LAND AT COWLEY HOUSE FARM, COUNTY DURHAM

ARCHAEOLOGICAL EVALUATION REPORT

NOVEMBER 2020

PRE-CONSTRUCT ARCHAEOLOGY

Land at Cowley House Farm, County Durham

Site Code: CHF20

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EVALUATION REPORT

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1. NON-TECHNICAL SUMMARY

1.1 Pre-Construct Archaeology were commissioned by Orion Heritage Ltd on behalf of Lightsource BP to undertake an archaeological evaluation on land at Cowley House Farm, County Durham, centred at National Grid Reference NZ 3877 2684. This work was undertaken in association with a proposed planning application for the installation of solar panels, associated infrastructure and the creation of an electricity substation. The overall proposed development comprises 87.77 acres. This interim report will be updated when specialist work has been completed and the figures compiled.

1.2 A geophysical survey of the proposed development area identified anomalies across the site of possible and probable archaeological origin (Magnitude Surveys 2020). These included a substantial roughly square-shaped enclosure in the central-eastern part of the site with an anomaly parallel with the north-east enclosure boundary suggesting that at this location the enclosure was double-ditched. Linear anomalies internal to the enclosure were also detected. The form of the ditched enclosure is typical of Iron Age or Roman period enclosures that are found across the region.

1.3 Geophysical survey of an area located immediately beyond the proposed development area in the north-west identified a group of rectilinear anomalies that may represent sub-rectangular enclosures and possible droveways that extended eastwards into the proposed development area. These anomalies could represent activity associated with the medieval settlement of Layton located *c.* 366m to the south-west or alternatively could represent earlier Late Iron Age or Ronan period settlement.

1.4 Linear agricultural anomalies identified across the proposed development site represent ridge and furrow cultivation, drains and former field boundaries. Such features were likely to represent late medieval or early post-medieval period activity and are considered to be of no more than local significance.

1.5 The trial trenching evaluation was undertaken according to a Written Scheme of Investigation prepared by PCA and approved by DCCAS prior to the commencement of work. Thirteen trenches (50m x 1.8m) were located across the proposed development site to investigate potential archaeological assets identified by geophysical survey. Trenches1 & 3 targeted linear anomalies that may have represented elements of droveways that extended eastwards from the settlement immediately to the west of the proposed development area. Trenches 10, 11 & 12 targeted the ditched enclosure. Trenches 2, 4-9 & 13 targeted geophysical anomalies of unknown origin.

1.6 Five phases of activity were encountered: Phase 1: Superficial geology; Phase 2: Undated archaeological features; Phase 3: Subsoil; Phase 4: Post-medieval agricultural features and Phase 5: Modern plough soil. Undated archaeological remains were uncovered within Trenches 1, 8, 10, 11 and 12. In Trench 1 two linear gullies aligned roughly north-south were located at the southern extent of the trench. No remains were observed that could be

attributed to a possible droveway. Two NW/SE aligned ditches encountered within Trench 8 that are thought to relate to the agricultural features identified by geophysical survey. No dating material was recovered, and they do not align with any field boundaries shown on historic mapping.

1.7 The remains of the substantial enclosure ditch were exposed within Trenches 10, 11 and 12. A slot excavated through the ditch in Trench 10 revealed that it had been recut; the combined width of the original ditch and re-cut was *c.* 4.8m and both were up to *c*. 1.20m deep. Internal features thought to be contemporary with the enclosure comprised a gully at the southern extent of Trench 10 and two gullies at the eastern extent of Trench 11.

1.8 A small assemblage of animal bone was recovered from the secondary fill of the earliest enclosure ditch. This was all identified as cattle or cattle-sized pieces. Bulk samples taken from three fills of the enclosure ditch and re-cut, a ditch in Trench 8 and a gully in Trench 10 did not produce any paleoenvironmental remains with the exception of small quantities of very fragmented charcoal, the size of which prohibited identification.

1.9 A ditch in Trench 2 is firmly dated to the post-medieval period due to the presence of brick within the backfill. Post-medieval activity was also noted in Trenches 5 and 9 in the form of plough furrows.

1.10 No archaeology was uncovered within Trenches 4, 5, 6, 7, and 9, apart from post-medieval furrows in Trench 5 and 9. The geophysical anomalies within other trenches corresponded to changes in the natural geology.

2. INTRODUCTION

2.1 Project Background

2.1.1 This interim report details the results of an archaeological evaluation undertaken on land at Cowley House Farm, County Durham in October 2020 in association with a proposed planning application for the installation of solar panels, associated infrastructure and the creation of an electricity substation. This report will be updated when specialist work has been completed and figures compiled. The overall proposed development covers 87.77 acres centred at National Grid Reference NZ 3877 2684 (Figures 1 and 2). The archaeological investigation was commissioned by Orion Heritage Ltd on behalf of Lightsource BP and was undertaken by Pre-Construct Archaeology Limited (PCA).

2.1.2 The archaeological potential of the site was initially established by a geophysical survey of the site (Magnitude Surveys 2020). The geophysical survey identified anomalies that were suggestive of sub-surface archaeological features.

2.1.3 The scope of works for the archaeological evaluation was set out in the Written Scheme of Investigation (WSI) (PCA 2020) which was approved by Durham County Council Archaeology Section (DCCAS). The aim of the evaluation was to clarify the presence, nature, date, extent and significance of any archaeological remains that might be present in the areas of proposed impact and to test the geophysical anomalies which are most likely indicative of sub-surface archaeological remains. Thirteen trenches (Trenches 1 to 13) were mechanically excavated during this phase of archaeological work.

2.1.4 The Online Access to the Index of Archaeological Investigation (OASIS) reference number of the project is preconst1-406074.

2.2 Site Location and Description

2.2.1 The proposed development area is located immediately to the north-east of Stockton Road (A177), Thorpe Larches, County Durham at NGR NZ 3877 2684 (Figure 1 and 2). The site comprises four arable fields, totalling 87.77 acres and is currently accessed by the established farm access off Stockton Road (A177). The proposed development is located approximately 9km north-west of the centre of Stockton-on-Tees and *c.* 3.7km south-west of Sedgefield.

2.3 Geology and Topography

2.3.1 The site is largely flat and even with gradual undulating terrain at the southern part of the site. The solid geology is predominantly calcareous mudstone sedimentary bedrock of the Roxby Formation. Superficial deposits consist of Devensian till, lacustrine deposits of clay and silt, glaciofluvial deposits of Devensian sand and gravel, and alluvium clay, silt, sand and gravel (British Geological Survey website).

2.3.2 No geotechnical data specific to the current scheme was available prior to the archaeological trial trench evaluation.

2.4 Planning Background

2.4.1 The requirement to undertake the archaeological investigation is in line with planning policy at a national level, as set out in the *National Planning Policy Framework* (NPPF) (Department for Communities and Local Government 2019). Heritage assets - those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest - are a key concept of the NPPF.

2.4.2 Chapter 16 of the NPPF 'Conserving and enhancing the historic environment' describes, in paragraph 185, how LPAs should '...*set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment' and details, in paragraph 189, that 'In determining applications, LPAs should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum, the relevant* [Historic Environment Record] *HER should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, LPAs should require developers to submit an appropriate desk-based assessment and where necessary* [the results of] *a field evaluation'*.

2.4.3 DCCAS has responsibility for archaeological development control in relation to the historic environment. A phased programme of archaeological work is required in association with a proposed planning application for the installation of solar panels and associated infrastructure on land at Cowley House Farm. The geophysical survey (Magnitude Surveys 2020) has identified some anomalies which appear archaeological in origin and some which were uncertain.

2.4.4 No Specification for the archaeological work was produced by the Local Planning Authority, instead this document comprises the Written Scheme of Investigation (WSI), which is to be submitted for approval by Durham County Council Archaeology Section prior to works commencing.

2.5 Archaeological and Historical Background

2.5.1 Information in this section is largely extracted from the geophysical survey report undertaken by Magnitude Surveys (2020). The research and writing of those responsible is acknowledged.

2.5.2 The deserted Medieval settlement of Layton (Monument Number NZ 32 NE 2, RSM Number 32731) comprises the area between the farms called West Layton, East Layton, Layton

House and Far Layton. This potentially extends into the southern extent of the proposed development area. The settlement is visible as earthworks on aerial photographs and as a series of banks, ditches, platforms, enclosures, boundary banks, boundary ditches, extractive pits and fishponds.

2.5.3 Extant earthworks are located *c.* 350m to the west of the proposed development, potentially related to the deserted medieval settlement. These are located to the south-west of Layton House and cut by Stockton Road (A177). Previous archaeological investigation have taken place to the south of Layton House in 1978, when both a magnetometer survey and excavation were carried out (AML Rep No 2980, ADS Depositor ID – 637503, 1033888) but no archaeological investigations have previously taken place within the area of the proposed development. The previous excavation did not determine the precise location of the deserted medieval village.

2.5.4 Medieval ridge and furrow has been identified on aerial photographs *c.* 1km north-west of the survey area (NMR 1455575). Further cropmarks have been interpreted as possibly a palisaded enclosure and open settlement (NMR 874041), as well as medieval ridge and furrow (NMR 1455580) in an area *c.* 500m to the south of the site.

2.5.5 A map regression shows that the farm of East Layton is located within the central part of the proposed development and is depicted on historical mapping from 1857 onwards before being demolished some time between 1967 and 1982. This field was previously split into several fields and these boundaries are seen to be removed over time to create a larger field, as can also be seen across the area o the proposed development.

3. PROJECT AIMS AND RESEARCH OBJECTIVES

3.1 Project Aims

3.1.1 The primary aim of the programme of works was to determine the absence/presence of archaeological remains and to test anomalies identified by geophysical survey. The archaeological work will identify, investigate, and record any archaeological remains observed during the evaluation. The results will be used to inform decisions regarding further archaeological mitigation measures that may be required at the site prior to determination and commencement of development.

3.1.2 The objective of trial trench evaluation as defined by the Chartered Institute for Archaeologists (CIfA) is to 'determine, as far as is reasonably possible, the nature of the archaeological resource within a specified area using appropriate methods and practices' (CIfA 2014a).

3.2 Research Objectives

3.2.1 Archaeological work provides potential opportunities to address key research objectives as set out in *shared Visions: The North East Regional Research Framework for the Historic Environment (NERRF) (Petts & Gerrard 2006).* The NERRF highlights the importance of research as a vital element of development-led archaeological work. It sets out key research priorities for all periods of the past so that all elements of commercial archaeological work can be related to wider regional and national priorities for the study of archaeology and the historic environment.

