

**Land at Hesleden Road,  
Blackhall Colliery,  
County Durham**

**Archaeological Evaluation**



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## EXECUTIVE SUMMARY

*AD Archaeology was commissioned by Gleeson Homes to undertake evaluation trenching in advance of a proposed housing development on land at Hesleden Road, Blackhall Colliery. Subsequent to a desk-top assessment and a geophysical survey 19 evaluation trenches were excavated across the site.*

*No significant archaeological features were located in the trenches, with no evidence for settlement activity being identified within the area of the site. The majority of the site is situated on locally low-lying ground. To the west and south the ground rises steeply to higher flatter ground, beyond the site boundary, which would have been more suited to settlement.*

*A number of natural features and former agricultural boundary features were located. A meandering paleo-channel running north-west to south east through the site, identified by the geophysical survey (and visible on aerial images), was traced through Trenches 9, 14 and 15. A second paleo-channel was traced eastwards from Trench 1 through Trench 2. A wide shallow hollow, probably forming part of a former north-east/south-west watercourse was identified in Trench 8. A post-medieval east-west gully located in Trenches 1 and 2 represents a former northern field boundary depicted on the 1st edition Ordnance Survey. Shallow ESE-WNW gullies located in Trenches 11 and 19 relate to a former southern field boundary depicted on the 1st edition Ordnance Survey map.*

*In view of the absence of significant archaeological features no further work would be appropriate at the site.*

## **1 INTRODUCTION**

### **1.1 The Project**

1.1.1 AD Archaeology Ltd was commissioned by Gleeson Homes to undertake archaeological evaluation in advance of a proposed housing development on land at Hesleden Road, Blackhall Colliery. This trenching follows a desk-top assessment (Brigantia 2016) and geophysical survey (Phase Site Investigations 2016) that have been undertaken in advance of the proposed development. The archaeological works were undertaken in the weeks commencing 15<sup>th</sup> and 22<sup>nd</sup> April 2019.

### **1.2 Location, Geology and Topography**

1.2.1 The site consists of part of an arable field at Hesleden Road, Blackhall Colliery. The proposed development site consists of 4 hectares of arable land (centred on NZ 4583 3899) to the south-west of Blackhall Colliery between the grounds of Hardwick Hall and the former mining village of Blackhall Rocks. To the north it is bounded by a narrow strip of woodland beside the B1281 road; to the east lies a block of allotment gardens; to the south and west lies more arable land.

1.2.2 The geology of the site consists of dolostone of the Roker Formation overlain by glacial till (British Geological Survey, 2019). The north-eastern and northern areas of the site occupy locally low lying ground. The land rises steadily to the south-west through the southern half of the site toward higher ground beyond the site. The ground rises rapidly to the west the field to the west occupying significantly higher ground.

## 2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

### *Prehistoric Period*

2.1 The earliest activity in the area dates from the Mesolithic period and is exemplified by HER sites 8276 and HER 8277. These sites, represented by substantial quantities of worked flint, are probably the remains of camps or transient settlements. The coastal hinterland of the north-east of England has long been recognised as a significant focus of Mesolithic activity. An L-shaped or partial rectilinear cropmark (HER 60969) identified as a cropmark on an aerial photograph lies immediately to the west of the site. It is likely to represent a late prehistoric settlement.

### *Roman Period*

2.2 There is a very low level of material of Roman date in the area studied, though it is possible that the ditched enclosure noted above may have been occupied into the Romano-British period.

### *Early-medieval Period*

2.3 Within the study area the early medieval period is represented by a solitary child inhumation (HER 526). No settlement remains have been found in the area but it is likely that at least some of the villages, including Hesleden and Hardwick, have early origins.

### *Medieval Period*

2.4 Settlements of medieval period are known at Hesleden and Hardwick. Also there remains the possibility that Blackhall, first mentioned as an isolated farm at the end of the sixteenth century, had originated as a monastic grange, part of the Prior's estate of Hesleden.

### *Post-medieval Period*

2.5 The coastal area of County Durham remained thinly populated until the turn of the twentieth century when the exploitation of the local Coal Measures led to very rapid development. Blackhall Colliery opened in 1913 with development mainly concentrated to the north of the proposed development site.

### 2.6 Geophysical Survey

2.6.1 A geophysical survey was undertaken by Phase Site Investigations. The survey identified a number of anomalies some of which were thought to relate to ridge and furrow, modern ploughing activity and former field boundaries. Other anomalies were identified of uncertain origin.

### **3 AIMS AND OBJECTIVES**

3.1 The objective of the evaluation trenching was to establish the presence or absence of archaeological features on the site and to determine their nature, depth, importance and level of preservation.

### **4 METHODOLOGY**

#### **4.1 General Methodology**

4.1.1 The evaluation was carried out in compliance with all the relevant codes of practice by suitably qualified and experienced staff.

#### **4.2 Excavation and Recording**

4.2.1 The evaluation trench strategy was agreed with the County Archaeology Officer and was undertaken in accordance with an approved trench plan and written scheme of Investigation (appendix 2). One of the trenches, Trench 10, originally scheduled to be 40m by 1.8m was split into two trenches 20m by 1.8m in size (Trenches 10 and 19), when it became evident on site that its southern end as originally planned would have extended beyond the redline boundary of the site.

## 5 RESULTS OF THE EVALUATION

### 5.1 Trench 1 (Figs. 2-3; Plate 1)

5.1.1 Trench 1, located in the north-western corner of the site, was 50m in length (all trenches 1.8m in width) and oriented north-south. The natural subsoil consisting of a brown-orange sandy clay (102) was located at a depth of 0.25m BGL (66.12mAOD). The natural subsoil was overlain by a grey loam topsoil (100), 0.25m in depth. In the northern half of the trench was a 1.45m wide east-west gully (104) representing a continuation of a post-medieval gully (203) identified to the east in Trench 2. The gully (104), which was 0.25m deep, was filled with a grey silty clay (103) and contained fragments of brick. The east-west gully (104 and 203), located in Trenches 1 and 2 corresponds, with the line of a geophysical anomaly (marked in green on Fig. 2) and represents a field boundary visible on the 1<sup>st</sup> edition Ordnance Survey. A 3.5m wide west-east paleo-channel was located in the central area of the trench, running east toward Trench 2 where it was investigated as natural feature 205.

### 5.2 Trench 2 (Figs. 2-4)

5.2.1 Trench 2, located in the north-western corner of the site, was 50m in length and oriented NNW/SSE. The natural subsoil (202) varying between a brown clayey silt at the northern end of the trench and a pinkish clay to the south was located at a depth of 0.40m BGL (63.85mAOD). The natural subsoil (202) was overlain by a brown sandy clay ploughsoil (201), 0.05m in depth, and a grey loam topsoil (200), 0.40m in depth. In the northern half of the trench was a 2.1m wide east-west gully (203) representing a continuation of gully 104 identified to the west in Trench 1. The gully 203 was filled with a grey silty clay and contained modern pottery. Toward the southern end of the trench was a west-east paleo-channel (205) representing a continuation of the natural feature identified in the central area of Trench 1. The former water channel was 9m wide and 0.55m deep being filled with deposits of grey clay (206) and brown clayey silt (204).

### 5.3 Trench 3 (Fig. 2)

5.3.1 Trench 3, located in the north-western sector of the site was 50m in length and oriented ESE/WNW. The natural subsoil (301) consisting of a yellow sandy clay was located at a depth of 0.34m BGL (65.19mAOD). The natural subsoil (301) was overlain by a grey loam topsoil (300), 0.34m in depth.

### 5.4 Trench 4 (Fig. 2; Plate 2)

5.4.1 Trench 4, located adjacent to the western boundary of the site, was 50m in length and oriented NNW/SSE. The natural subsoil consisting of brown-orange clay containing limestone fragments and pebbles (401) was located at a depth of 0.22m BGL (67.71mAOD). The natural subsoil (401) was overlain by a grey loam topsoil (400), 0.22m in depth.

