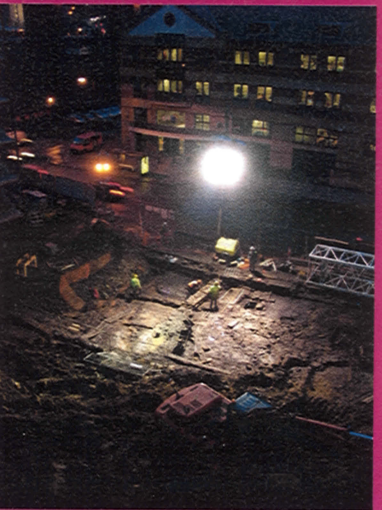


Event No: 13711  
SMR: ✓ GIS: ✓  
Parish: BV8



# Seghill Landfill, Northumberland and Tyne & Wear

## Archaeological Evaluation

**PROPOSED EXTENSION  
OF SEGHILL LANDFILL SITE,  
CRAMLINGTON,  
NORTHUMBERLAND AND BACKWORTH,  
TYNE AND WEAR.**

**Archaeological Evaluation**

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Report No. 589

Oasis No. tyneandw3-15412 (Tyne and Wear)  
tyneandw3-15438 (Northumberland)

Commissioned by:

SITA UK Limited

August 2006



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## EXECUTIVE SUMMARY

Client:	SITA UK Limited
TWM Project No.:	589
NGR:	NGR NZ 4300 5730
Planning Application No.:	05/00151/CCMEIA 05/02405/FUL; BV8/2; 4894
Site Code:	SHL06
Date of Fieldwork:	12/06/06 – 5/07/06

*An archaeological evaluation covering 64ha was conducted in response to a planning application by SITA UK Limited for the extension of the landfill at Seghill which included land within Northumberland and Tyne and Wear. A total of 105 trenches were excavated, 62 within Northumberland and 43 within Tyne and Wear representing 3% and 2.5% of each area respectively. The majority of evaluation trenches were devoid of archaeological features excluding ridge and furrow which was present throughout the site. Archaeological features were identified in 23 of the trenches investigated.*

*The site contained five main areas of archaeological interest. The southern portion of the site (area A) contained ditches associated with earlier field boundaries depicted on the 1865 first edition O.S. plan. The well-preserved building remains of a nineteenth colliery row were recorded along the proposed access route (area B). Trenches were excavated through the township boundary (area C) between Backworth and Holywell that unfortunately provided no dating evidence. Wolf Hill Farm (area D) which was first documented in the fourteenth century was investigated. No archaeological features were found associated with the medieval period although wall footings from the later farm were located and ditches and a slot or gully to the north of the farm were excavated which may predate the farm. Finally two ditches and a pit (area E) were identified in Northumberland which may date from the prehistoric period. Environmental analysis (appendix 5) from one of the fills of these features identified spelt or emmer wheat which is suggestive of an Iron Age or Romano-British date.*

*Further archaeological investigation is recommended in three main areas of archaeological sensitivity: Building remains at Havelock Place, trench 41; Building remains at Wolf Hill Farm including the area defined by features identified to the north of the farm; Possible prehistoric features in the northern portion of the Northumberland evaluation area, trenches 78, 83, 94.*

*A further stage of evaluation in the form of a fieldwalking programme is still required as part of the overall evaluation. The fieldwalking is to be undertaken prior to the excavation of any contingency trenches, the position of which have yet been agreed. These further archaeological investigations would be required prior to finalising a definitive set of recommendations concerning the site.*

## **1 INTRODUCTION**

### **1.1 The Project**

This report contains the results of an evaluation conducted by Tyne and Wear Museums in response to a planning application for the extension of a landfill site at Seghill. The evaluation consisted of the excavation of a 105 trial trenches across the proposed development area. This investigation is required to inform the planning authority of the character of archaeological deposits on the proposed development area.

A detailed summary of the potential of the site was provided by a recent archaeological desk-based assessment undertaken by the Archaeological Practice Ltd (Arch. Prac. 2005). This document formed the basis of Section 15 ('Archaeology and Heritage') of the applicant's Environmental Statement. Northumberland County Council (NCC) Conservation Team and Tyne and Wear Historic Environment Section have advised their respective County Development Control Teams that the archaeological potential of the site should be further investigated prior to the determination of this planning application. It was agreed that a geophysical survey should be followed by a programme of fieldwalking and trial trenching.

A geophysical survey has been completed across the proposed development area (Archaeological Services University of Durham report 1414). The survey identified a number of potential archaeological features which together with aerial photographic evidence were investigated during this evaluation. It has been necessary to conduct the archaeological trial trenching prior to a programme of fieldwalking which will be undertaken as a separate exercise due to the presence of crops throughout the development area.

### **1.2 Location and Land Use**

The development area consisted of 64ha of farmland which lies across the boundary of Tyne and Wear and Northumberland (figs. 1, 2). The site is situated between the villages of Backworth, North Tyneside and Seaton Delaval, Northumberland (centred on NGR NZ 300 730). The site consisted predominantly of fields under crop, farmed by West Field farm which lies within the northern end of the development area.

## **2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

There is an increasing body of evidence showing an intensive level of occupation in the area during the Iron-Age and Romano-British periods. A large number of settlement enclosures are known from aerial photographs including a site south of Backworth and two to the east of Holywell Grange (Arch. Prac. 2005). Bee-hive shaped querns of late Iron-Age or Romano-British date were found on the site of the present landfill site during ploughing,



and are strongly indicative of late prehistoric settlement in the immediate vicinity.