3.2.2 The site is considered to have potential to provide a contribution to several 'Key Research Themes' in the NERRF 'Research Agenda and Strategy' for the Iron Age (I), Roman (R) and Medieval (MD) periods. The following list contains the research priorities for each period:

- Ii. Chronology;
- Iii. Settlement;
- Iiii. Landscapes;
- Iv. Material culture: general;
- Ivi. Material culture: ceramics;
- Ri. The Iron Age to Roman transition;
- Riv. Native and civilian life;
- Rv. Material culture;
- Rix. Landscape and environment;
- Rx. Roman-early medieval transition;
- MDi. Settlement;
- MDii. Landscape;
- MDvii. Medieval ceramics and other artefacts;

- MDxi. The medieval to post-medieval transition.

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. The full scheme of archaeological work is described in the following section.

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 CIfA standard and guidance document (CIfA 2014 a & b). 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). The works also complied with the *Standards for all Archaeological Work in County Durham and Darlington* document issued by Durham County Council Archaeology Section (DCCAS 2019).

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 Project 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 evaluation was set out in a detailed WSI (PCA 2020). The archaeological evaluation comprised the mechanical excavation of 13 trial trenches (Trench 1-13), measuring *c*. 50m in length and *c*. 1.8m wide (Figure 2).

4.1.5 The trial trenches were positioned to avoid any obvious obstructions and to provide good coverage of the site. The trenches were sited to target anomalies identified by the geophysical survey and were also located in apparent blank areas to maximise the potential of the site.

4.1.6 The archaeological evaluation was carried out between the 12th to the 16th October 2020. 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.

4.1.7 Ground level in the trenches was reduced using a tracked 13-tonne mechanical 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.

4.1.8 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).

4.1.9 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 CHF20 (site code).

4.1.10 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 69 archaeological contexts were defined within the 13 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 evaluation, a small assemblage of artefactual material comprising animal bone was retained from archaeological deposits. Bulk environmental soil samples were taken from a range of deposits. This report will be update when specialist work on this material has been undertaken.

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 CIfA publication relating to archiving (CIfA 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 Sevenhills, Greenhills Business Park, Enterprise Way, Spennymoor, DL16 6JB, under the site code CHF20.

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 have been assigned per trench therefore contexts from Trench 1 are in the 100s and contexts from Trench 2 in the 200s 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 all 13 trenches. The geological material was variously coloured and comprised various compositions of silt, sand and clay. This material represents the Devensian till, lacustrine deposits of clay and silt, glaciofluvial deposits of Devensian sand and gravel, and alluvium clay, silt, sand and gravel (British Geological Survey website).

5.1.2 The table below summarises the depth below ground level and metres above Ordnance Datum (AOD) height of geological deposits within the trenches. The highest level at which natural substratum was encountered was 86.82m AOD in Trench 9 and the lowest level was 76.17m AOD in Trench 13.

No.	Context	Depth (below ground level)	m AOD	
			Highest	*Lowest*
Trench 1	[102]	0.26m	83.33m (SE)	83.14m (NW)
Trench 2	[202]	0.36m	83.06m (NE)	82.78m (SW)
Trench 3	[302]	0.25m	83.09m (NE)	82.57m (SW)
Trench 4	[401]	0.18m	85.70m (SE)	83.29m (NW)
Trench 5	[501]	0.25m	85.60m (W)	83.23m (E)
Trench 6	[602]	0.22m	83.91m (S)	79.19m (N)
Trench 7	[702]	0.15m	86.35m (SW)	80.28m (NE)
Trench 8	[801]	0.22m	85.21m (SW)	80.36m (NE)
Trench 9	[901]	0.25m	86.82m (W)	82.67m (E)
Trench 10	[1002]	0.34m	78.70m (SE)	76.80m (NW)
Trench 11	[1102]	0.33m	79.37m (E)	78.32m (W)
Trench 12	[1201]	0.23m	79.96m (SW)	79.65m (NE)
Trench 13	[1302]	0.32m	77.68m (NW)	76.17m (SE)

Summary of superficial geology depths and levels

5.2 Phase 2: Undated

5.2.1 Phase 2 represents undated archaeological activity within Trench 1 relating to the settlement to the north-west of the site; Trench 8 relating to geophysical anomalies and Trenches 10, 11 and 12 relating to a substantial enclosure with several internal features.

5.2.2 Trench 1 was sited to target a parallel pair of east/west aligned ditches thought to relate to a droveway from a nearby settlement. No remains of this feature were identified. Two linear gullies, [104] and [106], were uncovered at the southern extent of the trench truncating the superficial geology (Figure 3).

5.2.3 Gully [104], 0.84m wide and 0.06m deep, was exposed for a distance of 2.16m NNE/SSW and had a rounded terminus (Plate 1). Its single fill [103] comprised compact mid brownish grey clayey silt from which no finds were recovered. Gully [106] was located *c.* 6.4m to the north-west and was exposed for 4.15m north/south (Plate 2). It was 1.07m wide and 0.11m deep and was filled with firm dark brownish grey silty clay [105] from which no datable material was recovered.

5.2.4 Two linear NW/SE aligned ditches, [803] and [805], were exposed within Trench 8 truncating the superficial geological deposits (Figure 4). Ditch [803] was exposed for a distance of 2.07m and was 2.30m wide and 0.24m deep. It was filled with friable dark brownish grey clayey silt [802] that contained occasional flecks of daub and charcoal. a soil sample taken from this fill produced a very small quantity of charcoal that was too small to be identified (Appendix 5). The sample also produced uncharred plant remains, goosefoot (*Chenopodium* sp.), as well earthworm capsules, fragments of beetle chitin, and very small slivers of unidentifiable wood suggesting that = this area was prone to the effects of bioturbation due to waterlogging. The presence of two uncharred goosefoots were probably present due to this bioturbation. Ditch [805], located *c.* 8m to the north-east, was exposed for a distance of 2.04m and was 2.75m wide and 0.39m deep. It was filled with dark brownish grey silty clay [804]. No datable material was recovered from either ditch [803] or [805]. The features do not correspond to any post-medieval field boundaries noted on historic maps or lie parallel to any surviving plough furrows suggesting that the ditches may date to the prehistoric or Roman period.

5.2.5 Trenches 10, 11 and 12 were sited to target a substantial enclosure ditch which measured *c.* 68m by 74m and any potential contemporary internal features (Figure 5, 6 & 7). The enclosure ditch was uncovered within all three trenches and a slot was excavated through the ditch in Trench 10. The ditch in Trench 10 comprised a 3.56m wide ditch [1011], *c.* 1.18m deep and exposed for a length of 1.80m NE/SW (Plate 3, 4 & 5). The primary fill [1010] was *c.* 0.24m thick and comprised firm dark reddish-brown silty clay. This was overlain by a friable mid brownish grey sandy clay [1009] *c.* 0.44m thick. A small assemblage of animal bone was recovered from this secondary fill. This comprised four cattle limb bone pieces, a scapula, radius, ulna and tibia, with the radius and ulna almost

certainly from the same individual (Appendix 6). In addition, there were two cattle-size pieces, a mandible and a pelvis fragment which may also be cattle. These cattle are rather small which could suggest they may be medieval or earlier. Bulk soil samples taken from these fills only produced a very small quantity of charcoal; these fragments were too small for identification (Appendix 5). The uppermost surviving fill comprised friable dark brownish grey silty clay [1008] *c.* 0.56m thick. No dateable material was recovered from any of the natural silting deposits however a few fragments of animal bone was recovered from fill [1009]. Following the silting up of the original enclosure ditch, the feature was recut by a *c.* 2.58m wide and 0.94m deep ditch [1007] along the outer edge of the sub-square enclosure (Figure 5 and 6: Section 8; Plate 3, 4, & 5). The primary fill of the enclosure ditch recut comprised friable dark brownish grey silty clay [1006] *c.* 0.34m thick; as with the soil samples taken from the earlier ditch, the soil sample from this fill only produced a very small quantity of tiny fragments of charcoal. The uppermost surviving fil in the recut comprised friable mid brownish grey silty clay [1005] *c.* 0.66m thick. No artefactual material was recovered from the natural silting deposits of enclosure ditch recut [1007].

5.2.6 The enclosure ditch [1109] and [1110] and recut within Trench 11 had a combined width of 5.29m and were filled with dark grey sandy silt [1107] and [1108]. Within Trench 12 the enclosure ditch and recut [1204] and [1205] had a combined width of 4.94m and were filled with dark grey sandy silt deposits [1202] and [1203] (Figures 5 and 7).

5.2.7 Features internal to the enclosure were uncovered in Trench 10 and 11. In Trench 10 a linear gully [1004] was exposed for a distance of 2m NE/SW running roughly parallel to the enclosure ditch (Figure 5 and 6; Plate 5). The gully was 0.70m wide and 0.23m deep and was filled with friable dark grey silty clay [1003] (Plate 6); again the soil sample taken from this fill only produced very small unidentifiable charcoal fragments. No dating material was recovered from gully [1004] however as it runs parallel to the enclosure ditch it is assumed to be contemporary. The location of the feature suggests that there was no internal bank to the enclosure. In Trench 11, two parallel gullies were also observed at the easternmost extent of the trench spaced approximately 1.9m apart. Gully [1104] was exposed for a distance of 2.34m NW/SE and was 0.43m wide and 0.17m deep (Figure 7; Plate 7). It was filled with a natural silting deposit comprising of dark brownish grey silty clay [1103] from which no datable material was recovered. Gully [1106] was exposed for 2.66m NW/SE and was 0.55m wide and 0.28m deep (Figure 7; Plate 8). It was filled with firm dark grey silty clay [1105] with very occasional flecks of charcoal. No finds were recovered from the natural silting deposit [1105] of gully [1106].

5.3 Phase 3: Subsoil

5.3.1 Subsoil was recorded in seven trenches (Trenches 1 - 3, 6, 7, 10, 11 and 13) and directly overlay Phase 2 archaeological features in Trench 1 (linear gullies) and 10 (enclosure ditch and internal gully). The subsoil comprised firm mid greyish brown silty clay in Trench 1

[101], Trench 2 [201] and Trench 3 [301] and firm dark greyish brown clayey silt in Trench 6 [601], Trench 7 [701], Trench 10 [1001], Trench 11 [1101] and Trench 13 [1301]. It had a maximum and minimum thickness of 0.12m in Trenches 10, 11 and 13 and 0.05m in Trench 7. No dating material was recovered from the deposit however, it overlay Phase 2 features and was truncated by Phase 4 post-medieval agricultural activity.

5.4 Phase 4: Post-medieval agricultural features

5.4.1 Phase 4 comprises post-medieval agricultural activity on the site in the form of a field boundary within Trench 2 and furrows within Trench 5 and 9.

5.4.2 The field boundary comprised a NE/SW aligned ditch [204] that was recorded within the southern half of the trench. The ditch was exposed for a maximum distance of 2.6m and was 0.53m wide and 0.25m deep (Figure 3). It was backfilled with friable mid brownish grey silty clay [203] that included fragments of brick.