## **5.5 Trench 5 (Fig. 2)**

5.5.1 Trench 5, located in the western sector of the site, was 50m in length and oriented NNW/SSE. The natural subsoil (502) varying between a yellow-orange sandy clay and a grey sandy clay was located at a depth of 0.62m BGL (63.77mAOD). The natural subsoil (502) was overlain by a 0.17m deep brown sandy clay ploughsoil (501) and a grey loam topsoil (500), 0.45m in depth.

## **5.6 Trench 6 (Fig. 2)**

5.6.1 Trench 6, located in the central sector of the site, was 50m in length and oriented north-south. The natural subsoil (602) consisting of an orange sandy clay was located at a depth of 0.45m BGL (63.35mAOD). The natural subsoil (602) was overlain by a 0.10m deep brown sandy clay ploughsoil (601) and a grey loam topsoil (600), 0.35m in depth.

## **5.7 Trench 7 (Fig. 2 and 11)**

5.7.1 Trench 7, located in the central sector of the site, was 50m in length and oriented east-west. The natural subsoil (702) consisting of an orange sandy clay was located at a depth of 0.42m BGL (61.25mAOD). The natural subsoil (702) was overlain by a 0.10m deep brown sandy clay ploughsoil (701) and a grey loam topsoil (700), 0.32m in depth. An indistinct 3m wide former water course was traced running south-west/north-east toward Trench 8 to form part of feature 805 (see below).

## **5.8 Trench 8 (Fig. 2 and 5-6; Plate 3)**

5.8.1 Trench 8, located in the northern sector of the site, was 50m in length and oriented east-west. The natural subsoil (802) consisting of an orange sandy clay was located at a depth of 0.40m BGL (60.39mAOD). The natural subsoil (802) was overlain by a 0.10m deep brown sandy clay ploughsoil (801) and a grey loam topsoil (800), 0.30m in depth. A wide shallow hollow (805), probably representing a former north-east/south-west watercourse was identified in the western half of the trench. The feature was 7m wide and 0.42m deep with a shallow concave profile deepening toward the centre. This feature is likely to correspond to a north-east/south-west geophysical anomaly running through the western half of the trench (marked in blue on fig. 2). The feature (805), which was 0.42m in depth, was filled with a brown-grey clay (804), a grey silty clay (803) containing pebbles and a few fragments of burnt stone and ploughsoil 801.

## **5.9 Trench 9 (Fig. 2)**

5.9.1 Trench 9, located in the central sector of the site, was 50m in length and oriented north-west/south-east. The natural subsoil (902) consisting of a brown sandy clay mixed with sandstone fragments and pebbles was located at a depth of 0.50m BGL (65.36mAOD). The natural subsoil (902) was overlain by a 0.21m deep brown sandy clay ploughsoil (901) and a grey loam topsoil (900), 0.29m in depth. A geophysical anomaly up to 10m wide with a meandering south-west/north-east

course through the site was identified during the geophysical survey (and is also visible on google earth aerial images). This anomaly was intersected by three of the evaluation trenches (Trenches 9, 14 and 15). In Trench 9 the palaeo-channel (903) consisted of a north-east/south-west 1m wide, 0.40m deep, feature filled with yellow sand.

### **5.10 Trench 10 (Fig. 2)**

5.10.1 Trench 10, located in the south-western corner of the site, was 20m in length and oriented north-west/south-east. The natural subsoil (1002) consisting of a brown sandy clay containing sandstone fragments was located at a depth of 0.39m BGL (69.08mAOD). The natural subsoil (1002) was overlain by a 0.10m deep brown sandy clay ploughsoil (1001) and a grey loam topsoil (1000), 0.29m in depth.

### **5.11 Trench 11 (Figs. 2 & 7; Plate 4)**

5.11.1 Trench 11, located in the southern area of the site was 50m in length and oriented north-south. The natural subsoil (1101) consisting of a brown sandy clay containing limestone fragments was located at a depth of 0.30m BGL (67.21mAOD). The natural subsoil (1101) was overlain by a 0.30m deep brown grey loam topsoil (1100). In the southern half of the trench was an ESE-WNW gully (1102). The gully was 1.90m wide, 0.18m deep and filled with brown sandy clay ploughsoil (1101). The gully (1102) corresponds to the alignment of three ESE-WNW geophysical features (marked in green on fig 2 – the central one corresponding to the line of a southern field boundary depicted on the 1<sup>st</sup> edition Ordnance Survey). A similar gully on this alignment was located to the west in Trench 19. A shallow 0.20m wide ESE-WNW (1103) feature, filled with ploughsoil (1101) was located 3m north of gully 1102.

### **5.12 Trench 12 (Fig. 2)**

5.12.1 Trench 12, located in the central area of the site, was 50m in length and oriented north-west/south-east. The natural subsoil (1202) consisting of a brown sandy clay containing sandstone fragments was located at a depth of 0.45m BGL (63.72mAOD). The natural subsoil (1202) was overlain by a 0.15m deep brown sandy clay ploughsoil (1201) and a grey loam topsoil (1200), 0.30m in depth.

### **5.13 Trench 13 (Fig. 2)**

5.13.1 Trench 13, located in the central area of the site, was 50m in length and oriented NNW/SSE. The natural subsoil (1302) consisting of a brown sandy clay containing sandstone fragments was located at a depth of 0.51m BGL (62.13mAOD). The natural subsoil (1302) was overlain by a 0.19m deep brown sandy clay ploughsoil (1301) and a grey loam topsoil (1300), 0.32m in depth.

### **5.14 Trench 14 (Fig. 2 and 8-9)**

5.14.1 Trench 14, located in the north-eastern sector of the site, was 50m in length and oriented north-south. The natural subsoil (1402) consisting of an orange sandy clay with limestone fragments was located at a depth of 0.45m BGL (58.89mAOD).

The natural subsoil (1402) was overlain by a 0.15m deep brown sandy clay ploughsoil (1401) and a grey loam topsoil (1400), 0.35m in depth. A west-east paleo-channel (1404) 10.4m in width was located in Trench 14, visible through the site as a broad meandering feature. The paleo-channel (1404) was 0.65m in depth and filled with grey sandy clay (1403).

### **5.15 Trench 15 (Figs. 2 and 10)**

5.15.1 Trench 15, located in the north-eastern sector of the site, was 50m in length and oriented NNW-SSE. The natural subsoil (1502) varying between orange and grey sandy clay was located at a depth of 0.35m BGL (58.06mAOD). The natural subsoil (1502) was overlain by a 0.06m deep brown sandy clay ploughsoil (1501) and a grey loam topsoil (1500), 0.29m in depth. A west-east paleo-channel (1503) 7m in width was located in the northern half of the trench.

### **5.16 Trench 16 (Fig. 2)**

5.16.1 Trench 16, located in the eastern sector of the site, was 50m in length and oriented ESE-WNW. The natural subsoil (1602) consisting of a yellow sandy clay mixed with degraded sandstone was located at a depth of 0.35m BGL (60.51mAOD). The natural subsoil (1602) was overlain by a 0.10m deep brown sandy clay ploughsoil (1601) and a grey loam topsoil (1600), 0.25m in depth.

### **5.17 Trench 17 (Fig. 2)**

5.17.1 Trench 17, located in the south-eastern area of the site, was 50m in length and oriented north-south. The natural subsoil (1702) consisting of a brown sandy clay mixed with degraded sandstone was located at a depth of 0.45m BGL (63.71mAOD). The natural subsoil (1702) was overlain by a 0.20m deep brown sandy clay ploughsoil (1701) and a grey loam topsoil (1700), 0.25m in depth.

### **5.18 Trench 18 (Fig. 2)**

5.18.1 Trench 18, located in the south-eastern corner of the site, was 50m in length and oriented north-east/south-west. The natural subsoil (1802) consisting of a brown sandy clay mixed with degraded sandstone was located at a depth of 0.35m BGL (62.51mAOD). The natural subsoil (1802) was overlain by a 0.10m deep brown sandy clay ploughsoil (1801) and a grey loam topsoil (1800), 0.25m in depth.