The site lies on the boundaries of two medieval townships, Backworth and Holywell which were first documented in the twelfth century. The boundary between these two townships appears to be marked by a surviving field boundary defined by an earth-bank and ditch as it passes through the application area (Arch. Prac. 2005). The site of a former farm known as Wolf Hill last recorded on the first edition Ordnance Survey plan of 1865, lies within the centre of the development area. A site known as Wolf Law was recorded in the fourteenth century suggesting a long continuity of settlement within the locality of the farm which is particularly important, as few medieval rural settlements have been archaeologically investigated in detail within this region, and it has particular potential to inform study of the development of settlement and agriculture into the post-medieval period.

The agricultural landscape of the site seems to have been particularly influenced by the trends towards improvement and enclosure during the late-eighteenth and early-nineteenth centuries. Although the site is rural in character mining activity is known to have taken place in the vicinity from at least the eighteenth century. The West Cramlington Waggonway was constructed in 1822/3 immediately west of the area of archaeological investigation alongside which the nearest workings were situated in 1856 when Backworth 'C' pit was sunk. Havelock Place was constructed around the same time to house the miners. The site of the Havelock Place which was demolished c.1938 lies across the route of the proposed access road in the north-western portion of the site.

### **3 AIMS AND OBJECTIVES**

The aim of this evaluation was to determine whether significant archaeological deposits survived within the area of the proposed development. It also sought to provide information on the nature, quality, depth and degree of preservation of any such remains. This information is required to allow an informed decision upon the necessity or not of further archaeological investigation prior to the commencement of the proposed works.

## **4 METHODOLOGY**

### **4.1 General Methodology**

The evaluation was carried out in compliance with all the relevant codes of practice by suitably qualified and experienced staff. The project design approved by Northumberland County Council (NCC) Conservation Team and Tyne and Wear Historic Environment Section stipulated that the trenches be excavated by machine down to the first significant archaeological horizon and

be thereafter hand excavated to the depth of natural subsoil, except where archaeological deposits warrant preservation in-situ.

A total number of 105 trenches were excavated within the development area which measured a total area of 64ha. Because the site lay across the boundaries of both Tyne and Wear and Northumberland regional authorities separate agreement had to be made regarding strategies with each authority. It was agreed within Tyne and Wear that a 1.5% sample of the total area (33ha) be assessed by archaeological trial trenching, 43 trenches. An archaeological evaluation sample comprising of 2% of the area (31ha) was agreed within the Northumberland area, 62 trenches. The trenches were placed following four criteria in relation to their positioning:

- investigate geophysical anomalies
- investigate cropmarks visible on aerial photography (AP)
- investigate known features from cartographic evidence
- remaining trenches were placed to provide an adequate coverage of the development area.

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

The evaluation was conducted in accordance with the methodology contained within the project design approved by Northumberland County Council (NCC) Conservation Team and Tyne and Wear Historic Environment Section (appendix 6).

### **5 RESULTS OF THE EVALUATION**

The results of 23 trenches which contained archaeological features are discussed below excluding those that solely contained the remains of ridge and furrow. The details of the ridge and furrow which was encountered within 60 of the trenches is contained within section 5.6. Further information is listed for every trench within Appendix 1 (Trench Summary) including the 32 trenches that contained no archaeological features. The dimensions of individual features are listed within Appendix 2 (Feature List).

For the purposes of this report and ease of reference the trenches containing archaeological features have been grouped into five specific areas (A – E) listed below.

- Area A: Trenches associated with post-medieval boundaries within field 12 (Tr.3, 5, 10, 11, 14,) (Tyne and Wear).
- Area B: Trench 41 excavation of the building remains of Havelock Place (Tyne and Wear).
- Area C: Trenches placed to investigate the township boundary (Tr.8, 13, 17) (Tyne and Wear).

Area D: Trenches within the vicinity of the site of Wolf Hill Farm (Tr.18, 19, 20, 44, 45) (Tyne and Wear and Northumberland).

Area E: Trenches mainly within the northern portion of Northumberland area. (Tr. 56, 62, 63, 78, 79, 83, 84, 94) (Northumberland).

## 5.1 AREA A

A series of geophysical anomalies coincided with field boundaries and a trackway depicted on the first edition OS 1865 plan (fig. 5). Trenches 3, 5, 10 and 14 investigated a field boundary and trackway and trench 11 investigated a geophysical anomaly associated with another field boundary. Truncation by ploughing had been particularly severe in this portion of the site, with the track completely absent and only ditches surviving.

### 5.1.1 Trench 3 (Fig 7, 32a)

Two features (**104**, **105**) associated with post-medieval enclosure period boundaries depicted on the first edition OS 1865 plan (fig. 5) were recorded within the trench. A ditch (**104**) orientated north-south was recorded at the western end of the trench which was filled with dark brown, humic loam (**356**). A small gully (**105**) orientated east-west was recorded in the eastern end of the trench (fig. 32 a). A fragment of post-medieval pan-tile was recovered from the fill (**357**) of the feature.

### 5.1.2 Trench 5 (fig. 8, 32b, plate 1)

A boundary ditch (**110**, **111**) orientated north-south and two unusually wide furrows (**339**, **341**) were recorded within the trench. There was no evidence of a trackway associated with the ditch.

A recut was visible in both plan and the profile of the ditch (**110**). The gently sloping western side of the original ditch (**110**) had survived later truncation and was filled by dark brown clayey silt (**337**). The east side of the ditch was truncated by the later recut (**111**) which contained a thin layer of primary silting (**336**) overlain by dark brown, humic silty loam (**335**). Two large furrows (**341**), (**339**) were recorded on the west side of the ditches. Three smaller, heavily truncated furrows (**109**) were recorded east of the boundary ditch.

### 5.1.3 Trench 10 (fig. 9, 32c)

The trench contained a boundary ditch (**124**, **126**) which was traced within trenches 3 and 5 and as with the other trenches there was no evidence of a trackway associated with the ditch.