5.4.3 North/south aligned furrows were recorded in Trench 5 and 9 ([503] and [903] respectively). The furrows varied in size with the largest measuring *c*. 3m wide in Trench 5 and the smallest measuring 1m wide in Trench 9. The remains within Trench 9 were heavily truncated by modern ploughing however sufficient furrows survived in Trench 5 to give a wavelength of *c.* 3.7m apart suggesting post-medieval agricultural regimes. The table below summarises the furrows dimensions and fills:

Context	Type	Description	Interpretation
[503]	Cut	8 No. furrows. Aligned north-south. Dimensions: up to 3m wide x up to 0.05m deep.	Furrow filled by [502]
[502]	Fill	Firm dark greyish brown silty clay. Dimensions: up to 3m wide and up to 0.05m thick.	Fill of furrow [503]
[903]	Cut	3 No. furrows. Aligned north-south. Dimensions: up to 1.2m wide x up to 0.10m deep.	Furrow filled by [902]
[902]	Fill	Firm dark greyish brown silty clay. Dimensions: up to 1.2m wide x up to 0.10m thick.	Fill of furrow [903]

Summary post-medieval plough furrows

5.5 Phase 5: Modern plough soil

5.5.1 Phase 5 represents modern plough soil that was encountered within all trenches. The plough soil comprised dark greyish brown silty clay. The table below summarises the thickness and metres above Ordnance Datum height for topsoil within all areas:

No.	Context	Thickness	m AOD	
			Highest	*Lowest*
Trench 1	[100]	0.20m	83.59m	83.25m
Trench 2	[200]	0.26m	83.42m	83.14m

Trench 3	[300]	0.15m	83.34m	82.82m
Trench 4	[400]	0.18m	85.88m	83.47m
Trench 5	[500]	0.25m	85.85m	83.48m
Trench 6	[600]	0.12m	84.13m	79.41m
Trench 7	[700]	0.10m	86.50m	80.38m
Trench 8	[800]	0.22m	85.43m	80.58m
Trench 9	[900]	0.25m	87.07m	82.92m
Trench 10	[1000]	0.22m	79.04m	77.04m
Trench 11	[1100]	0.21m	79.67m	78.65m
Trench 12	[1200]	0.23m	80.19m	79.88m
Trench 13	[1300]	0.20m	78.00m	76.49m

Summary of topsoil thickness and levels

6. CONCLUSIONS

6.1 The archaeological investigations undertaken on land at Cowley House Farm, County Durham, comprised the excavation of 13 trenches. Geological deposits, undated archaeological features, subsoil, evidence for post-medieval agriculture and modern plough soil were encountered. This activity was assigned to five phases of activity:

- Phase 1: Superficial geological were encountered within all trenches;
- Phase 2: Undated archaeological features comprising two linear gullies in Trench 1, two ditches in Trench 8 a substantial enclosure ditch within Trench 10, 11 and 12 and features internal to this enclosure in Trench 10 and 11;
- Phase 3: Subsoil was encountered in Trench 1, 2, 3, 6, 7, 10, 11 and 13;
- Phase 4: Post-medieval field boundary was encountered in Trench 2 along with plough furrows in Trenches 5 and 9;
- Phase 5: Modern plough soil was encountered in all 13 trenches;

6.2 Gullies [104] and [106] within Trench 1 may represent the continuation of the undated settlement just outside the proposed development area to the north-west. Due to the lack of dating material and associated features the gullies are thought to be of only local significance.

6.3 No dating material was recovered from ditches [803] and [805] in Trench 8. Map regression shows that neither ditch ran parallel to any historic boundary shown on early Ordnance Survey maps ruling out their use as field boundaries, nor did they run parallel to any exposed plough furrows. Trench 8 was located on a mound in the landscape with the top of the trench at the south-west end at 85.43m AOD and the north-east end dropping down to 80.58m. It is possible that these ditches may have been prehistoric, delimitating the high ground however it could equally represent medieval or post-medieval activity as well. Due to the lack of associated archaeological features and a clear date of origin, the ditches are of only local significance.

6.4 A substantial sub-square enclosure ditch *c.* 68m by 74m was noted on the geophysical survey and the remains of this ditch were exposed in Trenches 10, 11, and 12. A slot through this ditch was excavated in Trench 10 that revealed a 3.56m wide and 1.18m deep ditch [1011] that silted up and was recut [1007] as a *c.* 2.58m wide and 0.94m deep ditch. No datable remains were recovered from the enclosure ditch however a small assemblage of animal bone was collected from the secondary fill of the original ditch [1011]. There appeared to be no evidence of bank material slumping into the ditch and the positioning of internal features, if they were contemporary with the enclosure, also suggested the absence of an internal bank created from the upcast of the ditch.

6.5 Internal features within the enclosure were noted in Trenches 10 and 11. In Trench 10 this comprised a small gully [1104] that ran parallel to the enclosure ditch and in Trench 11 this comprised two adjacent gullies [1104] and [1106]. Due to the limited area of excavation within the trenches it is unclear as whether these represented drainage features or a secondary gully aligned to the more substantial outer enclosure ditch. This would appear to be the case in Trench 10 however the gullies in Trench 11 are positioned on a different alignment. Without further excavation of the features it is difficult to ascertain their purpose and indeed whether they are contemporary with the enclosure as no dating material was recovered from either the enclosure ditches or gullies.

6.6 Rectilinear or square ditched enclosures with east-facing entrances are a well-recognised Late Iron Age and early Roman period settlement type and numerous examples have been identified as cropmarks on aerial photographs across the Northumberland and Durham Coastal Plains (Petts and Gerrard 2006) and into the northern part of lowland North Yorkshire (Ottoway 2013, 61). Without excavation it is not possible to establish the date of these cropmark sites. Internal roundhouses are visible as cropmarks within some enclosures, either individual examples centrally placed or with several visible; excavated examples confirm this variety, some with a single central roundhouse, others with ancillary structures and some with numerous intercutting structures such as at Thorpe Thewles located *c.* 2.5km to the south of the site (Heslop 1987). Within some enclosures plough truncation has removed all traces of internal structures such as at the substantial 2nd century AD enclosure at Faverdale, Darlington, located *c.* 15km to the south-west of the site, with the only surviving structure being a stone bath house which had deep foundations (Proctor 2012).

6.7 Rectilinear enclosures vary in size from small sites under 0.2 hectares as at the settlement observed at Belmont (Haselgrove 1982) and Bowburn (Graham 2009) in County Durham, to larger examples like Holme House (Harding 2008), Moor Row Farm 2 or Carkin Moor (Zant & Howard-Davis 2013). The most common enclosure sizes noted by Haselgrove (1982) lie between 0.3 to 0.5 hectares; placing the Cowley House Farm enclosure at *c.* 0.5 hectares at the larger end of this scale.

6.8 Within the wider landscape of Durham and North Yorkshire, 27 well-dated Later Iron Age settlements are known (Sherlock 2012, 24) however, many more potential sites exist in the area, but secure dating evidence is lacking. The form of the sites ranges from nine open settlements, which Sherlock notes is a higher proportion than generally found in the wider region (*ibid.*), fourteen enclosed sites, three settlements that have elements or phases of both morphologies and one where the morphology is unknown because of the limit of the excavation. An evaluation of Iron Age and Roman sites in the Tees Lowlands and southern County Durham, with an emphasis around the Stanwick region, has identified 148 probable sites represented by settlements identified from cropmarks, geophysical surveys and excavated settlements (Haselgrove & Moore 2016, 358). These 148 sites are sub-divided

into 97 enclosed sites, seven curvilinear enclosures, twelve D-shaped enclosures and scarp-edge sites, five large enclosures/other and 27 open/unenclosed settlements. Of these types the rectilinear/sub-rectilinear enclosures, of which the Cowley House Farm enclosure is an example, are by far the predominant morphological group. Rectilinear enclosures have long been thought of as the standard Late Iron Age and indigenous Roman settlement type across the region. The balance of evidence, however, is weighted towards the identification of such settlements as their boundary ditches are more readily identifiable as cropmarks on aerial photographs than unenclosed settlements (Petts and Gerrard 2006, 36-37). Large-scale excavations in the Northumberland and Durham Coastal Plains in recent years have revealed the presence of unenclosed settlements (Proctor 2009; 2012; Hodgson *et al.* 2012).

6.9 The vast majority of rectilinear enclosures are likely to have been for habitation, although smaller sites are noted at Carkin Moor, Barforth, Winston Gate, Rock Castle and Tanton Hall located in the area around Stanwick in the Tees Valley, may have been ancillary enclosures or have had different functions from the larger compounds (Haselgrove & Moore 2016, 366). It is assumed that the Cowley House Farm enclosure would have contained clay and timber roundhouses for habitation. Such structures were built with relatively insubstantial foundations and plough truncation may have removed all traces of these habitation structures. The roundhouse continued as the dominant domestic dwelling form on many lowland rural sites and during the first and second centuries BC and in some regions, including the north, remained in use into the fourth century AD (Hingley 1989, 43).

6.10 Evidence recovered from excavated examples and from cropmarks show that some enclosures were set within extensive field systems and the economy of these settlements was evidently based on mixed agricultural farming. Van der Veens' (1992) examination of archaeobotanical data from northern England demonstrated that by *c.* 300 BC small-scale intensive arable agriculture had been replaced in some areas by a strategy of arable expansion, characterised by the replacement of emmer with spelt wheat. Excavation of ditched enclosures across the coastal plain of North East England throughout the 21st century has provided evidence for mixed agricultural arable and pastoral regimes at these sites, with spelt wheat identified at most.

6.11 The level of survival of internal features at the Cowley House Farm enclosure is unknown, however the enclosure is considered to be of regional significance.

6.12 A small assemblage of animal bone was recovered from the secondary fill of the earliest enclosure ditch. This was all identified as cattle or cattle-sized pieces. The small size of the cattle species represented in this assemblage indicates a medieval or earlier date. Bulk samples taken from three fills of the enclosure ditch and re-cut, a ditch in Trench 8 and a gully in Trench 10 did not produce any paleoenvironmental remains, with the exception of small quantities of very fragmented charcoal, the size of which prohibited identification.

6.13 The post-medieval remains in the form of a backfilled boundary ditch [204] in Trench 2 and the group of furrows in both Trench 5 and 9 ([503] and [903] respectively) represent agricultural use of the site prior to the removal of hedgerows and ditches and the creation of large open fields for modern farm machinery. As such they are only of local significance.

6.14 The geophysical anomalies within all other trenches represented changes in the natural geology rather than archaeological features.

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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

Acknowledgements

Pre-Construct Archaeology would like to thank William Bedford of Orion Heritage Ltd for commissioning the archaeological investigations herein described. PCA would also like to thank Lauren Pratt, Senior Archaeologist for Durham County Council Archaeology Section, for her assistance during the project.