### **5.19 Trench 19 (Figs. 2 and 7; Plate 6)**

5.19.1 Trench 19, located in the southern area of the site, was 20m in length and oriented NNW-SSE. The natural subsoil (1902) consisting of a brown-orange sandy containing frequent pebbles and limestone fragments was located at a depth of 0.40m BGL (69.07mAOD). The natural subsoil (1902) was overlain by a 0.13m deep brown sandy clay ploughsoil (1901) and a grey loam topsoil (1900), 0.27m in depth. A shallow 1.20m wide ESE-WNW gully (1903) was located in the southern half of the trench. The gully (1903) had shallow concave sides and a flat base and was 0.13m in depth. The gully was filled with ploughsoil 1901 and represents a continuation of

gully 1102 from Trench 11 to the east.

## **6 DISCUSSION**

6.1 No significant archaeological features were located in the trenches, with no evidence for settlement activity being identified within the area of the site. The majority of the site is situated on locally low-lying ground. To the west and south the ground rises steeply to higher flatter ground, beyond the site boundary, which would have been more suited to settlement.

6.2 A number of natural features and former agricultural boundary features were located. A meandering paleo-channel running north-west to south east through the site, identified by geophysical survey (and visible on aerial images), was traced through Trenches 9, 14 and 15. A second paleo-channel was traced eastwards from Trench 1 through Trench 2. A wide shallow hollow, probably forming part of a former north-east/south-west watercourse was identified in Trench 8. A post-medieval east-west gully located in Trenches 1 and 2 represents a former northern field boundary depicted on the 1st edition Ordnance Survey. Shallow ESE-WNW gullies located in Trenches 11 and 19 relate to a former southern field boundary depicted on the 1st edition Ordnance Survey map.

6.3 In view of the absence of significant archaeological features no further work would be appropriate at the site.

## **7 BIBLIOGRAPHY**

BGS British Geological Survey, Geology of Britain viewer  
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html> accessed March 2019

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Chartered Institute for Archaeologists, 2014b, *Standards and Guidance for Archaeological Field Evaluation*

Phase Site Investigations, 2016 Archaeological Geophysical Survey of Land at Blackhall Colliery, County Durham

## APPENDIX 1: LIST OF CONTEXTS

Trench	Context	Depth	Description
1	100	0.25m	Topsoil
1	102		Natural subsoil
1	103	0.25m	Fill of gully
1	104	0.25m	Cut of gully
2	200	0.40m	Topsoil
2	201	0.05m	Ploughsoil
2	202		Natural subsoil
2	203		Gully
2	204	0.40m	Fill of 205
2	205	0.55m	Paleo-channel
2	206	0.15m	Fill of 205
3	300	0.34m	Topsoil
3	301		Natural subsoil
4	400	0.22m	Topsoil
4	401		Natural subsoil
5	500	0.45m	Topsoil
5	501	0.17m	Ploughsoil
5	502	.	Natural subsoil
6	600	0.35m	Topsoil
6	601	0.10m	Ploughsoil
6	602		Natural subsoil
7	700	0.32m	Topsoil
7	701	0.10m	Ploughsoil
7	702	-	Natural subsoil
7	703		Paleo-channel
8	800	0.30m	Topsoil
8	801	0.10m	Ploughsoil
8	802		Natural subsoil
8	803	0.19m	Fill of 805
8	804	0.23m	Fill of 805
8	805	0.42m	Hollow
9	900	0.29m	Topsoil
9	901	0.21m	Ploughsoil
9	902	-	Natural subsoil
9	903	0.40m	Paleo-channel
10	1000	0.29m	Topsoil
10	1001	0.10m	Ploughsoil
10	1002		Natural subsoil
11	1100	0.30m	Topsoil
11	1101		Natural subsoil
11	1102	0.15m	Cut feature
11	1103	0.18m	Gully
12	1200	0.30m	Topsoil
12	1201	0.15m	Ploughsoil
12	1202		Natural subsoil
13	1300	0.32m	Topsoil
13	1301	0.19m	Ploughsoil

13	1302		Natural subsoil
14	1400	0.35m	Topsoil
14	1401	0.19m	Ploughsoil
14	1402		Natural subsoil
14	1403	0.65m	Fill of paleo-channel
14	1404	0.65m	Paleo-channel
15	1500	0.29m	Topsoil
15	1501	0.06m	Ploughsoil
15	1502		Natural subsoil
15	1503		Paleo-channel
16	1600	0.25m	Topsoil
16	1601	0.10m	Ploughsoil
16	1602		Natural subsoil
17	1700	0.25m	Topsoil
17	1701	0.20m	Ploughsoil
17	1702		Natural subsoil
18	1800	0.25m	Topsoil
18	1801	0.10m	Ploughsoil
18	1802		Natural subsoil
19	1900	0.27m	Topsoil
19	1901	0.13m	Ploughsoil
19	1902		Natural subsoil
19	1903	0.13m	Gully

## **APPENDIX 2- WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EVALUATION OF LAND AT HESLEDEN ROAD, BLACKHALL COLLIERY, COUNTY DURHAM**

### **1 Introduction**

1.1 This written scheme of investigation represents a methods statement for undertaking an archaeological evaluation in advance of a proposed housing development on land at Hesleden Road, Blackhall Colliery, County Durham. The proposed development site consists of approximately 4 hectares of arable land (centred on NZ 4583 3899) to the south-west of Blackhall Colliery between the grounds of Hardwick Hall and the former mining village of Blackhall Rocks. To the north it is bounded by a narrow strip of woodland beside the B1281 road; to the east lies a block of allotment gardens; to the south and west lies more arable land.

1.2 A desk- based assessment (Brigantia 2016) and geophysical survey (Phase Site Investigations 2016) have been undertaken in advance of the proposed development.

1.3 Policy relating to the assessment and mitigation of impacts to the heritage resource within the planning system is set out in the National Planning Policy Framework. The Framework identifies that the planning system should perform an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment (NPPF 2018, para 8, page 5).

1.4 The Framework further clarifies that, in circumstances where heritage assets will be damaged or lost as a result of development. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible (NPPF 2018, para 199, page 56).

### **2 Archaeological and Historical Background**

2.1 A desk-based-assessment (Brigantia 2016) was produced for the proposed development site.

#### **2.2 Prehistoric Period**

2.2.1 The earliest activity in the area dates from the Mesolithic, and is exemplified by HER sites 8276 and HER 8277. These sites, represented by substantial quantities of worked flint, are probably the remains of camps or transient settlements. The coastal hinterland of the north-east of England has long been recognised as a significant focus of Mesolithic activity.

An L-shaped or partial rectilinear cropmark (HER 60969) identified as a cropmark on an aerial photograph lies immediately to the west of the site. It is likely to represent a late prehistoric or Romano-British settlement.

### 2.3 Roman Period

2.3.1 There is a very low level of material of Roman date in the area studied, though it is possible that the ditched enclosure noted above may have been occupied into the Romano-British period.

### 2.4 Early-medieval Period

2.4.1 Within the study area the early medieval period is represented by a solitary child inhumation (HER 526). No settlement remains have been found in the area but it is likely that at least some of the villages, including Hesleden and Hardwick, have early origins.

### 2.5 Medieval Period

2.5.1 Settlements of medieval period are known at Hesleden and Hardwick. Also there remains the possibility that Blackhall, first mentioned as an isolated farm at the end of the sixteenth century, had originated as a monastic grange, part of the Prior's estate of Hesleden.

### 2.6 Post-medieval Period

2.6.1 The coastal area of County Durham remained thinly populated until the turn of the twentieth century when the exploitation of the local Coal Measures led to very rapid development. Blackhall Colliery opened in 1913 with development mainly concentrated to the north of the proposed development site.

### 2.7 Geophysical Survey

2.7.1 A geophysical survey was undertaken by Phase Site Investigations. The background magnetism across the site was quite strongly variable due to the presence of significant magnetic material in the topsoil or sub-surface. It is probable that much of the disturbance is due to a spread of modern magnetic material, but localised geological and pedological variations within the site have also produced magnetic variations. The presence of the anomalies associated with ridge and furrow, modern ploughing activity and former field boundaries would generally suggest that the soil has a magnetic susceptibility across the majority of the site that is sufficiently high to produce measurable magnetic responses when enhanced. However the variable magnetic responses across the site caused by modern and geological activity mean that the results are less definite at this site. It is possible that responses relating to potential features are too subtle to isolate from general background noise, and given the intensive agricultural activity within the site, it is

also possible that features have been completely or partially removed from plough activity. There are numerous linear and curvi-linear trends present that are weak, diffuse or irregular. The majority of these will be related to natural features / variations but some trends are of less certain origin. There are several more regular trends which could also relate to natural features / variations but the regular nature of these responses means that an archaeological origin cannot be completely ruled out. There are numerous isolated positive responses across the dataset the majority of which are likely to be caused by geological / pedological variations or modern material.