The ditch was similar in profile to the excavated segment within trench 5. The western side of the original ditch (124) had survived and was filled by brown clayey silt (125). The east side of the ditch was truncated by a later recut (126) which was filled by dark brown, humic silty loam (127). One furrow survived on either side of the ditch.

#### 5.1.4 Trench 11 (fig. 10, 32d)

The trench was positioned to investigate a geophysical anomaly which represented a field boundary depicted on the first edition OS 1865 map (fig. 5). A ditch (122) orientated northeast-southwest was recorded along the mid-portion of the trench. The ditch cut through an earlier furrow also orientated approximately northeast-southwest. The ditch was filled with dark brown, humic loam (121).

#### 5.1.5 Trench 14 (fig. 11, 32e)

Trench 14 contained a boundary ditch (124, 126) which represented a continuation of the post-medieval boundary recorded within trenches 3, 5 & 10. There was no evidence of a trackway associated with the ditch.

The southern half of the trench contained a natural hollow which contained dark grey sand. Three furrows were recorded orientated northeast-southwest across the trench. One furrow was recorded at the southern end of the trench and the remaining two at the northern end. The profile of the ditch was similar to the other segments excavated through the ditch (128). The northern side of the original ditch (128) was filled by brown sandy clay (129). The southeastern side of the ditch was truncated by a later recut (131) which was filled by dark brown, humic silty loam (132) that contained a large ceramic field drain.

## 5.2 AREA B

### 5.2.1 Trench 41 (figs. 12, 13 Plate 2)

The trench was excavated either side of a tarmac track which had originally serviced Backworth Colliery (c pit) and Havelock Place a nineteenth century terrace row of houses which fronted onto the road. The demolished remains of Havelock Place were encountered at a minimum depth of 0.25m below the topsoil (300). After demolition the remains had been landscaped to form a bank which had removed all surface trace of the buildings. The trench was cut across the dividing wall (315) between two houses to the north and south which had been constructed using lime-mortared coursed sandstone rubble. The rear (southwest) wall (310) of the building survived to a height of over 1.10m whereas the front garden wall (306) only survived at foundation level.

The interior of the building was filled with demolition material (305) which lay directly on top of the surviving floor surfaces. The earliest deposit encountered was a compact layer of coal through which the garden wall (306) and front

wall of the house (308) were constructed. The coal layer extended northeast beyond the existing tarmac track and within the east portion of the trench. From the limited area investigated it was clear that the houses were arranged with two rooms on the ground floor with a fireplace (317, 318) in the rear room (southwestern end) of both houses which would have originally contained a range. The floors consisted predominantly of concrete (309) although a flagged floor (316) which probably represented an original floor surface, survived in the front room (northeastern end) of the northern house. The room with the flagged floor also contained a white ceramic pipe probably indicating the position of a former sink. At the rear of the building there survived a large sandstone block (311) possibly used as a step in the rear yard which had been infilled in with dumps of ash waste (304, 302, 301) used for levelling.

### 5.3 AREA C

The trenches were positioned to investigate a representative sample of the field boundary which followed the township boundary between Backworth and Holywell. The boundary consisted in most places of a distinctive earth bank surmounted by a mature hawthorn hedge with an open ditch on its eastern or western side. No evidence was recovered to establish the date of the boundary.

#### 5.3.1 Trench 8 (fig. 14, 15)

In this location the boundary was situated upon a ridge of a locally pronounced scarp (143). The earth bank did not survive as an earthwork along the scarp and was only marked by a small silted up ditch (144). The fill (145) of the ditch contained nineteenth century pottery and glass and was overlain by an accumulation of silty sand (141) probably derived from later plough action. At the base of the scarp, southwest of the boundary there was a large open drainage ditch (146) which was first depicted on the second edition OS 1887 plan.

#### 5.3.2 Trench 13 (fig. 16, 17)

The boundary at this location consisted of an earth bank surmounted by a mature hawthorn hedge with a large open ditch on its western side. No dating evidence was recovered from the boundary.

The field boundary was located at the eastern end of the trench. The earth bank (148) was composed of orangey brown silty sand and measured 3.40m in width by 0.72m in height. The western side of the bank was cut by a large open ditch (150) which measured 3.65m in width by 1.40m in depth. The features were sealed by a layer of topsoil (358) that measured a maximum depth of 0.80m against the eastern side of the boundary bank.

### 5.3.3 Trench 17 (fig. 18, 19 plate 3)

The boundary at this location consisted of an earth bank surmounted by a mature hawthorn hedge with a partially silted ditch on its eastern side. No dating evidence was recovered from the boundary.

The earth bank (136) was composed of orangey brown silty sand and measured 3.10m in width by 0.60m in height. Pollen analysis of deposit (136) identified heather which may have originated from a nearby heath or from activities such as thatching; the range of species present indicated the presence of pastoral farming in the area. A layer of silty clay poughsoil (137) survived on the eastern side of the bank buried beneath modern topsoil (135). The eastern side of the bank was cut by a ditch (138) which also cut the buried poughsoil (137). The ditch was partially filled by primary silt (139) overlain by topsoil (135).

## 5.4 AREA D

A number of trenches were positioned to investigate the former site of Wolf Hill Farm with the aim of establishing the date of the farm and assess whether medieval remains were present, suggested by fourteenth century documentary sources. Walls associated with the farm depicted on the first edition OS 1865 map (fig. 6) were located although no dating evidence was found associated with the remains. The area also extended (trench 44, 45) to the north of Wolf Hill Farm where archaeological features were found which may relate to earlier occupation of the site.