PCA Credits

Fieldwork: Scott Vance (Supervisor), Andy Abson, and James Hopper

Report: Scott Vance

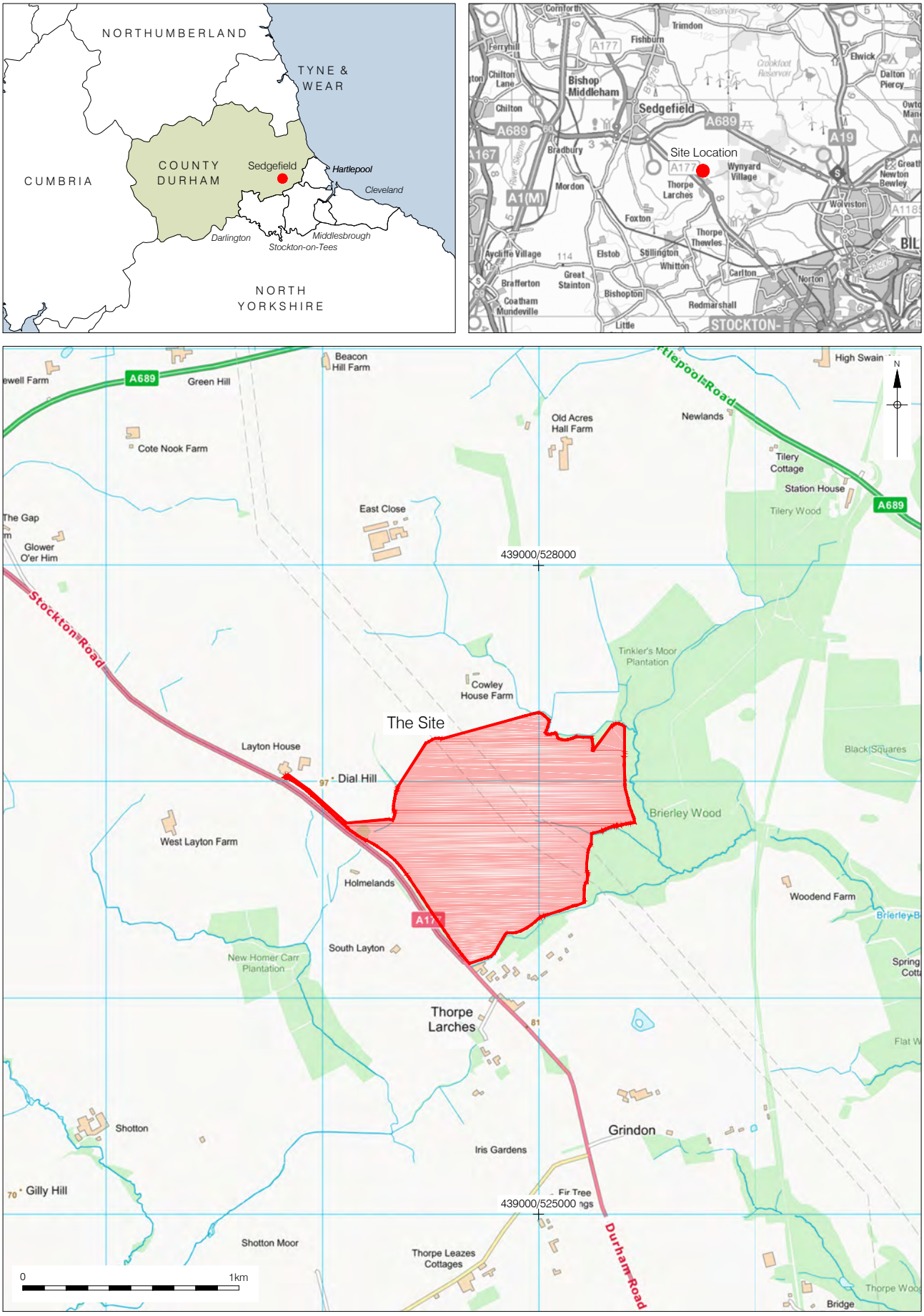
Project Manager: Jennifer Proctor and Aaron Goode

Faunal Remains: Kevin Reilly

Other Credits

Paleoenvironmental Assessment: Lynne Gardiner (Wardell Armstrong)

APPENDIX 1: FIGURES



29/10/20 MR

Figure 1
Site Location
1:2,000,000, 1:250,000, 1:25,000 at A4

Site Boundary

Overhead Cables

Overhead Cable Buffer (10m)

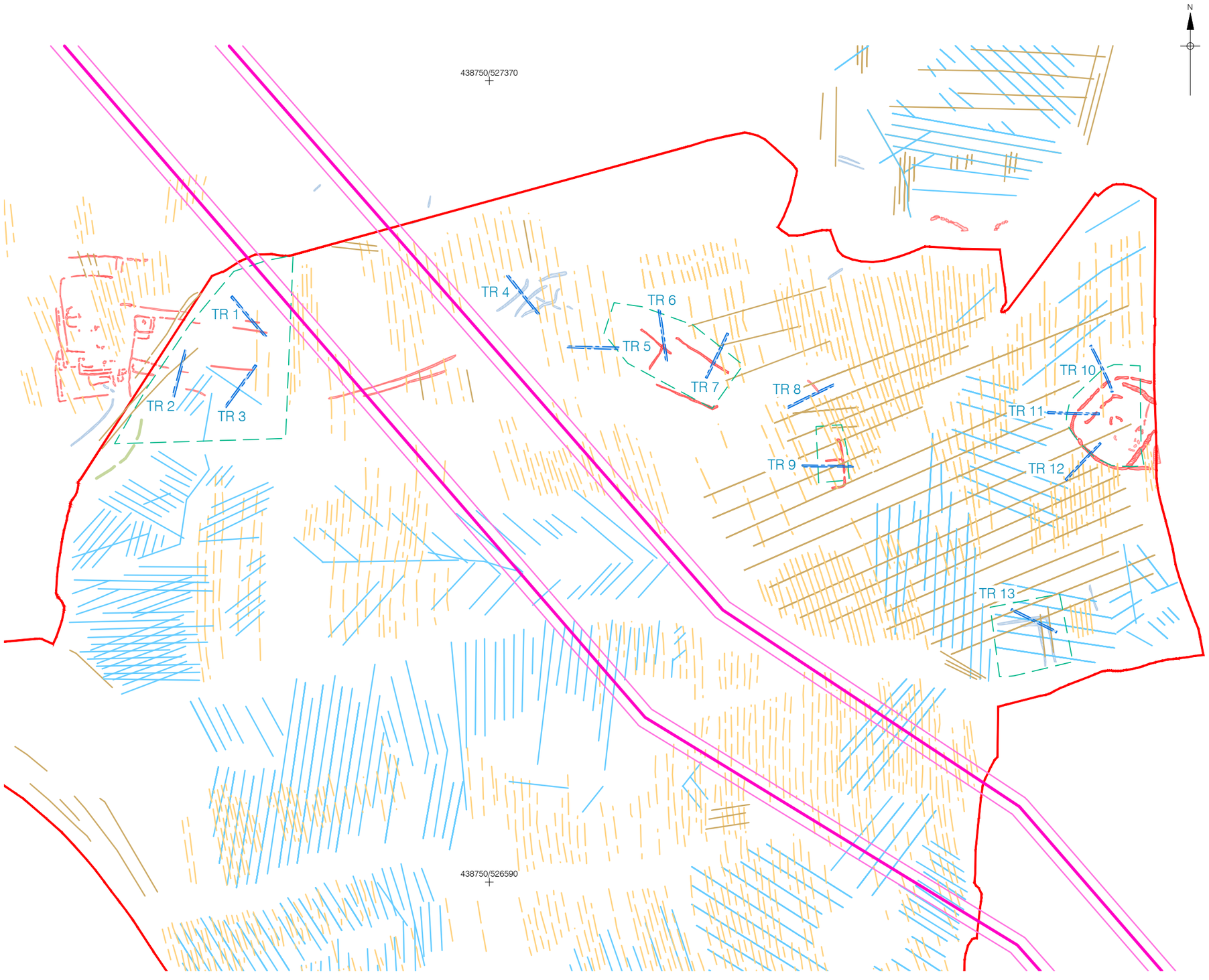
Area of Archaeological Interest

Geophys Interp (Linear)

- Drainage Feature
- Agricultural (Trend)
- Ridge & Furrow (Trend)
- Archaeology Probable (Trend)
- Natural (Trend)
- Service

Geophys Interp (Polygon)

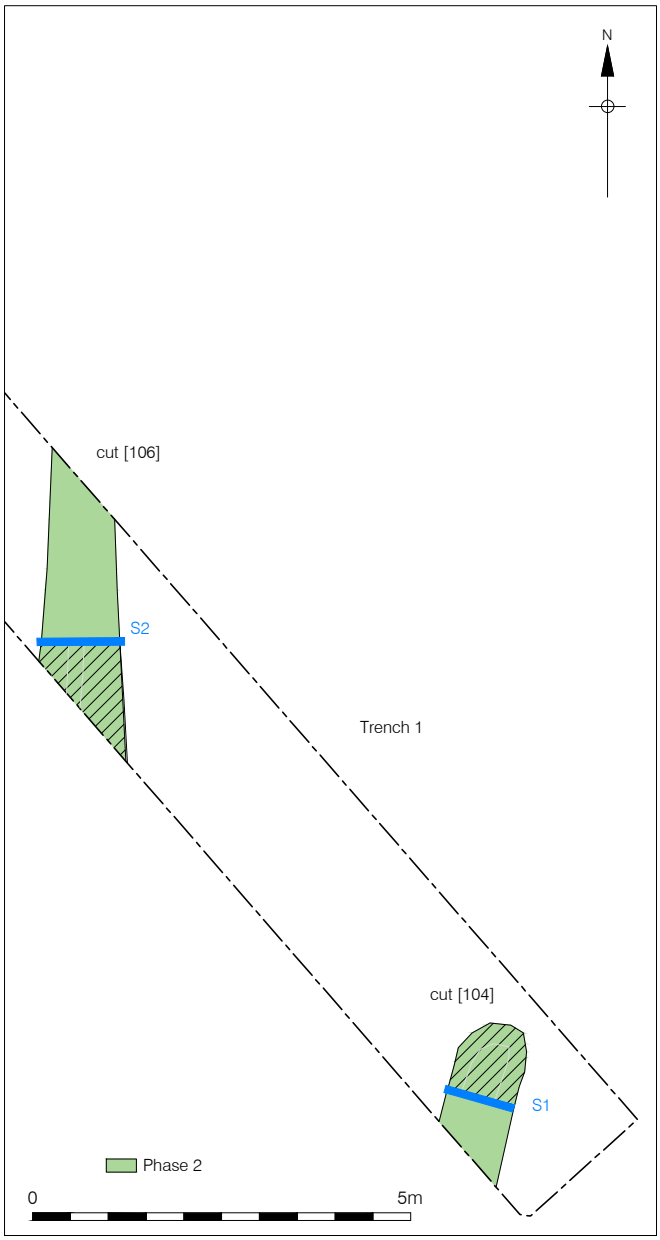
- Agricultural (Spread)
- Agricultural (Strong)
- Agricultural (Weak)
- Archaeology Possible (Strong)
- Archaeology Possible (Weak)
- Archaeology Probable (Strong)
- Archaeology Probable (Weak)
- Ferrous (Spread)
- Ferrous (Dipolar)
- Modern/Industrial
- Natural (Spread)
- Natural (Strong)
- Natural (Weak)
- Undetermined (Strong)
- Undetermined (Weak)