### **3 Aims and Recommended Course of Action**

**3.1** The aim of the archaeological evaluation is to establish the presence or absence of significant archaeological features and/or deposits. Should significant deposits and/or features be located the aim of the evaluation is to determine the nature, extent, date and state of preservation of the deposits in order to inform potential subsequent stages of mitigation.

**3.2** ‘Shared Visions: The North-East Regional Research Framework for the Historic Environment’ by David Petts with Christopher Gerrard, 2006 notes the importance of research questions as a vital element of development-led archaeological work. It sets out key research priorities for all periods of the past allowing commercial contractors to demonstrate how their fieldwork relates to wider regional and national priorities for the study of archaeology and the historic environment. The aim of NERRF is to ensure that all fieldwork is carried out in a secure research context and that commercial contractors ensure that their investigations ask the right questions.

**3.3** Whilst there are no known archaeological features on the site, there is a growing awareness of the density of prehistoric settlement activity. In recent years development control-led archaeological investigation in the area has contributed significantly to our knowledge of the density of settlement and activity in this area during the prehistoric period (North East Regional Research Framework, Petts & Gerrard, 2006).

Recent excavations have begun to challenge established models of prehistoric settlement morphology. It is therefore important for any evidence of prehistoric settlement to be studied in order to establish more firm chronologies. Also needed is the study of site function and the social role of settlements in the landscape (NERRF Research Priority III).

**3.4** A trenching strategy has been defined consisting of 17 trenches (50m by 1.8m) and 1 trench (40m by 1.8m) equating to 1600 square metres representing a 4% sample of 4ha of the site. The trench plan is designed to investigate geophysical anomalies and give a representative sample of trenching across the site in case

there are archaeological features present that have not been detected by the survey.

3.5 During the course of the trenching it may become apparent that variation is required, dependent on the nature, extent and importance of archaeological remains uncovered. It also may become apparent during the course of the operation that some areas where trenches have been sited are inappropriate for potential archaeological activity (for instance lying entirely within the line of a furrow) or due to logistical or practical reasons. Trenches can only be moved with the approval of the County Archaeologist.

3.6 Contingency will be allowed for the excavation of up to an additional 1% of the site (above and beyond the 18 trenches indicated on the accompanying trench plan). The implementing of contingency would require approval by DCC Archaeology Section and the client.

#### **4 General Standards**

4.1 All work will be carried out to the standards set by the DCC Archaeology Section as detailed in <http://www.durham.gov.uk/media/22749/Standards-for-Archaeological-Work-in-County-Durham-and-Darlington/pdf/StandardsForArchaeologicalWorkInCountyDurhamAndDarlington.pdf>. All work will be carried out in compliance with the codes of practice of the Chartered Institute for Field Archaeologists CfIA (2014a) and will follow the CfIA (2014b) Standard and Guidance for Archaeological Field Evaluation. All work will be in compliance with the Regional Statement of Good Practice (Yorkshire, The Humber and the North-East 2009).

#### **5 Pre-Site Work Preparation**

5.1 All staff will familiarise themselves with the archaeological background of the site, and the results of any previous work in the area, prior to the start of work on site. All staff will be briefed in the work required under the specification and the project aims and methodologies.

5.2 An environmental sampling strategy in accordance with the previous advice of the Historic England Science Advisor (see 8 below) will be followed.

#### **6 Fieldwork**

6.1 Each evaluation trench will be accurately survey and related to the National Grid, using a Total Station Theodolite or GPS system, and located on a map of the area at an appropriate scale.

6.2 Topsoil and unstratified modern material will be removed mechanically by a back-acting machine using a wide toothless ditching blade. This machine stripping will be carried out under continuous archaeological supervision

6.3 The topsoil or recent overburden will be removed in successive level spits down to the first significant archaeological horizon or the natural subsoil, whichever is encountered first.

6.4 All faces of the trenches that require examination or recording will be cleaned sufficiently to establish the presence or absence of archaeological remains, particularly the top of the first significant archaeological horizon or the natural subsoil. All subsequent deposits will be hand-excavated.

6.5 In the event that small discrete archaeological features are revealed including but not limited to postholes and pits, during machining or subsequent cleaning of the trench, the trench will be expanded either side of the feature by a machine bucket width as standard. If further additional trench expansion is required this should be carried out following discussions with the County Archaeologist and the client.

6.6 The archaeology will be investigated sufficiently to establish its nature, extent and date, unless it is deemed of sufficient importance to require total preservation *in situ*. This will be achieved by excavation of the following samples of all exposed features.

- 50% of every discrete feature (e.g. pits, post-holes)
- 25% of the area of linear/curvilinear features (e.g. ditches, gullies) with a non-uniform fill
- 20% of the area of linear/curvilinear features (e.g. ditches, gullies) with a uniform fill, linear terminals will be excavated.
- 100% of feature intersections will be examined

6.7 Within the constraints of the site, the excavations will be maintained in a manner that allows quick and easy inspection without any requirement for additional cleaning.

6.8 Deposits will be assessed for their potential for providing environmental or dating evidence. Sampling will be in line with the strategy agreed with Historic England Science Advisor and the County Archaeologist.

6.9 In the event of human burials being discovered, they will be left *in situ*, covered and protected and the coroners' office will be informed. If removal is essential, work will comply with the relevant Ministry of Justice regulations.

6.10 Appropriate procedures under the relevant legislation will be followed in the event of the discovery of artefacts covered by the provisions of the Treasure Act 1996.

6.11 The drawn record from the site will include a representative selection of long sections from the excavations that clearly allow the nature and depth and any significant changes in the deposits recorded to be demonstrated. If there is any uncertainty, advice will be sought from the County Archaeologist as to which sections may be appropriate for inclusion within the site record.

6.12 During and after the excavation, all recovered artefacts will be stored in the appropriate materials and storage conditions to ensure minimal deterioration and loss of information (this will include controlled storage, correct packaging, and regular monitoring of conditions, immediate selection for conservation of vulnerable material. All finds work will be undertaken in line with the standards set out "A strategy for the Care and Investigation of Finds" (English Heritage 1995); "First Aid for Finds" (Wilkinson & Neal 2001); and "Packaging and Storage of Freshly Excavated Artefacts from Archaeological Sites" (UKIC 1993).

## **7 Archaeological Recording**

7.1 A full and proper record (written, graphic and photographic as appropriate) will be made for all work, using pro forma record sheets and text descriptions appropriate to the work. Accurate scale plans and section drawings will be drawn at 1:50, 1:20 and 1:10 scales as appropriate.

7.2 The stratigraphy of all trenches will be recorded even where no archaeological deposits have been identified.

7.3 All archaeological deposits and features, the current ground level and base of each trench will be recorded with an above ordnance datum (AOD) level.

7.4 A photographic record of all archaeological features will be taken, both in detail and in a wider context.

7.5 Where stratified deposits are encountered, a 'Harris' matrix will be compiled

## **8 Environmental Sampling and Scientific Dating Strategy**

8.1 This sampling strategy is intended to provide sufficient data to characterise the nature and informative potential of deposits and features identified during the works. Because this is the first stage of intrusive works and there is a possibility that a wide range of features may be encountered, this strategy is best set out as a series of principles.

These are:

- 30 litre samples will be taken from structural, occupational and industrial features, as well as pits and ditch fills. Other features should be sampled to help to characterise the deposits on the site. Priority should be given to processing samples from identifiable, dated features, or to those undated features which have potential for other forms of dating (e.g. radiocarbon dating).
- Bulk sample residues should be checked for the presence of industrial waste (e.g. slags, hammerscale) and small faunal remains (e.g. fishbones, small mammal/avian bones) as well as for plant material.
- The potential of buried soils and ditch fills to provide dated (using radiocarbon dating) pollen cores or Optically Stimulated Luminescence (OSL) dating of sediments should be considered, although this type of sampling will be undertaken in consultation with the Historic England's Regional Scientific Advisor.