### 5.4.1 Trench 18 (fig. 6, 20, 32f)

The trench was positioned to investigate a well depicted on the first edition OS 1865 map (fig. 6) together with a linear geophysical anomaly and a possible rectilinear enclosure visible on an aerial photograph. The trench lay in the southwestern end of a small field which was formerly occupied by Wolf Hill Farm (section 2). The only feature recorded in the trench was a small boundary ditch (152) which corresponded with the geophysical anomaly and aerial photograph. The small, east-west orientated ditch (152) was recorded in the mid-portion of the trench. The feature was filled with brown sandy silt (153) from which 3 sherds of seventeenth/ eighteenth century pottery were recovered.

### 5.4.2 Trench 19 (fig. 6, 21, 32g)

The trench was positioned to investigate the site of Wolf Hill Farm and a geophysical anomaly which proved upon excavation to be caused by a variation in the natural subsoil. Two small boundary ditches (185, 190) were recorded in the northern portion of the trench. A small ditch (185) was orientated north-south across the trench from which another small ditch (190) ran westwards towards the ditch within trench 18. Both ditches were filled by

brown silty sand (184) from which 3 sherds of nineteenth century pottery were recovered.

#### 5.4.3 Trench 20 (fig. 6, 21, plate 4)

The trench was positioned to investigate the site of the south range of buildings at Wolf Hill Farm depicted on the first edition OS plan of 1865. Two wall foundations (165, 169) were recorded representing the east and west wall of a building.

Only a single course of footings survived from the walls recorded at a minimum depth of 0.25m below the current ground level, 40.66m AOD. The east (165) and west wall (169) both measured 0.85m in width and were constructed from unmortared, flat sandstone rubble. The walls were spaced 20.60m apart and would have formed a large building depicted on the first edition OS plan. The only contemporary ground surface associated with the walls lay against the western (exterior) side of the west wall where a small portion of compacted metalled surface (170) survived. On the eastern side of this wall there was a band of small sandstone fragments (181) which was probably associated with the construction of the wall. No dating evidence was recovered from the deposits associated with the wall

The small ditch (185) recorded within trench 19 extended through the trench in a north-south direction. A small spread of ash and slag (171) lay within the interior portion of the building. There was also a line of postholes, (173, 175, 178, 180, 187) orientated east – west across the former farm building. Nineteenth century artefacts were recovered from the postholes which probably represented a later fence line erected after the demolition of the farm buildings.

#### 5.4.4 Trench 21 (fig. 6, 22, 32h-i)

The trench was positioned to investigate the site of the north range of buildings at Wolf Hill Farm depicted on the first edition OS plan of 1865. There was no evidence of the south wall of the building range although a large post pit (193) may represent the remains of a large internal supporting post.

The large post pit (193) was filled by silt and a high proportion of charcoal (194, 195) from which nineteenth century pottery was recovered. South of the pit there was a north-south spread of angular sandstone fragments (197) which contained fragments of pan-tile and glass and continued beyond the western section of the trench.

#### 5.4.5 Trench 44 (fig. 23, 32j-k)

The trench was positioned to investigate a well depicted on the first edition OS 1865 map (fig. 5). There was no evidence related to the well although two features (290, 292) were recorded from which no dating evidence was recovered.

A shallow gully or slot **(292)** was recorded orientated approximately east - west continuing under the northern side of the trench with its western end forming a distinctive terminal. The feature was filled with dark brown sandy silt **(293)**. A plant macrofossil analysis of the fill identified charred heather which may have originated from a nearby heath or from use in thatching.

The western side of a shallow ditch **(290)** was recorded at the east end of the trench. The feature was only partially visible within the trench and appeared to be turning from a north - south alignment towards the northwest. The ditch was overlain by a thick accumulation of greyish brown sandy silt **(291)**.

### 5.5.3 Trench 45 (fig. 5, 24, 25, plate 5)

The trench was positioned to investigate a linear geophysical anomaly. A sequence of ditches **(277, 279, 282, 284)**, were recorded within the trench, two of these ditches **(282, 284)** represent an earlier pre-enclosure boundary or trackside ditches.

Two ditches **(282, 284)** were recorded a distance of 2.80m apart orientated east - west which were both filled by grey silty sand **(281, 283)**. Pollen analysis of deposit **(283)** identified heather which may have originated from a nearby heath or from use in thatching; it was also tentatively suggested that the range of species indicated pastoral farming. The space between the ditches was overlain by a spread of crushed coal **(285)** which was probably natural in origin rather than a surface for a track. The silted ditches were overlain by an extensive layer of silty sand **(280)**. The northern edge of the later silting layer **(280)** was cut by a ditch **(279)** which was aligned with the position of the former field boundary shown on the first edition OS 1865 map. In profile it was evident that the ditch had been recut **(277)** and at a later date a field drain was inserted into the silted up ditch.

## 5.5 AREA E

The features were dispersed throughout the Northumberland sector. Three trenches (Tr. 78, 83, 94) in the northern portion of the development area contained features which are potentially of prehistoric date. Analysis of the fill of a gully in trench 94 noted the presence of early wheat which in the absence of other dating evidence provided the first tentative evidence of a possible Iron Age or Romano-British date. Elsewhere the trenches contained features of post medieval date and features of possible natural origin.

### 5.5.1 Trench 56

The trench contained a posthole **(199)** which was filled by reddish burnt material and charcoal **(201)** from which a fragment of nineteenth/ twentieth century glass was recovered.

### 5.5.1 Trench 62 (fig. 26)

Trenches 62 and 63 both contained features that contained a pale sandy fill which resembled natural subsoil. Midway along trench 62 there was a small linear feature (265) which was filled by pale grey sand (264). An environmental analysis of the fill could not identify charred plant remains which further suggest that the feature is natural in origin.