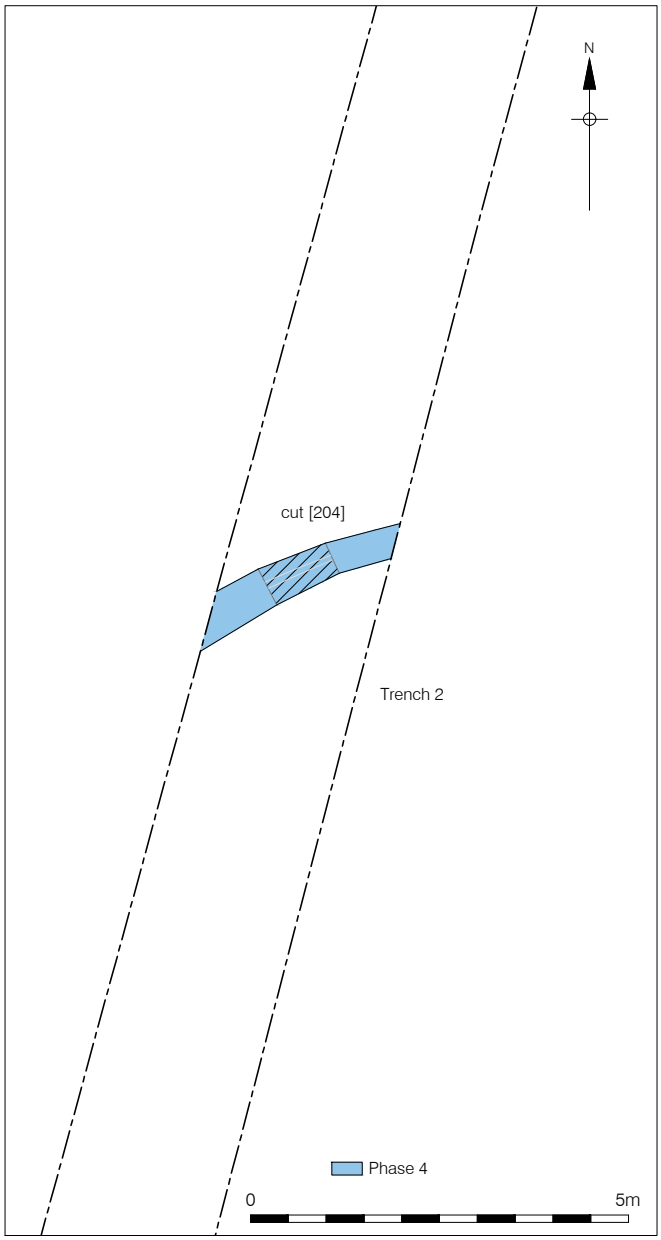


0 200m

29/10/20 RM / MR

Figure 2
Detailed Site Plan showing Trench Locations on Geophysical Survey Interpretation
1:4,000 at A3





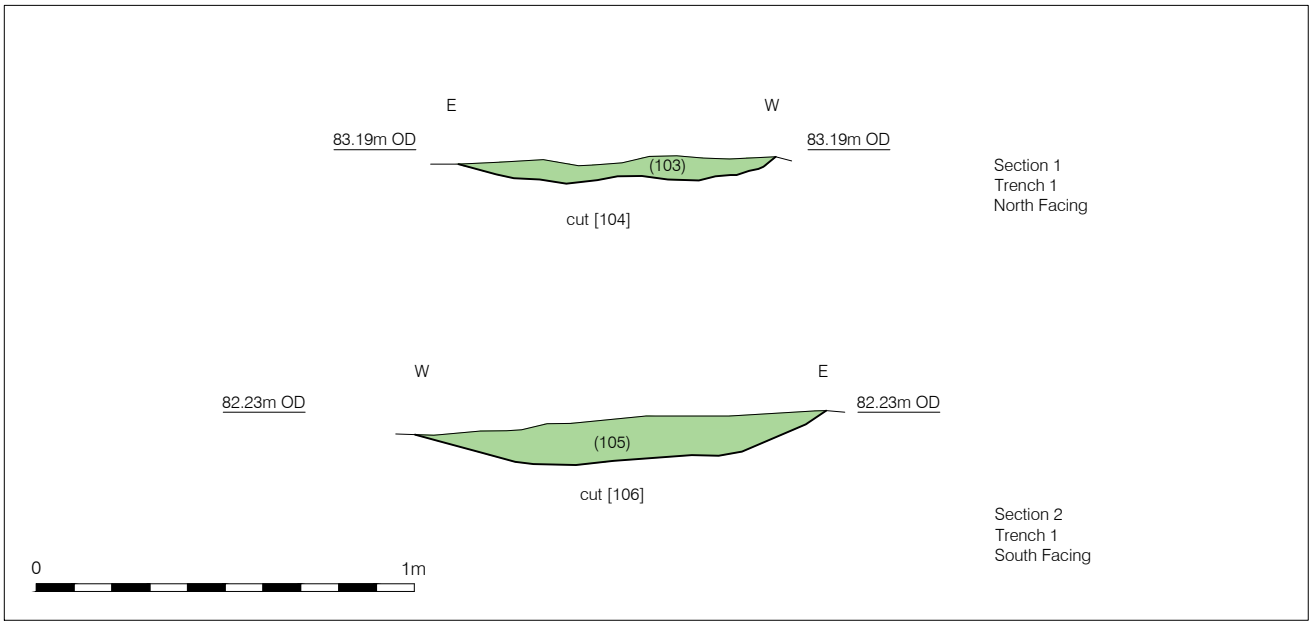
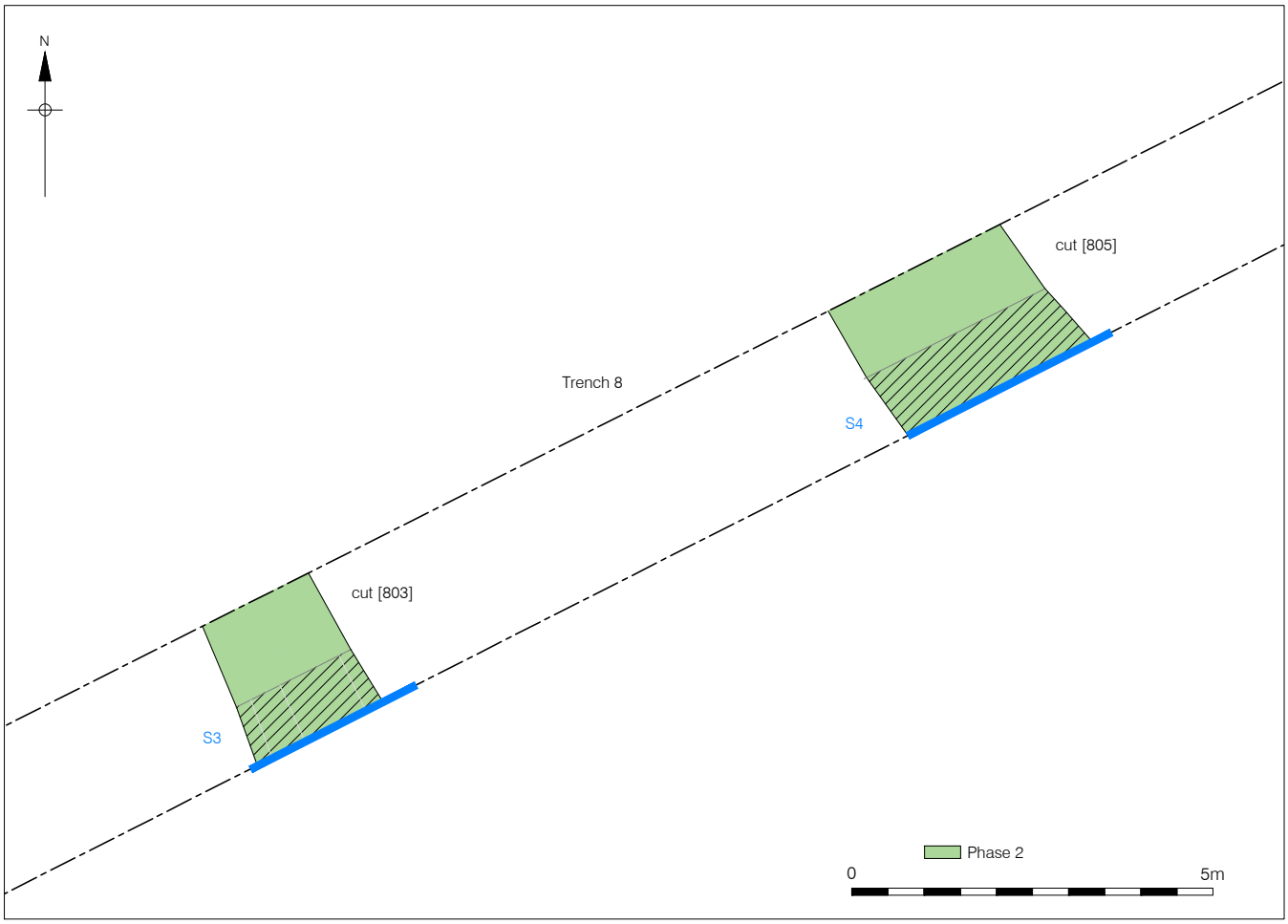


Figure 3
Plan and Sections of Trenches 2 and 3
Plans 1:100 and Sections 1:20 at A4