8.2 In the event that hearths, kilns or ovens are identified, provision will be made to collect at least one archaeo-magnetic date to be calculated from each individual hearth surface (or in the case of domestic dwellings a minimum of one per building identified). Where applicable, samples to be collected from the site and processed by a suitably trained specialist for dating purposes.

8.3 The selection of suitable deposits for sampling will be confirmed at site meetings with the County Archaeologist. In principle palaeo-environmental samples will be taken from deposits which have clear stratigraphic relationships. Particular attention will be paid to the recovery of samples from any waterlogged samples that may be present.

## **9 Monitoring**

9.1 The County Archaeologist will be informed on the start date and timetable for the evaluation in advance of work commencing (ideally 2 weeks' notice but as a minimum 48 hours before commencement).

9.2 Reasonable access to the site will be afforded to the County Archaeologists or his/her nominee at all times, for the purposes of monitoring the archaeological evaluation.

9.3 Regular communication between the archaeological contractor, the County Archaeologist and other interested parties will be maintained to ensure the project aims and objectives are achieved.

9.4 If appropriate, specialists will be contacted and allowed access to the site to help inform any detailed study / information retrieval depending upon the nature of the archaeological features being revealed.

- Pottery and ceramic building material (Rob Young; Alex Croom; Paul Bidwell; Andy Sage)
- Bone (Louisa Gidney)
- Flint (Rob Young)
- Metal work (David Dungworth)
- Industrial debris (David Dungworth)
- Environmental micro and macro fossils (Charlotte O'Brien ASDU)
- Residue analysis (ASDU)
- Radio carbon dating (ASDU/SUERRC)
- Any other analysis identified as necessary during the fieldwork or post excavation work

## **10 Post Excavation Work, Archive, and Report Preparation**

### **10.1 Finds**

10.1.1 All finds processing, conservation work and storage of finds will be carried out in compliance with the CfA Guidelines for Finds Work (2014c) and those set by UKIC.

10.1.2 The deposition and disposal of artefacts will be agreed with the legal owner and recipient museum prior to the work taking place. Where the landowner decides to retain artefacts, adequate provision will be made for recording them. Details of land ownership will be provided by the developer.

10.1.3 All retained artefacts will be cleaned and packaged in accordance with the requirements of the recipient museum.

### **10.2 Site Archive**

10.2.1 The final location for the site archive is County Durham Archaeological Archives.

10.2.2 Archiving work will be carried out in compliance with the CIJA Guidelines for Archiving (2014d).

10.2.3 Before fieldwork, contact will be made with the landowners and with the appropriate local museum to make the relevant arrangements. Details of land ownership will be provided by the developer.

### **10.3 Report**

10.3.1 The HER requires one bound paper copy and one digital copy (in PDF/A compliant format) of the report.

10.3.2 The report will include the following as a minimum:

Each page and paragraph will be numbered within the report and illustrations cross referenced within the text.

The report will include the following as a minimum:

- OASIS reference numbers and an 8 figure grid reference
- The nature and extent of the proposed development and client information
- A location plan of the site at an appropriate scale of at least 1:10 000
- A location plan showing trench locations within the site. This will be at a recognisable planning scale, and located with reference to the national grid, to allow the results to be accurately plotted on the Historic Environment Record
- Plans and sections of main trench axes and excavated features located at a recognisable planning scale (1:10, 1:20, 1:50 or 1:100, as appropriate)
- Period based discussion of the known and potential archaeological sites within the proposed development area
- A summary statement of the results
- A table summarising the deposits, features, classes and numbers of artefacts encountered and spot dating of significant finds
- A description of the geology on the site
- Discussion of the physical impact of the proposed development on known and potential archaeological sites

10.3.4 Any variation to the above requirements will be approved by the planning authority prior to work being submitted

### **10.3.5 Post-Excavation Assessment Report**

10.3.6 Should a significant archaeological site be located a post-excavation assessment report will include all the information necessary to make decisions about the future direction of the project in line with Historic England's Guidelines on the Management of Research Projects in the Historic Environment (Historic England 2015). The report will be submitted to the Durham County Archaeologist for

comment and approval prior to any further analysis or publication work commencing.

10.3.7 This document will be submitted within six months of the end of fieldwork unless previously agreed with all relevant parties.

10.3.8 The archaeological contractor will submit an updated specification for full analysis and publication in line with Historic England's Management of Research Projects in the Historic Environment. An appropriate level of publication will then be agreed with Durham County Archaeologist and will be prepared in line with Historic England's Management of Research Projects in the Historic Environment. A short report of the work will be submitted to a local journal if appropriate.

#### **10.4 OASIS**

10.4.1 The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large scale developer funded fieldwork.

10.4.2 The archaeological contractor will therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. A pdf copy of the report will be uploaded to Oasis within 3 months of its production.

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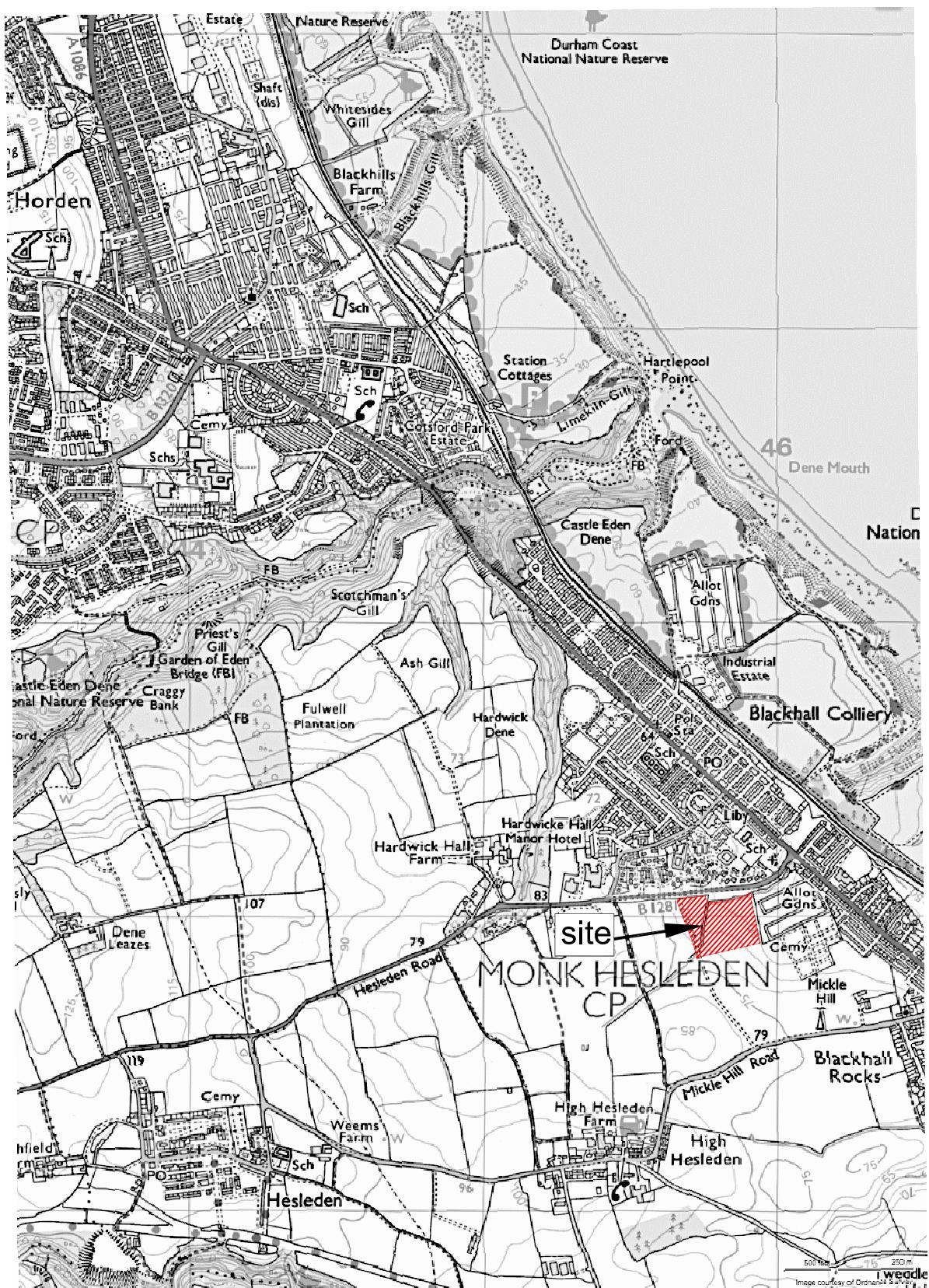
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0 1:20,000 at A4 1km