### 5.5.2 Trench 63 (fig. 26)

Trenches 63 contained a sub-rectangular feature (353) which was filled with pale grey sand (266) similar to the fill of the feature within trench 62. An environmental analysis of the fill could not identify charred plant remains which supports the interpretation that the feature is natural in origin.

### 5.5.4 Trench 78 (fig. 27, 3L, plate 6)

The earliest feature recorded within the trench was a sub-circular pit (222) which was filled by a deposit (223) which contained burnt daub and charcoal. An environmental analysis of the fill proved unproductive. Two pieces of worked flint were recovered 6m west of the feature, lying upon the natural subsoil (217). A furrow (215) was recorded at the west end of the trench. The furrow was orientated northwest-southeast differing from the usual north-south orientated furrows encountered elsewhere within the field (see trench 79).

### 5.5.5 Trench 79 (fig. 28, 32m)

The trench contained a backfilled ditch (211) orientated northwest-southeast on the same axis as the furrow (215) encountered within trench 78. Both features may relate to a pre-enclosure period agricultural system. The ditch had been backfilled with a mix of brown silty sand and redeposited silty clay (212) from which fragments of nineteenth century pottery, clay pipe and a corroded post-medieval coin were recovered.

### 5.5.5 Trench 83 (fig. 29, plate 7)

A small portion of an archaeological feature (234) was initially recorded in the northwest corner of the trench. It was subsequently agreed to extend the trench westwards to ascertain the extent of the feature. The feature extended 2.00m in width and was orientated northeast-southwest; a different orientation to the ridge and furrow system encountered within the field. The southern portion of the feature contained large sandstone fragments (359) which appeared to be deliberately packing the feature. Elsewhere the feature was filled with dark brown clayey silt (235) with frequent flecks of charcoal. A sample of the fill was sent for analysis which found charcoal, charred barley grain which may indicate the presence of domestic waste within the fill. No dating evidence was recovered from the feature.

### 5.5.6 Trench 84 (fig. 30, 32n)

The trench contained a ditch (363) orientated north-south in the eastern end half of the trench. The ditch was filled by mid-brown sandy silt different in character to the fill of ditch (234) within trench 83. In both appearance and texture the fill was similar to the ploughsoil associated with the furrows.

### 5.5.7 Trench 94 (fig. 31, 32p, plate 8 )

The east end of the trench contained two features (204, 209) of an indeterminate date. A small ditch/ gully (204) orientated northeast-southwest was filled with compact dark grey silty clay (203). Within the fill there was a boulder 300 by 200 by 250mm in size with smaller sandstone fragments lying along the base of the feature. An analysis was made of the fill which found charcoal, charred wheat grain and burnt bone which may indicate the presence of domestic waste within the fill. Although no dating evidence was recovered from the feature the plant macrofossil analysis identified the grain as emmer or spelt wheat indicative of a possible Iron Age or Romano-British date. A spread of sandstone fragments (208) was situated 3.70m west of the gully lying within a slight irregular hollow (209). The stones measured a maximum size of 300 by 300 by 70mm in size and appeared to form no discernable arrangement. The stones were sealed by a deposit (207) of grey clay similar in composition to the fill of the gully. The features were sealed by a layer of topsoil (205).

## 5.6 SUMMARY OF RIDGE AND FURROW FIELD SYSTEMS

Ridge and furrow occurred throughout the site and was mostly heavily truncated by later ploughing and not identifiable as an earthwork. The ridge and furrow was predominantly orientated north-south across the site, filled by mid-brown, sandy silt or silty sand. Area A provided an opportunity to assess the stratigraphic relationship with the ridge and furrow and eighteenth/nineteenth century boundaries. Within trench 11 a small east-west ridge and furrow field-system predated an enclosure boundary (122) and appeared to also extend beyond the projected line of the main boundary (124, 126) in trench 14. There was also evidence of an earlier system within trenches 78 and 79 where a boundary (211) and furrow (215) are orientated on a southeastern axis. The wavelength varied between 5m -10m with a bias towards the 5m -7m range.

The table below contains a summary of the ridge and furrow field systems encountered throughout the site:

- Wavelength refers to the average distance between the mid-points of two associated furrows.
- The Field number refers to the assignments given to fields during the geophysical survey which was successful in recording the ridge and furrow systems.