28/10/20 RM



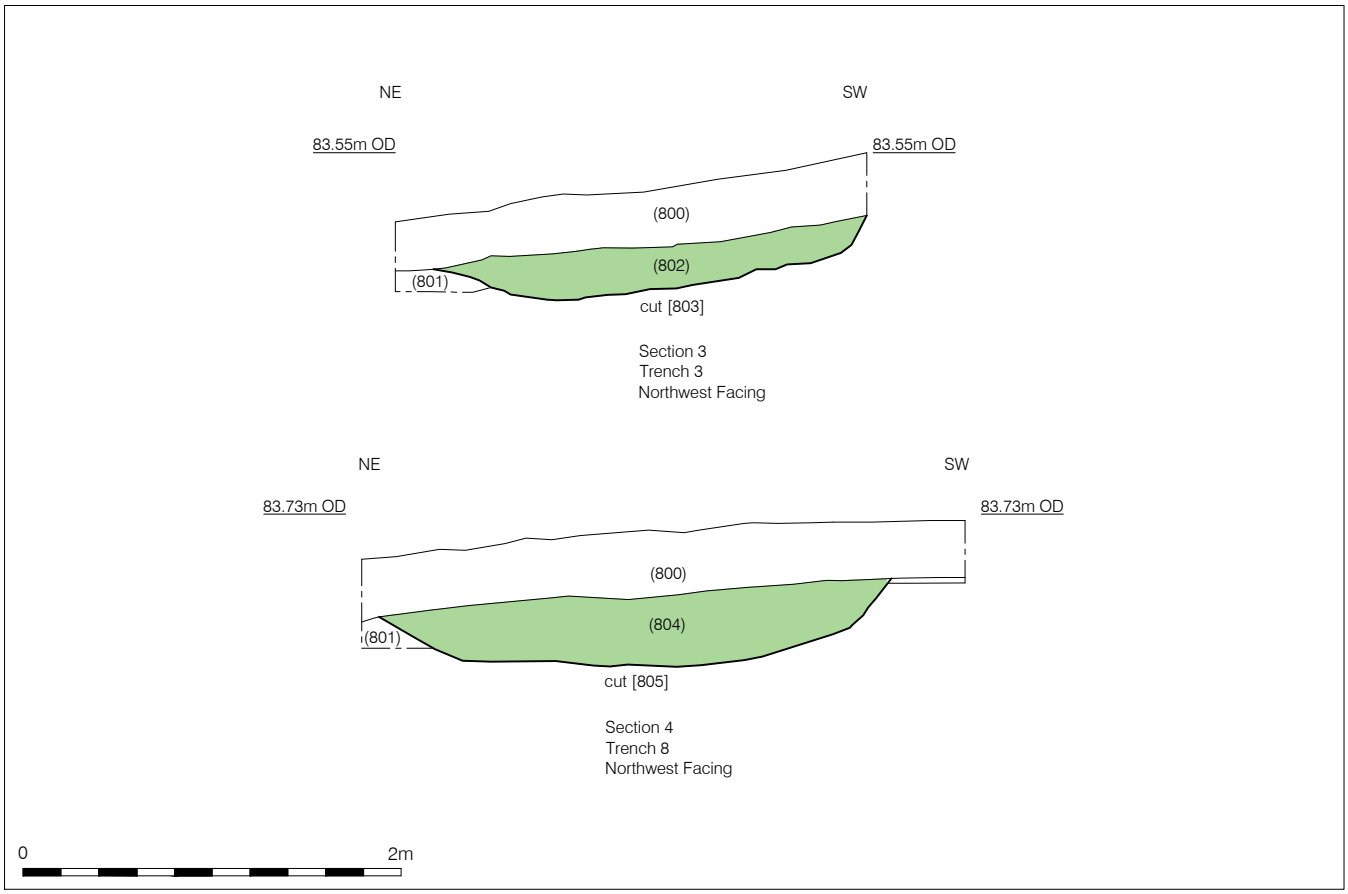
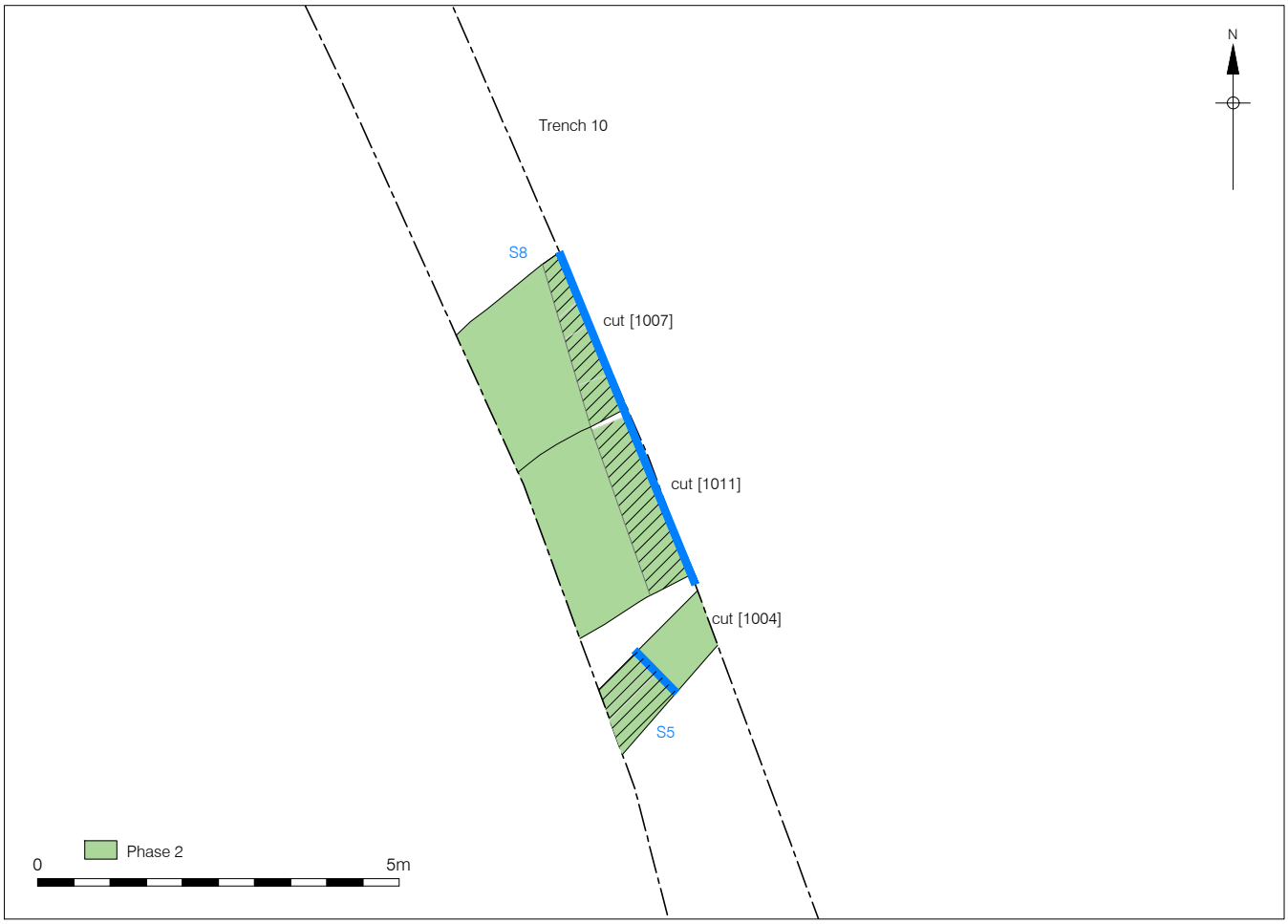


Figure 4
Plan and Sections of Trench 8
Plan 1:100 and Sections 1:40 at A4

28/10/20 RM

28/10/20 RM

Figure 5
Plan of Trenches 10,11 and 12 overlain on Geophysical Interpretation
1:500 at A3



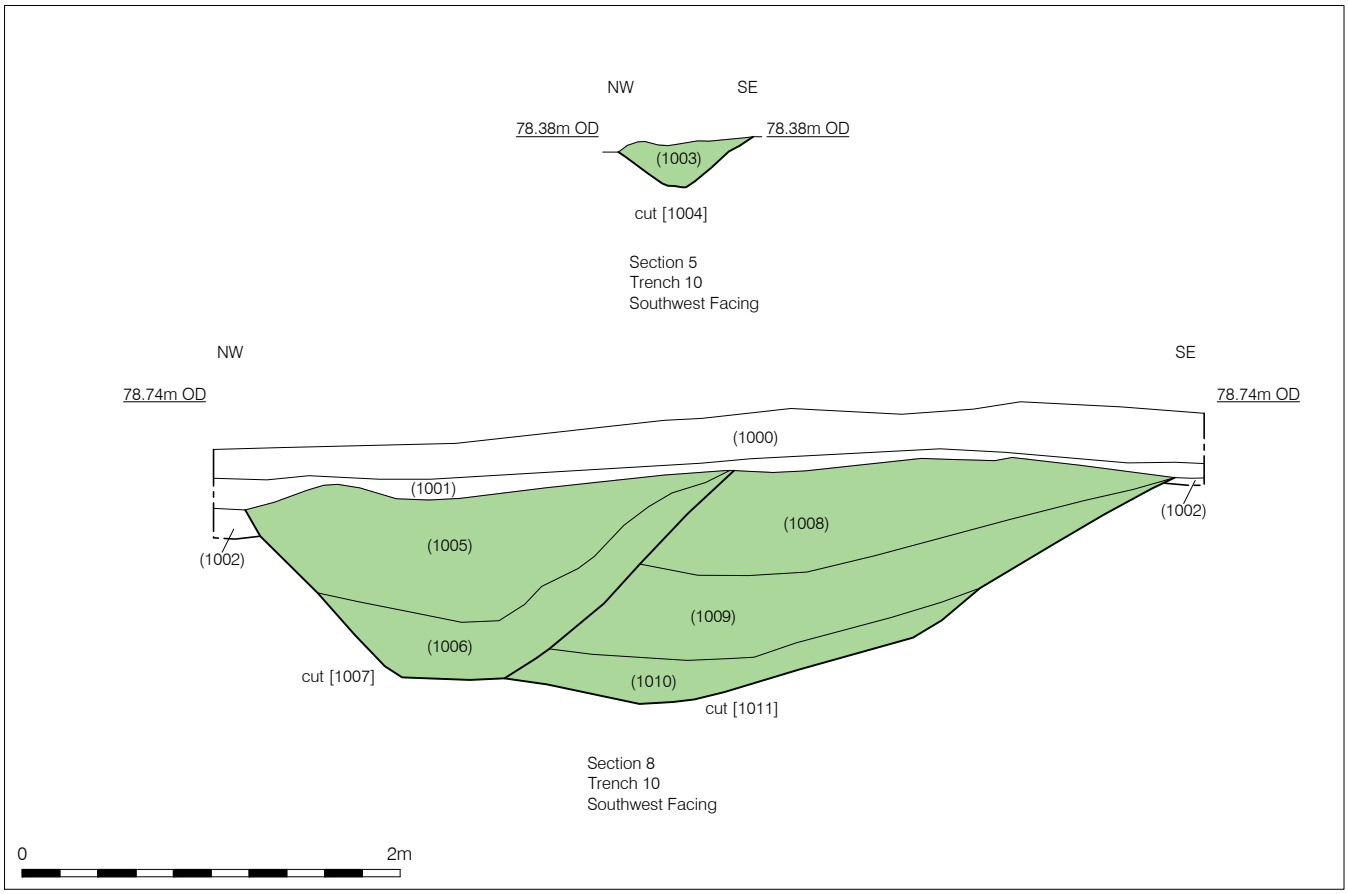
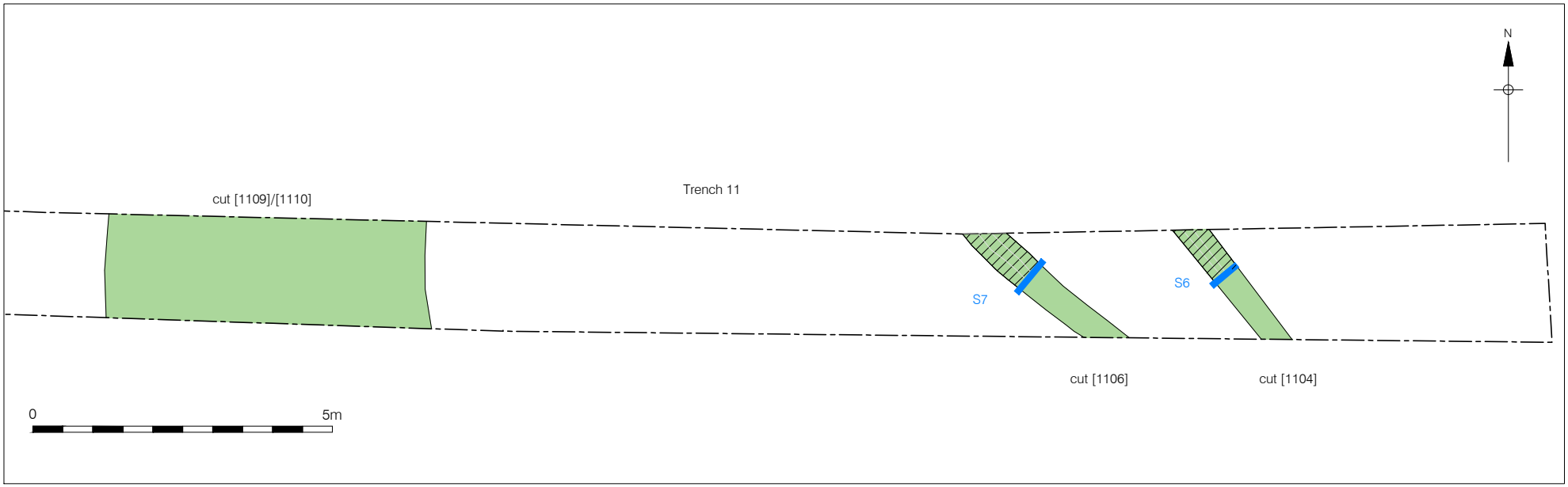