Figure 1: Location of site

ANOMALY TYPE	INTERPRETATION
AREA OF STRONG DIPOLAR / BIPOLAR RESPONSES (MAGNETIC DISTURBANCE)	SPREAD OF MODERN SURFACE / NEAR SURFACE FERROUS OR FIRED MATERIAL
BROAD, DIFFUSE LINEAR / CURVILINEAR TREND	PROBABLE NATURAL FEATURE / VARIATION
BROAD AREA OF POSITIVE / NEGATIVE RESPONSES	PROBABLE NATURAL FEATURE / VARIATION
APPROXIMATE ORIENTATION OF BROADLY PARALLEL POSITIVE LINEARS	AGRICULTURAL FEATURES, PROBABLE MODERN PLOUGHING REGIME
APPROXIMATE ORIENTATION OF BROADLY PARALLEL POSITIVE LINEARS RF / RFT	PROBABLE / POSSIBLE RIDGE AND FURROW BUT MAY BE RELATED TO LATER AGRICULTURAL REGIME
POSITIVE LINEAR / CURVILINEAR	AGRICULTURAL FEATURE, PROBABLE FORMER FIELD BOUNDARY

ANOMALY TYPE	INTERPRETATION
WEAK POSITIVE LINEAR	PROBABLE AGRICULTURAL FEATURE, POSSIBLY FIELD DRAIN OR RELATED TO FORMER FIELD BOUNDARY
LINER / CURVILINEAR TREND (BREAK OR DIFFUSE RESPONSE)	UNCERTAIN ORIGIN POSSIBLE SURFACE FEATURE / REMNANT OF FEATURE
ISOLATED POSITIVE RESPONSE	PROBABLE GEOLOGICAL / ECOLOGICAL VARIATION BUT COULD ALSO BE DEEPER BURIED FERROUS / FIRED MATERIAL OR INHUMED ISOLATED FEATURE
LINER / CURVILINEAR POSSIBLE RESPONSE	POSSIBLE INFILLED FEATURE BUT COULD ALSO BE A FIELD DRAIN, AGRICULTURAL, OR NATURAL IN ORIGIN
LINEAR POSITIVE RESPONSE	PROBABLE INFILLED FEATURE



Overlay of geophysical survey  
interpretative plan produced by  
PHASE Site Investigations 2016

