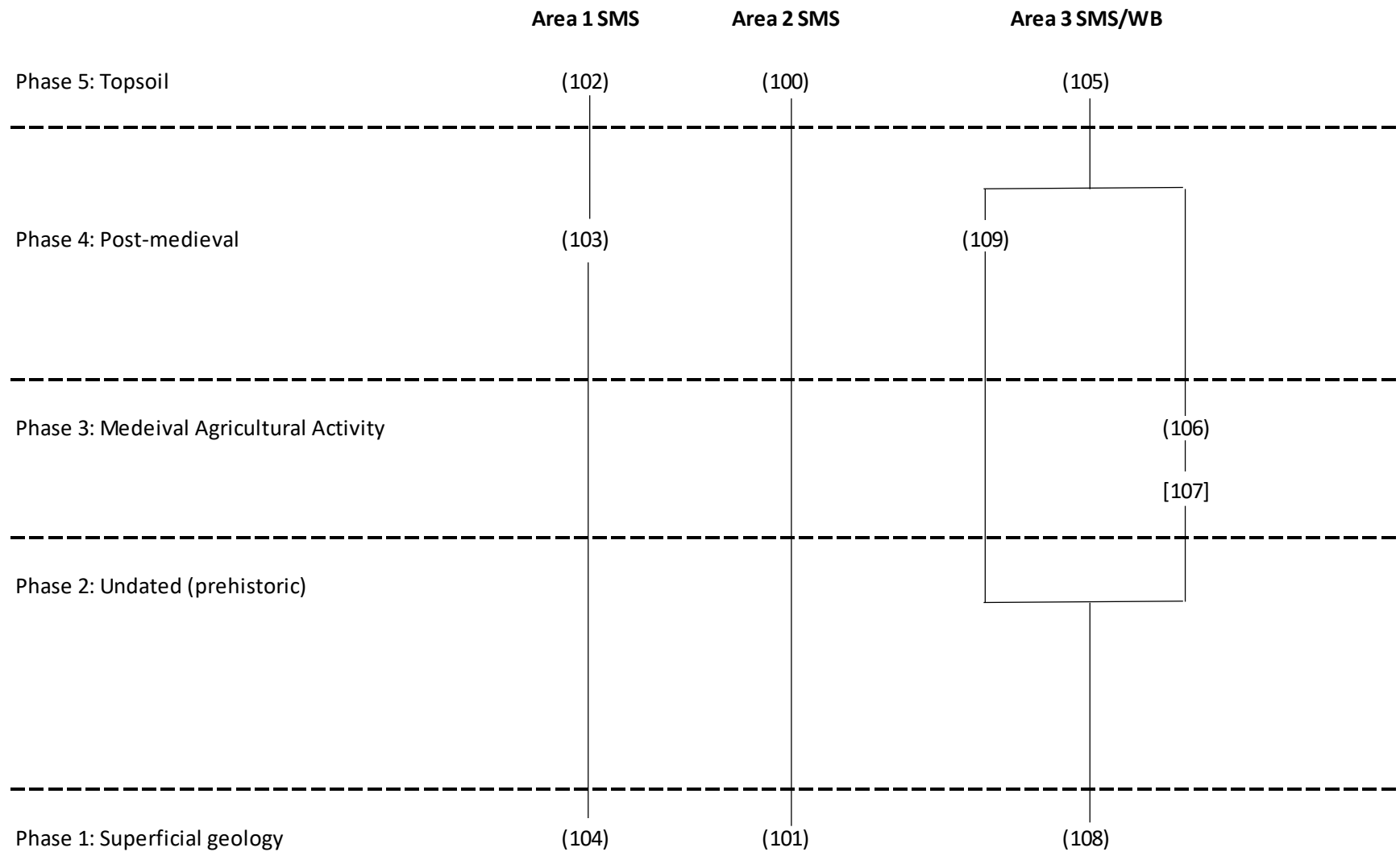


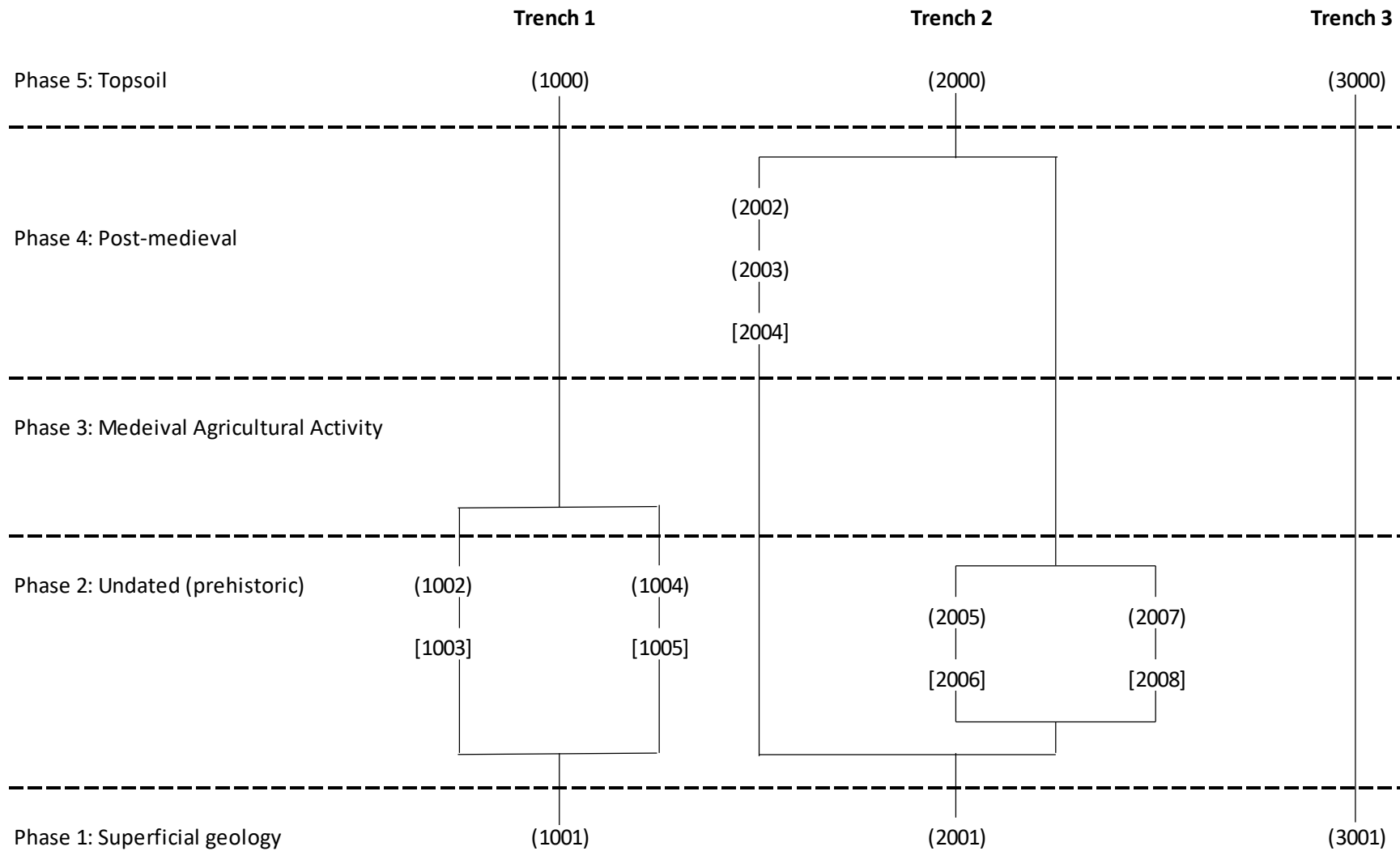


APPENDIX 2: CONTEXT INDEX

Context	Phase	Type 1	Type 2	Fill of	Interpretation
Strip, Map and Sample (SMS)					
100		Deposit	Layer		Topsoil in Area 2
101		Deposit	Layer		Superficial geology in Area 2
102		Deposit	Layer		Topsoil in Area 1
103		Deposit	Layer		Subsoil in Area 1
104		Deposit	Layer		Superficial geology in Area 1
105		Deposit	Layer		Topsoil in Area 3
106		Deposit	Fill	[107]	Fill of furrows [107] in Area 3
107		Cut	Linear		Furrow in Area 3
108		Deposit	Layer		Superficial geology in Area 3
109		Deposit	Layer		Subsoil in Area 3
Trench 1					
1000		Deposit	Layer		Topsoil
1001		Deposit	Layer		Superficial geology
1002		Deposit	Fill	[1003]	Fill of gully [1003]
1003		Cut	Linear		Gully
1004		Deposit	Fill	[1005]	Fill of gully [1005]
1005		Cut	Linear		Gully
Trench 2					
2000		Deposit	Layer		Topsoil
2001		Deposit	Layer		Superficial geology
2002		Deposit	Fill	[2004]	Fill of field drain [2004]
2003		Other	Pipe	[2004]	Ceramic field drain
2004		Cut	Linear		Field Drain
2005		Deposit	Fill	[2006]	Fill of gully [2006]
2006		Cut	Linear		Gully
2007		Deposit	Fill	[2008]	Fill of gully [2008]
2008		Cut	Linear		Gully
Trench 3					
3000		Deposit	Layer		Topsoil
3001		Deposit	Layer		Superficial geology

APPENDIX 3: STRATIGRAPHIC MATRIX





APPENDIX 4: PHOTOGRAPHIC PLATES

Plate 1: Area 2 gas trench: view north, scale: 2m



Plate 2: Area 3 gas trench : view south-west, scale: 1m



Plate 3: Trench 1 Area 2: view north, scale: 2m



Plate 4: Trench 1 Area 2: northeast facing section of gully [1003], scale: 0.5m



Plate 5: Trench 2 Area 2: view east, scale: 2m



Plate 6: Trench 2 Area 2: NE facing sections of gullies [2006] & [2008], scale: 1m



Plate 7: Trench 3 Area 2: view north, scale: 2m



Plate 8: Area 3: view NNW view of ridge and furrow earthworks, scale: 2m



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