Figure 6
Plan and Sections of Trench 10
Plan 1:100 and Sections 1:40 at A4

28/10/20 RM



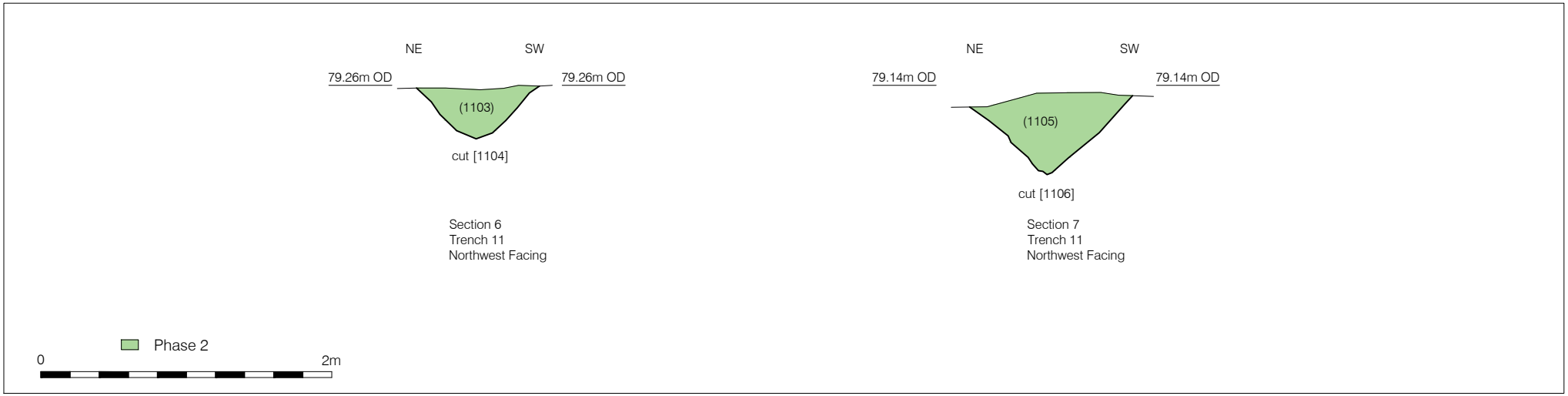


Figure 7
Plan and Sections of Trench 11
Plan 1:100 and Sections 1:20 at A4

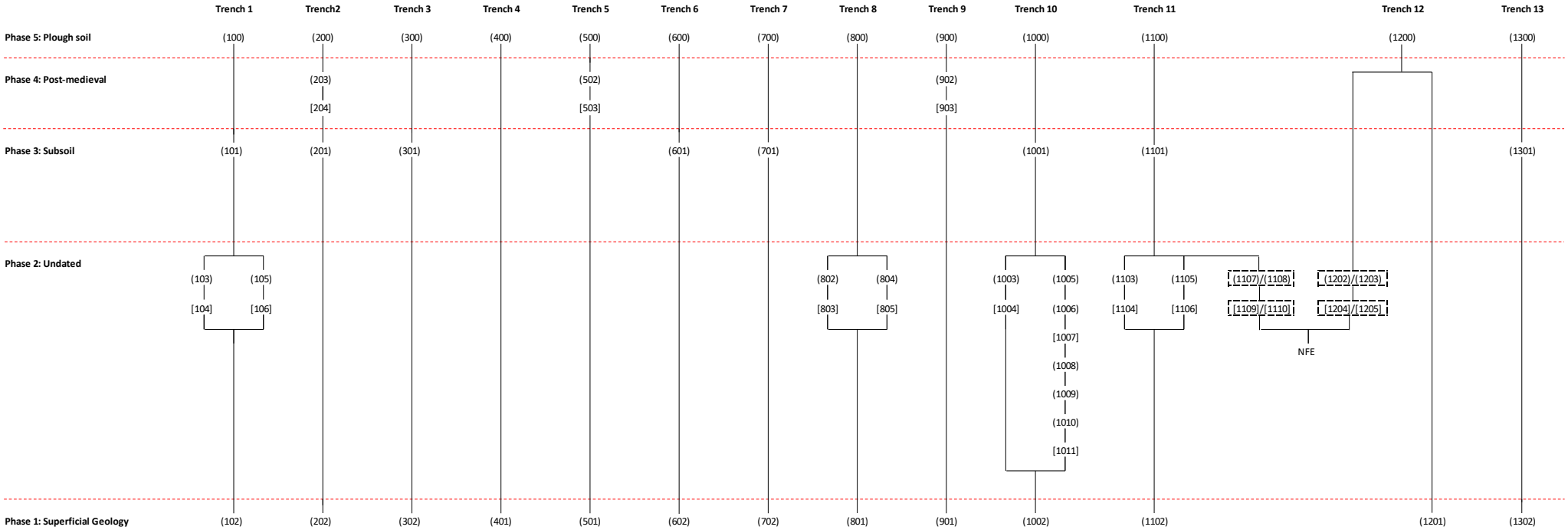
28/10/20 RM

APPENDIX 2: CONTEXT INDEX

Context	*Phase*	*Type 1*	*Type 2*	*Fill of*	*Interpretation*
Trench 1					
100	5	Deposit	Layer		Plough soil
101	3	Deposit	Layer		Subsoil
102	1	Deposit	Layer		Superficial geology
103	2	Deposit	Fill	[104]	Fill of gully [104]
104	2	Cut	Linear		Gully
105	2	Deposit	Fill	[106]	Fill of gully [106]
106	2	Cut	Linear		Gully
Trench 2					
200	5	Deposit	Layer		Plough soil
201	3	Deposit	Layer		Subsoil
202	1	Deposit	Layer		Superficial geology
203	4	Deposit	Fill	[204]	Fill of field boundary [204]
204	4	Cut	Linear		Field Boundary
Trench 3					
300	5	Deposit	Layer		Plough soil
301	3	Deposit	Layer		Subsoil
302	1	Deposit	Layer		Superficial geology
Trench 4					
400	5	Deposit	Layer		Plough soil
401	1	Deposit	Layer		Superficial geology
Trench 5					
500	5	Deposit	Layer		Plough soil
501	1	Deposit	Layer		Superficial geology
502	4	Deposit	Fill	[503]	Fill of furrows [503]
503	4	Cut	Linear		Furrows
Trench 6					
600	5	Deposit	Layer		Plough soil
601	3	Deposit	Layer		Subsoil
602	1	Deposit	Layer		Superficial geology
Trench 7					
700	5	Deposit	Layer		Plough soil
701	3	Deposit	Layer		Subsoil
702	1	Deposit	Layer		Superficial geology
Trench 8					
800	5	Deposit	Layer		Plough soil
801	1	Deposit	Layer		Superficial geology
802	2	Deposit	Fill	[803]	Fill of ditch [803]
803	2	Cut	Linear		Ditch
804	2	Deposit	Fill	[805]	Fill of ditch [805]
805	2	Cut	Linear		Ditch
Trench 9					
900	5	Deposit	Layer		Plough soil
901	1	Deposit	Layer		Superficial geology
902	4	Deposit	Fill	[903]	Fill of furrows [903]