Figure 2: Trench location plan showing interpretation plan of geophysical survey

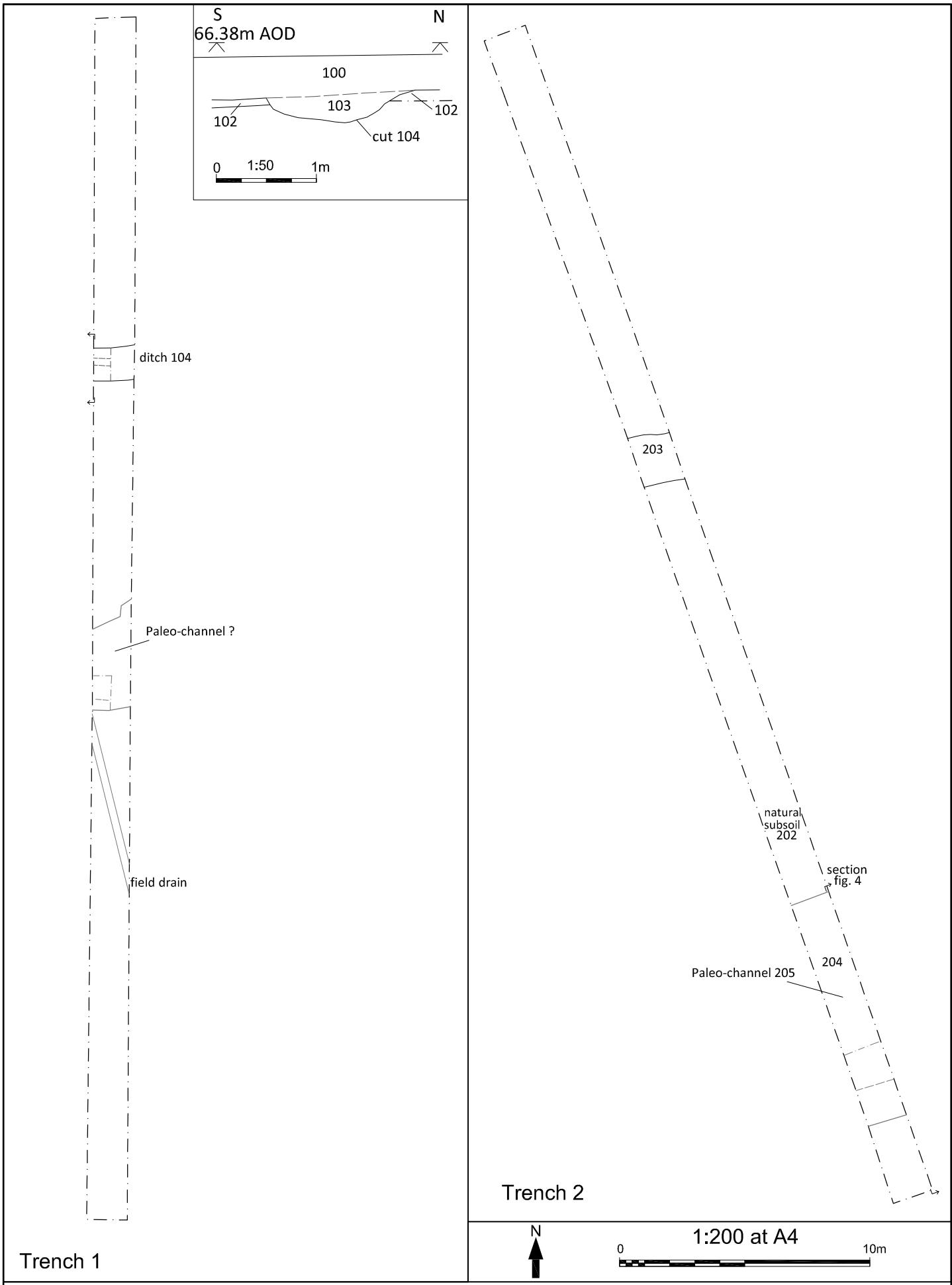


Figure 3: Plan of Trenches 1 & 2

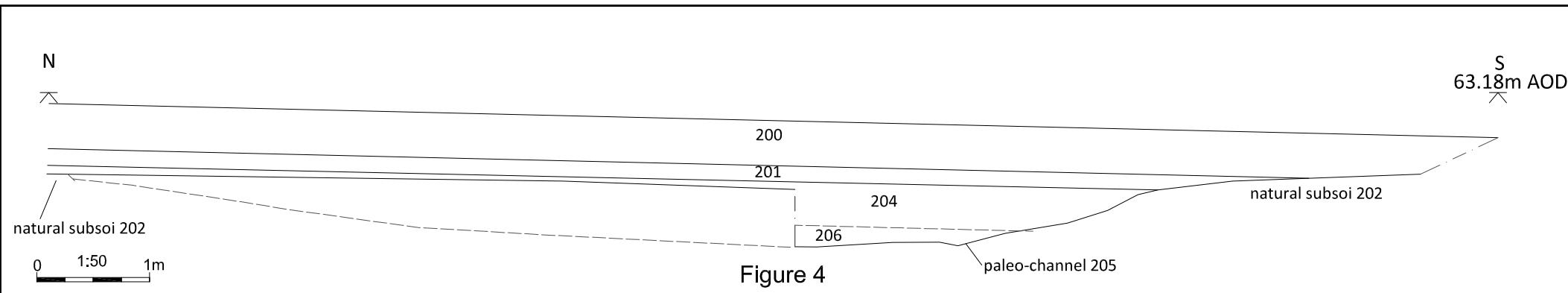


Figure 4

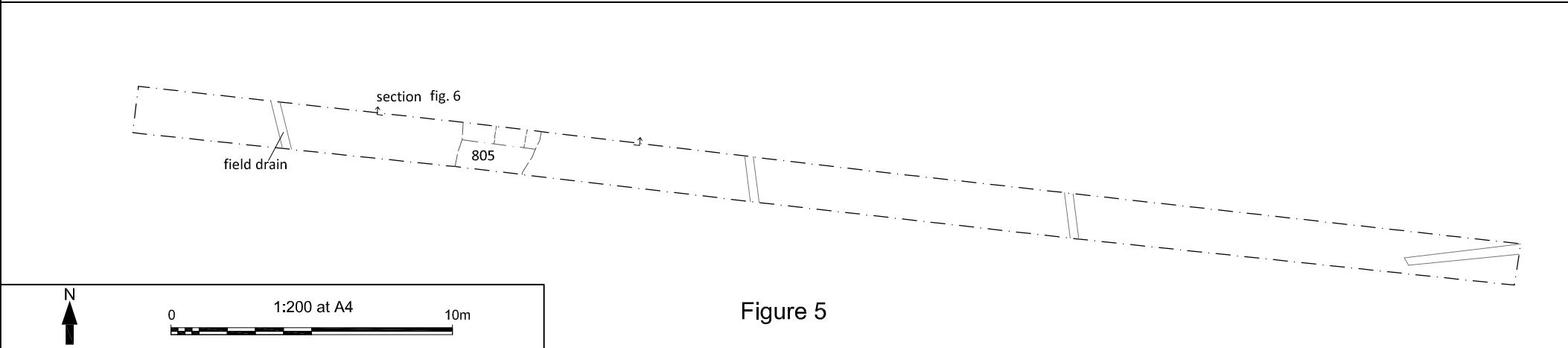


Figure 5

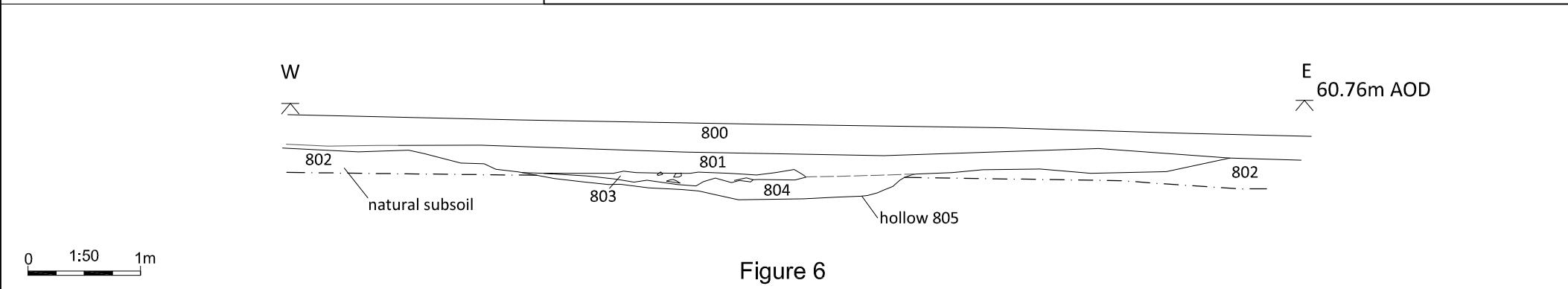
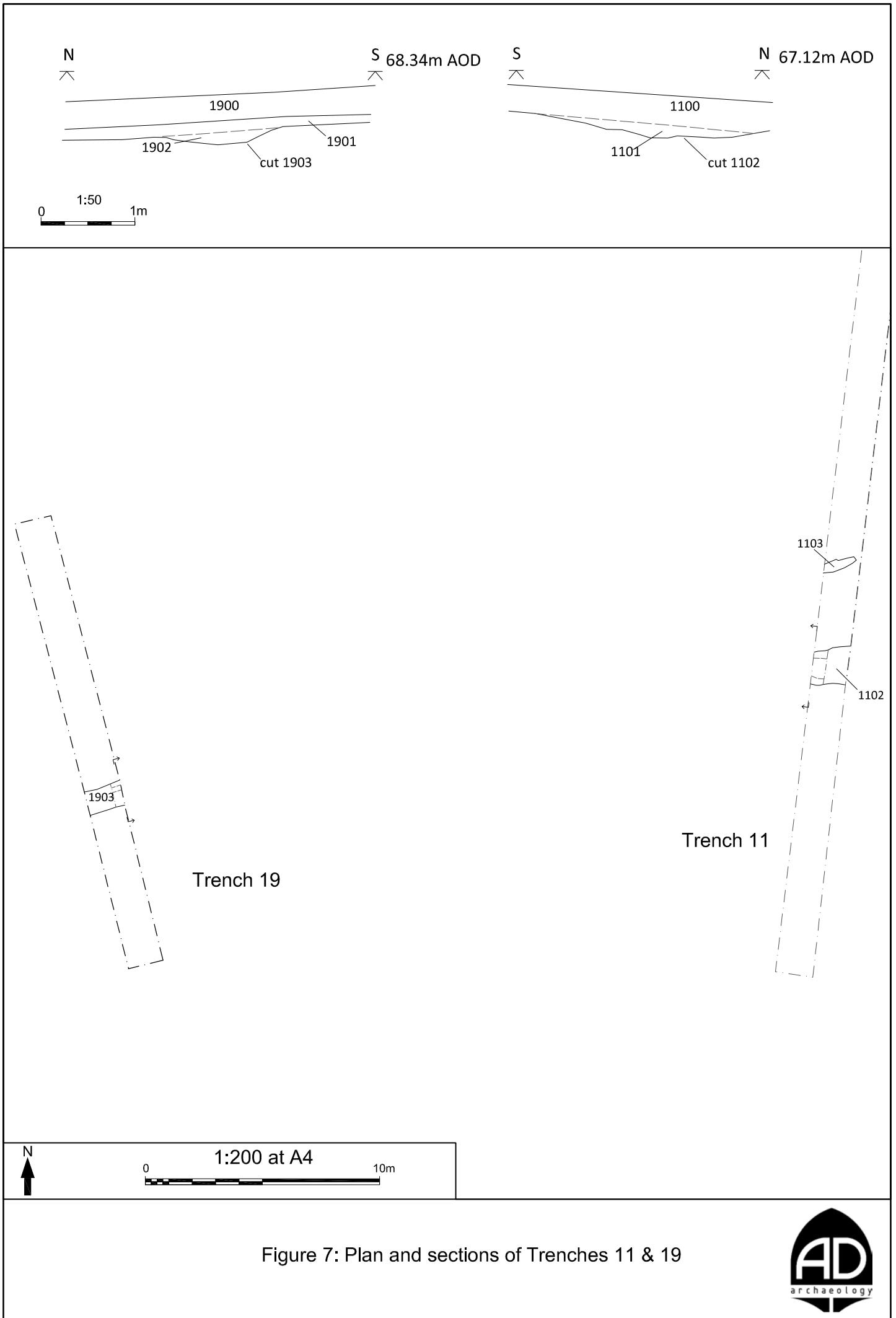


Figure 6

Figure 4: West facing section of paleo-channel in Trench 2  
 Figure 5: Plan of Trench 8  
 Figure 6: South facing section of hollow 805 within Trench 8