Trench	Field	Context	Quantity	Wavelength	width	depth	Orientation
2	12	102	4	5.70m	2.5m	0.32m	N. – S.
4	12	107	7	4.00m	3.00m	0.23m	N. – S.
5	12	109	5	8.00m	4.70m	0.19m	N. – S.
9	12	115	6	6.00m	2.90	0.16m	N. – S.
10	12	118	2	-	2.00m	0.12m	N. – S.
11	12	119	1	-	4.30m	0.15m	N. – S.
12	12	120	7	3.50m	1.80m	0.12m	E. – W.
14	12	123	3	10.00m	2.00m	0.15m	E. – W.
15	12	134	4	8.00m	1.90m	0.10m	E. – W.
25	6	158	1	-	1.50m	0.05m	N. – S.
26	6	159	2	4.00m	2.00m	0.12m	N. – S.
27	5	262	5	7.90m	1.10m	0.20m	N. – S.
29	5	343	3	10.00m	1.55m	0.14m	N. – S.
30	5	267	3	6.70m	1.00m	0.08m	N. – S.
31	5	344	2	-	1.08m	0.11m	N. – S.
32	4	346	3	5.00m	2.60m	0.08m	N. – S.
38	7	164	1	-	1.25m	0.10m	E. – W.
39	2	269	8	5.00m	2.10m	0.12m	N. – S.
40	2	270	3	7.00m		0.13m	N. – S.
41	-	325	5	3.50m	1.80m	0.11m	N. – S.
42	-	330	8	4.00m	2.60m	0.18m	N. – S.
46	9	250	7	1.80m	1.30m	0.14m	N. – S.
47	9	249	4	12.00m	1.60m	0.16m	N. – S.
48	9	243	1	-	1.20m	0.14m	N. – S.
49	9	242	7	7.50m	1.30m	0.16m	N. – S.
50	9	244	7	7.00m	1.40m	0.20m	N. – S.
51	9	245	1	-	1.50m	0.09m	N. – S.
52	9	246	4	9.00m	1.60m	0.17m	N. – S.
54	9	248	1	-	1.10m	0.14m	N. – S.
55	9	252	6	7.00m	1.10m	0.10m	N. – S.
60	9	255	1	-	0.80m	0.10m	N. – S.
61	8	261	4	7.00m	1.60m	0.11m	N. – S.
63	8	294	2	-	2.30m	0.14m	N. – S.
65	8	289	8	6.00m	1.80m	0.16m	
68	8	288	8	6.00m	1.90m	0.16m	N. – S.
69	8	257	6	6.00m	1.40m	0.13m	N. – S.
70	8	287	6	5.00m	1.70m	0.16m	N. – S.
72	8	258	1	-	1.40m	0.10m	N. – S.
74	10	226	2	10.00m	1.00m	0.10m	N. – S.
77	10	218	2	-	3m	0.15m	N. – S.
78	10	215	1	-	1.80m	0.12m	N.N.E.- S.S.W
80	10	219	1	-	1.30m	0.11m	N. – S.
81	10	224	1	-	0.75m	0.07m	N. – S.
82	10	227	9	7.00m	2.40m	0.15m	N. – S.
83	10	228	3	6.50m	2.00m	0.11m	N. – S.
84	10	229	4	5.00m	2.00m	0.12m	N. – S.
85	10	220	6	10.00m	2.00m	0.15m	N. – S.
87	10	236	3	5.00m	1.30m	0.08m	N. – S.
88	10	233	10	5.00m	1.70m	0.16m	N. – S.
89	10	232	1	-	0.30m	-	N. – S.
90	10	231	4	6.70m	1.50m	0.10m	N. – S.
92	11	238	1	-	2.40m	0.20m	N. – S.
93	11	240	2	5.50m	0.50m	0.04m	N. – S.
95	11	239	2	10.00m	1.30m	0.06m	N. – S.



96	-	343	3	9.00m	2.50m	0.15m	N. – S.
97	3	345	2	3.80m	1.50m	0.11m	N. – S.
98		299	4	10.00m	2.00m	0.11m	N. – S.
99	3	348	3	5.00m	2.00m	0.12m	N. – S.
103	3	346	3	10.00m	3.00m	0.16m	N. – S.
104	3	295	3	-	2.40m	0.13m	N. – S.

## 6 DISCUSSION

A total of 23 trenches contained archaeological features and with the exception of features dating from the nineteenth century (areas A, B, D) there has been a general lack of dating evidence. Although no evidence was found related to medieval occupation at Wolf Hill (area D) the stone building itself (trench 20) was not dated and further undated features found within trenches 44 and 45 suggest there is potential for the presence of further archaeological features. Although analysis (appendix 5) showed there was in general poor preservation of plant macrofossils and pollen, remains of charred grain were recovered from two linear features within Area E (trenches 83, 94) with potential for radiocarbon dating. Early wheat (emmer or spelt) from a gully (204) in trench 94 suggested an Iron Age or Romano-British date. The results of each area are discussed individually below.

### 6.1 Area A

Area A consisted of a large field that has been amalgamated from four smaller fields. All four fields were depicted on the first edition OS plan of 1865 through to the 1970's when they were still largely extant. The field boundaries and ridge and furrow were clearly visible on the geophysical survey. The trenches targeted at the known boundaries all provided physical evidence in the form of small ditches. There was no evidence of the track depicted on the west side of a boundary depicted by the earlier OS editions (tr. 3, 5, 10, 14) which had been removed by ploughing. The ditch associated with the trackway showed evidence of a recut which may suggest it followed an earlier post-medieval boundary. Unfortunately, no dating evidence being recovered from the earliest ditch, nineteenth/ twentieth century dating evidence was recovered from the later recut. Three ridge and furrow field systems visible on the geophysical survey were confirmed during excavation. The main system was orientated north-south with a small system orientated east-west at the northern end of the field and a small strip separating the two. The northern system measured 8 to 10m in wavelength considerably wider than the main system that measured on an average 5m. Trench 11 demonstrated that the ridge and furrow predated at least some of the enclosure period boundaries depicted on the first edition OS plan.

## 6.2 Area B

The evaluation has shown that although Havelock Place had been demolished c.1938 (Arch. Prac. 2005) the remains of the ground floor were well preserved with walls surviving up to 1.10m in height. The remains were protected by the demolition process itself which had infilled the interior of the building with demolition material. The demolished remains of the buildings are depicted as a continuous earthwork on the 1950's OS plan which was not visible on the 1960's OS plan. The trench intercepted the dividing wall between two of the terrace houses which were constructed using lime-mortared, coursed sandstone rubble. The trench was cut across the length of the buildings which measured 5.80m in total with a large allotment at the rear and a small garden at the frontage with the road. Although only a small portion of the interior of the houses were exposed it was apparent that they were divided into two rooms with a main rear (west) room which contained a large fireplace set against the dividing wall which would have held a range for cooking. The front room was small and a white porcelain pipe set into the flagstone floor suggests that it was used as a kitchen. The floor of the southern house was concrete throughout whilst the northern house contained a flagged floor which was probably original.