903	4	Cut	Linear		Furrows
Trench 10					
1000	5	Deposit	Layer		Plough soil
1001	3	Deposit	Layer		Subsoil
1002	1	Deposit	Layer		Superficial geology
1003	2	Deposit	Fill	[1004]	Fill of gully [1004]
1004	2	Cut	Linear		Gully
1005	2	Deposit	Fill	[1007]	Fill of enclosure ditch recut [1007]
1006	2	Deposit	Fill	[1007]	Fill of enclosure ditch recut [1007]
1007	2	Cut	Linear		Recut of enclosure ditch [1011]
1008	2	Deposit	Fill	[1011]	Fill of enclosure ditch [1011]
1009	2	Deposit	Fill	[1011]	Fill of enclosure ditch [1011]
1010	2	Deposit	Fill	[1011]	Fill of enclosure ditch [1011]
1011	2	Cut	Linear		Enclosure ditch
Trench 11					
1100	5	Deposit	Layer		Plough soil
1101	3	Deposit	Layer		Subsoil
1102	1	Deposit	Layer		Superficial geology
1103	4	Deposit	Fill	[1104]	Fill of gully [1104]
1104	4	Cut	Linear		Gully
1105	4	Deposit	Fill	[1106]	Fill of gully [1106]
1106	4	Cut	Linear		Gully
1107/1108	4	Deposit	Fill	[1109]/[1110]	Unexcavated fills of enclosure ditch and recut [1109]/[1110]
1109/1110	4	Cut	Linear		Unexcavated enclosure ditch and recut
Trench 12					
1200	5	Deposit	Layer		Plough soil
1201	1	Deposit	Layer		Superficial geology
1202/1203	4	Deposit	Fill	[1204]/[1205]	Unexcavated fills of enclosure ditch and recut [1204]/[1205]
1204/1205	4	Cut	Linear		Unexcavated enclosure ditch and recut
Trench 13					
1300	5	Deposit	Layer		Plough soil
1301	3	Deposit	Layer		Subsoil
1302	1	Deposit	Layer		Superficial geology

APPENDIX 3: STRATIGRAPHIC MATRIX



APPENDIX 4: PHOTOGRAPHIC PLATES

Plate 1: Trench 1: Gully [104], view south-west, 1m scale

Plate 2: Trench 1: Gully [106], view north-east, 0.5m scale

Plate 3: Trench 10: Enclosure ditch [1011] (right) and recut [1007] (left), view north-east, 2m scale

Plate 4: Trench 10: Enclosure ditch [1011] (right) and recut [1007] (left), view south-east, 2m scale

Plate 5: Trench 10: Enclosure ditch [1011], recut [1007] and gully [1004] in background, view south-east, 2m scale

Plate 6: Trench 10: Gully [1004], view north-east, 0.5m scale

Plate 7: Trench 11: Gully [1104] view south-east, 0.2m scale

Plate 8: Trench 11: Gully [1106], view north-east, 0.2m scale

APPENDIX 5: PALAEOENVIRONMENTAL ASSESSMENT

Lynne Gardiner

Introduction

Five bulk environmental samples were presented for assessment following the archaeological evaluation undertaken by Pre-Construct Archaeology Ltd. on land at Cowley House Farm in County Durham (centred on NGR NZ 3877 2684).

This report presents the results of the assessment of the environmental samples in accordance with Campbell *et al.* (2011) and English Heritage (2008).

A total weight of 230kg (159l) of sediment was processed.

Methodology

The bulk environmental samples were processed by Wardell Armstrong LLP in Carlisle. The colour, lithology, weight, and volume of each sample was recorded using standard Wardell Armstrong pro forma recording sheets (cf. Table 1). The samples were processed with 500-micron retention and flotation meshes using the Siraf method of flotation (Williams 1973). Once dried, the residues from the retention mesh were sieved to 4mm with the intention of removing any artefacts and ecofacts from the larger fraction. The smaller fraction was scanned with a magnet for microslags such as hammerscales. This fraction was then examined for smaller artefacts such as beads (cf. Table 2).

The flot charcoal were retained and scanned using a stereo microscope (up to x45 magnification). Any non-palaeobotanical finds were noted on the flot pro forma. Flot information is presented in Table 3. Once the flot was recorded and fully sorted with any ecofactual material recovered the non-archaeological elements were discarded.

Plant remains were identified using the author's reference collection along with Cappers *et al.* (2012), Cappers and Neef (2012) and Cappers and Bekker (2013). Nomenclature for plant taxa followed Stace (2010).

Results

The samples presented for assessment originated from Trenches 8 and 10, which were in the northeast of the site. All presented sediment as detailed in section 2.3.1 in PCA (2020; 3).

All the samples were from phase 2 (undated archaeological activity).

All samples yielded small amounts of magnetised matter in the retent. This was examined using a stereo microscope to identify any microslags. None were present and all matter was naturally-occurring magnetised geology.

No other artefacts/ecofacts were recovered from the samples' retents.

The flots were, for the most part, consisted mostly of sand and very fine rootlets. Comminuted charcoal was observed but in such small quantities as to prohibit collection, much less identification.

Plant remains (n=2) were observed in sample **<2>** from fill **(802)** of ditch **[803]**. These were uncharred goosefoots (*Chenopodium* sp.) and were heavily silted and poorly preserved.

The flot from sample **<2>** also presented earthworm capsules, fragments of beetle chitin, and very small slivers of unidentifiable wood.

Discussion

Sample **<2>** from Trench 8 yielded the greatest quantity of uncharred material. This sample was not presented as a waterlogged sample and during processing it was not observed as waterlogged. Soilscapes (2020) showed that this area had impeded drainage and seasonally wet pastures. The large quantity of earthworm capsules and beetle chitin fragments suggested that this area was prone to the effects of bioturbation due to the undulating waterlogging. The presence of two uncharred goosefoots were probably present due to this bioturbation.

No other sample presents any information that can be interrogated palaeoenvironmentally.

Radiocarbon suitability

No material was observed that could be employed for radiocarbon determination. The comminuted charcoal would not have been suitable

Statement of potential and recommendations

No further work can be undertaken on this assemblage and the magnetic matter and the two uncharred plant remains may be discarded and need not be archived.

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Websites

Soilscapes (2020) http://www.landis.org.uk/soilscapes/# accessed on 04/11/2020

Table 1: sample information

C	<>	Context description	Q	CP	TP	MP	WP	VP	CS	Components	Shape	SW	SV	>SW	>SV
802	2	fill of ditch [803]	4	mid reddish brown	Friable	Silty clay	49	32	mid reddish brown	Stone> 1cm 25%: stone <1cm 20%: sand 55%	Sub-rounded	2798	1900	1047	600
1003	4	fill of gully [1004]	4	mid yellowish brown	Friable	Silty clay	46	32	mid yellowish grey	Stone >1cm 50%: stone <1cm 40%: sand 10%	Sub-angular	5311	3100	3635	2000
1006	8	fill of enclosure ditch recut [1007]	4	mid yellowish brown	Plastic	Silty clay	38	30	mid yellowish brown	Stone >1cm 50%: stone <1cm 30%: sand 20%	Sub-rounded	4205	2600	2773	1660
1009	10	fill of enclosure ditch [1011]	4	mid yellowish brown	Friable	Silty clay	44	30	mid yellowish grey	Stone >1cm 50%: stone <1cm 35%: sand 15%	Sub-angular	6229	4000	4155	2380
1010	11	fill of enclosure ditch [1011]	4	dark reddish brown	Friable	Medium sand	53	35	mid yellowish brown	Stone >1cm 50%: stone <1cm 25%: sand 25%	Sub-rounded	8862	5050	5339	2830

Key: C= context, <>= sample number, Q=quantity of tubs, CP= colour of pre-processed sediment, TP=texture of pre-processed sediment, MP= matrix of pre-processed sediment, WP= weight (kg) of pre-processed sediment, VP= volume (l) of pre-processed sediment, CS= colour of dried retent, SW= weight (g) of retent, SV= volume (ml) of retent, >SW= weight (g) of >4mm retent, >SV= volume (ml) of >4mm retent

Table 2: finds from sample

C	<>	Material	<4mm	Weight(g)	Abundance
802	2	Magmatter	Yes	7	5
1003	4	Magmatter	Yes	2	2
1006	8	Magmatter	Yes	1	3
1009	10	Magmatter	Yes	1	3
1010	11	Magmatter	Yes	1	3

Key: abundance is 1=1-10, 2=11-50, 3=51-100, 4=101-250, 5=>250

Table 3: flot data

C	<>	Description of flot	FW	FV	EWC	BC	Plant	C14
802	2	very fine rootlets 20%: comminuted charcoal 5%: sand 70%: wood 5%	28.3	60	13	25	2	no
1003	4	very fine rootlets 70%: comminuted charcoal 5%: sand 25%	16	35				no
1006	8	very fine rootlets 15%: comminuted charcoal 5%: sand 80%	26.5	35	1			no
1009	10	very fine rootlets 35%: comminuted charcoal 5%: sand 60%	25.9	37		1		no
1010	11	very fine rootlets 35%: comminuted charcoal 5%: sand 60%	10.7	25	3			no

Key: C= context, <>= sample number, FW= weight (g) of flot, FV= volume (ml) of flot, EWC= quantity of earthworm capsules, BC=quantity of beetle chitin fragment, C14= any material suitable for radiocarbon dating?

APPENDIX 6: ANIMAL BONE

Kevin Rielly

Introduction

The area under investigation is situated on the east side of the A177 (Stockton Road) just to the north of the small hamlet of Thorpe Larches some 2km south-east of Sedgefield and 3km north-west of Stockton-on-Tees. 13 evaluation trenches were excavated within the north-eastern part of this large area following a geophysical survey to establish archaeological potential. These trenches revealed numerous features, some clearly post-medieval while others are as yet undated. Animal bones were hand recovered from one of these undated features, this identified as part of an enclosure ditch (Trench 10).

Methodology

The bone was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of longbone shaft and the majority of vertebra fragments. Recording follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered.

Description of faunal assemblage

There was just one deposit with animal bones, comprising a secondary fill (1009) of ditch (1011) in Trench 10 located at the eastern extremity of the study area. This ditch was interpreted (following the findings of the previous geophysical survey) as part of a small rectangular enclosure (about 60m across) which was also observed running through the adjacent trenches 11 and 12. Unfortunately none of the fills of this enclosure were datable with finds limited to the animal bones from (1009). These amounted to 6 fragments out of an original total of 14, clearly fragmented and generally in moderate to poor condition. They consisted of four cattle limb bone pieces, a scapula, radius, ulna and tibia, with the radius and ulna almost certainly from the same individual. In addition, there were two cattle-size pieces, a mandible and a pelvis fragment which may also be cattle. 3 of the cattle bones had articular ends, all of which are fused with one certain adult (fused proximal tibia). These cattle are rather small which could suggest they may be medieval or earlier, although smaller ‘types’ of cattle continued to be used well into the post-medieval era

Conclusion and recommendations for further work

The small quantity and relatively poor quality of the animal bones would suggest that further work at this site is unlikely to provide an assemblage worthy of detailed investigation. It can be supposed that the present collection is heavily biased towards the larger domesticates (differential preservation and recovery), however, it should be noted that the few bones that were recovered did provide some age evidence (the articular end pieces). Obviously, a major concern is the lack of dating evidence,

although on typological grounds it does appear that the enclosure containing the bones may date to the Late Iron Age/Early Roman era.

The animal bones can be used for dating purposes (C14). It is perhaps doubtful that any of the smaller species (birds, fish etc) can be recovered, as suggested by the condition of the surviving bones, borne out by the processing of bulk samples which did not produce any faunal remains.

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