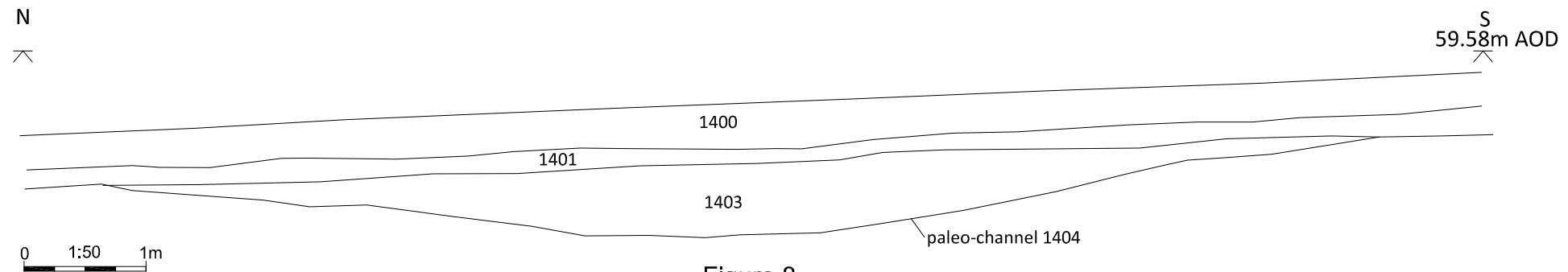


Figure 8

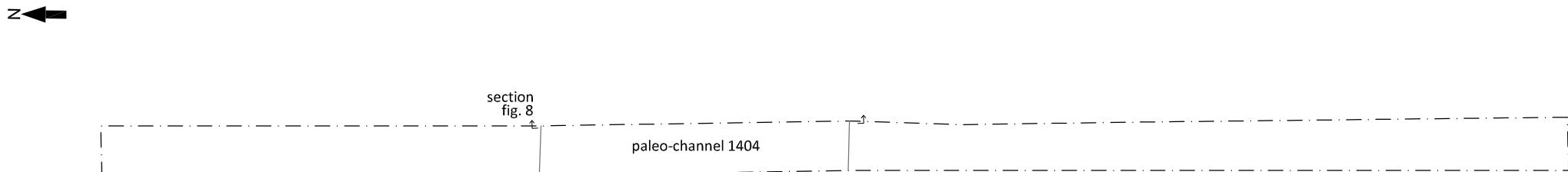


Figure 9

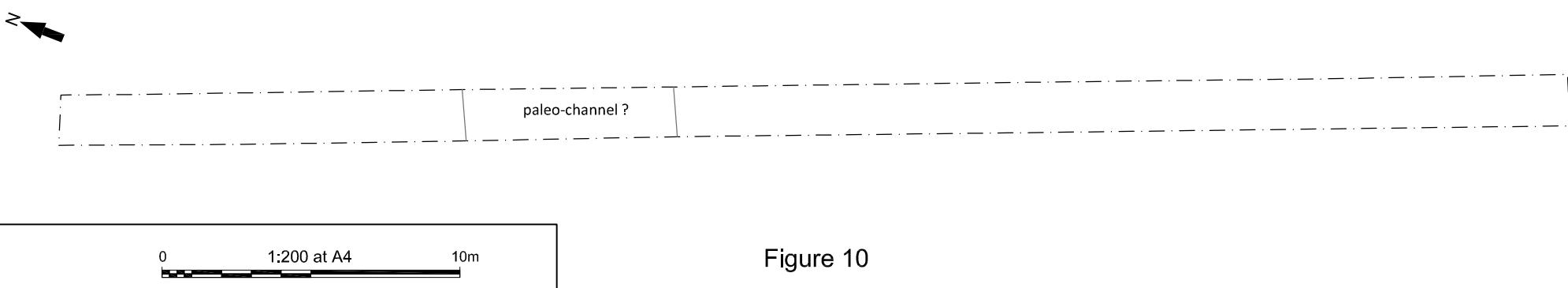


Figure 10

Figure 8: West facing section of paleo-channel in Trench 14  
 Figure 9: Plan of Trench 14  
 Figure 10: Plan of Trench 15

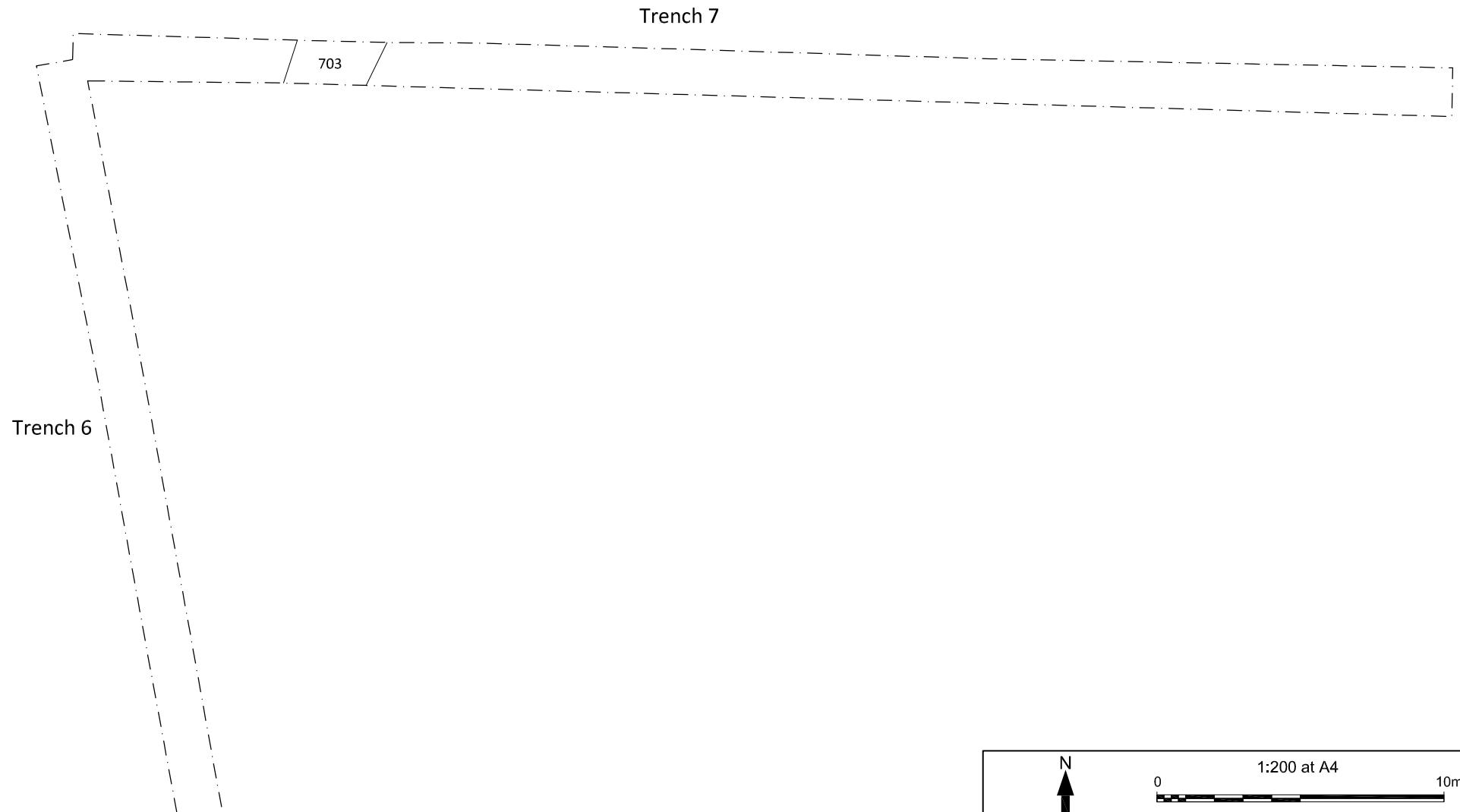


Figure 11: Plan of Trenches 6 and 7





Plate 1: Trench 1 Ditch 104 looking north-west



Plate 2: Trench 4 looking north



Plate 3 Trench 8 Hollow 805 looking north



Plate 4 Trench 11 Gully 1102 looking south-west



Plate 5 Trench 14 Paleo-channel 1404 looking south-west



Plate 6 Trench 19 Gully 1903 looking south-east