## 6.3 Area C

The three trenches (tr. 8, 13, 17) excavated through the township boundary failed to provide any dating evidence. The large open ditch recorded to the west of the boundary bank within trench 8 was first shown on the second edition OS 1897 plan, and it is likely that the large open ditch recorded in trench 13 represents the same phase of work. Further south the ditch was considerably smaller and lay on the eastern side of the bank. There was no evidence of an earlier ditch associated with the bank with the exception of the shallow nineteenth century ditch recorded on the east side of the boundary within trench 8. The original form of the boundary is likely to have consisted of an earth-bank probably surmounted by a hedge. There was no evidence to suggest an associated ditch, although it is possible that a small ditch may have been subsequently removed by later ploughing and ditch digging. A pollen assessment (appendix 5) was made of the boundary bank (**136**) material which showed that in general preservation was poor. It was of note that heather pollen was abundant suggesting the proximity of a heath, or the local use of heather such as for thatching, when the bank was formed.

## 6.4 Area D

The site of Wolf Hill Farm was identified within a small field which lies on a small localised spur composed of sands and gravel. The walls recorded in trench 20 corresponded with the building shown on a tithe plan of 1844 and last depicted on the first edition OS plan of 1865. No evidence of medieval occupation suggested by the fourteenth century reference to 'Wolf Law' was

found although one sherd of sixteenth century stoneware was recovered from trench 20. Undated archaeological features were recorded north of Wolf Hill farm within trenches 44 and 45. The absence of finds from the ditches and slot recorded in these trenches may suggest that they at the very least predate the nineteenth century and may possibly date to the medieval period. A plant macrofossil and pollen assessment of the features within trench 44 and 45 showed that in general preservation was poor. The pollen analysis (appendix 5) of ditch fill **(283)** contained an abundance of heather indicative of local heathland or use such as for thatching. The assemblage suggested an open landscape with areas of heath and damp ground. Heather was also found within the fill of the possible slot **(292)**.

Two trenches were cut across the extrapolated position of Wolf Hill Farm (tr.20, 21). Trench 20 contained the south and west wall of the south range of buildings depicted on the first edition OS plan (fig. 6). There were no floors associated with the interior of the building although an area of metalled surface survived on the exterior. No dating evidence was recovered associated with the structure although the general absence of medieval finds and features suggests a post-medieval date for the time of its construction. Trench 21 was cut across the northern range of buildings where the only structural evidence was a large post pit **(193)** which probably represented an internal support post from a barn. Material recovered from the pit was nineteenth century but this may relate to the demolition phase with removal of a large wooden support post. It is noteworthy that the eastern portion of the northern building range had changed outline between that depicted on the 1844 Tithe map and the 1865 OS plan (Arch. Prac. 2005). The ditches **(185, 190, 152)** on the western side of the farm represent post-medieval boundaries associated with the later farm with the north-south ditch corresponding to a boundary shown on the 1865 OS plan (fig. 6). Subsequent to the demolition of the farm in the nineteenth century a row of postholes, presumably associated with a later fence line were inserted across the south building.

## 6.5 Area E

Although area E represents a scattered distribution of features within the Northumberland sector they can be grouped into three main categories; possible prehistoric features; probable natural features and features of post medieval origin.

### Prehistoric

Trenches 78, 83 and 94 were situated in the north of the evaluation area and were suspected to be of early origin this was given credence by plant macrofossil evidence (see below and appendix 5). The pit **(222)** within trench 78 contained degraded burnt daub and lay within 6.00m of two prehistoric worked flints. A ditch was exposed in trench 83 when it was extended to investigate a feature after the completion of the evaluation. Although unexcavated it was evident that the ditch **(234)** had been backfilled with stone fragments perhaps to make a causeway. The ditch **(204)** within trench 94

contained a similar fill to ditch (234) and was recorded 200m northeast of trench 83. An irregular feature (209) was recorded close to ditch (204) and judging from the similar character of the fills may have been broadly contemporary. The environmental analysis (appendix 5, 3.5) suggested that the presence of charred cereal remains and charcoal from the fills of the linear features (234, 204) may indicate domestic waste dumps. This is substantiated by the occurrence of burnt cattle teeth and jaw fragments within the fill (203) of gully (204). The spelt or emmer wheat from gully (204) suggests these two features may belong to the Iron Age or Romano-British period.

It is known that the area was intensively settled during the Iron Age and Romano-British period therefore it is possible that the linear features represent the remnant of early field systems. The possible presence of domestic waste within the features and the pit (222) containing daub is indicative of the close proximity of hitherto undetected settlement within the proposed development area. It should be noted that these three features lie a considerable distance apart from each other and further archaeological investigation would be required to identify the exact nature and extent of these features.

#### **Natural**

An analysis of the fills of features (265, 353) identified in trenches 62 and 63 found no charred plant remains which is consistent with their interpretation as being natural in origin.

#### **Post-Medieval**

It is not clear whether the ditch (363) within trench 84 was associated with the early ditch (234) recorded in trench 83. The feature may therefore be associated with the field system represented by the ridge and furrow, further investigation would be needed to secure the nature of the relationship. The ditch (211) within trench 79 may represent a post-medieval boundary aligned differently to the existing field boundaries. The ditch had been deliberately backfilled perhaps during the creation of the present enclosed field system which dated to the late eighteenth / nineteenth century. The boundary may have been associated with the nearby furrow within trench 78 which was aligned on the same northwest-southeast axis as the ditch.

## **7 RECOMMENDATIONS FOR MITIGATION**

This current stage of the evaluation has identified three main areas of archaeological sensitivity:

- Building remains at Havelock Place, trench 41.
- The site of Wolf Hill Farm including the area defined by features identified within trenches 44 and 45 to the north of the farm.

- Possible prehistoric features in the northern portion of the Northumberland evaluation area, trenches 78, 83, 94.

Analysis has shown that there is sufficient carbon from features (234, 204) within trenches 83 and 94, for a radiocarbon date. It is recommended that these samples are submitted for radiocarbon dating which would provide additional information upon the character and significance of these archaeological features. A further stage of evaluation in the form of a fieldwalking programme is still required as part of the overall evaluation. After discussion with all parties involved, it was agreed that the excavation of contingency trenches (Appendix 6, section 8) to further investigate archaeological features of interest be postponed until after the fieldwalking programme. The fieldwalking programme may highlight possible areas of interest that could help in the targeting of contingency trenches.

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## 9 ACKNOWLEDGEMENTS

The help of the following is gratefully acknowledged; Andrew Josephs of Andrew Josephs Ltd, Maurice Crake of SITA UK, Karen Derham, Assistant County Archaeologist; Jennifer Morrison, Tyne and Wear Archaeological Officer; J. Mckelvey, and N. Hodgson of Tyne and Wear Museums.

## APPENDIX 1: Trench Summary

- The Field number refers to the assignments given to fields during the geophysical survey.

Trench	Field	Grid refs.	Description	Depth	Hgt.subsoil AOD	Reason for positioning
1	12	430298E/572877N 430347E/572888N	blank	0.32m	42.50mAOD	Geo. Anomaly
2	12	430457E/572877N 430347E/572888N	Ridge and furrow (102)	0.33m	42.12mAOD	Control
3	12	430457E/572877N 430347E/572888N	2 post-medieval boundary ditches (104, 105)	0.33m	41.91mAOD	Geo. Anomaly
4	12	430349E/573031N 430399E/572031N	Ridge and furrow (107)	0.20m	40.52mAOD	Control
5	12	430234E/573045N 430283E/573055N	Post-medieval boundary ditch (110, recut 111)	0.28m	41.19mAOD	Geo. Anomaly
6	12	430302E/573082N 430302E/573132N	blank	0.20m	40.68mAOD	Control
7	12	430340E/573134N 430390E/573138N	blank	0.20m	39.38mAOD	Control
8	12	430259E/573251N 430285E/573268N	Post-medieval boundary ditches (144, 146)	0.34m	39.65mAOD	Township boundary
9	12	430288E/573203N 430331E/573230N	blank	0.22m	40.48mAOD	
10	12	430193E/573193N 430241E/573206N	Post-medieval boundary ditches (124, 126), furrows	0.28m	40.15mAOD	Geo. Anomaly
11	12	430185E/573172N 430155E/573212N	Post-medieval boundary ditch (122), furrow	0.36m	40.63mAOD	Geo. Anomaly
12	12	430141E/573244N 430140E/573294N	Ridge and furrow	0.30m	41.48mAOD	
13	12	430223E/573335N 430273E/573335N	Ridge and furrow	0.43m	38.59mAOD	Township boundary
14	12	430196E/573263N 430240E/573239N	Post-medieval boundary ditch (124, 126), furrow	0.32m	39.40mAOD	Geo. Anomaly
15	12	430107E/573338N 430109E/573388N	Ridge and furrow	0.32m	40.65mAOD	Control
16	12	430021E/573378N 430071E/573378N	blank	0.30m	40.40mAOD	Control
17	12	430417E/573032N 430435E/573031N	Earth bank (136), post-medieval ditch (138)	0.28m	40.51mAOD	Township boundary
18	1	430279E/573270N 430289E/573316N	Post-medieval boundary ditch (152)	0.43m	40.20mAOD	Wolf Hill Aerial photo Geo. Anomaly
19	1	430329E/573250N 430338E/573300N	Post-medieval boundary ditches (185, 190)	0.28m	40.25mAOD	Wolf Hill
20	1	430329E/573290N 430378E/573279N	Two wall footings (165, 169), Metalled surface (170), Later postholes	0.35m	40.75mAOD	Wolf Hill
21	1	430353E/573342N 430362E/573293N	Post pit (193) Stone spread (197)	0.34m		Wolf Hill
22	1	430271E/573353N 430319E/573356N	blank	0.28m	39.88mAOD	Control
23	6	430392E/573390N 430441E/573400N	blank	0.32m	40.28mAOD	Geo. Anomaly
24	6	430423E/573336N 430445E/573291N	blank	0.34m	40.25mAOD	Aerial photo
25	6	430423E/573256N 430473E/573263N	Ridge and furrow	0.32m	40.01mAOD	Geo. Anomaly
26	6	430480E/573296N 430516E/573261N	Ridge and furrow	0.34m	39.92mAOD	Control
27	5		blank	0.35m	40.87mAOD	Aerial photo
28	5	430577E/573445N	blank	0.28m	39.63mAOD	Control

		430627E/573445N				
29	5	430632E/573411N 430663E/573372N	Ridge and furrow	0.35m	40.08mAOD	Geo. Anomaly
30	5	430660E/573352N 430710E/573352N	blank	0.34m	40.59mAOD	Control
31	5	430595E/573270N 430289E/573316N	Ridge and furrow	0.34m	41.06mAOD	Aerial photo
32	4	430727E/573400N 430775E/573416N	Ridge and furrow	0.28m	39.66mAOD	Geo. Anomaly
33	4	430726E/573311N 430777E/573311N	blank	0.32m	40.85mAOD	Control
34	7	430620E/573226N 430670E/573234N	Ridge and furrow	0.33m	40.94mAOD	Aerial photo
35	7	430575E/573236N 430583E/573186N	blank	0.29m	40.86mAOD	Geo. Anomaly
36	7	430550E/573181N 430558E/573131N	blank	0.25m	40.78mAOD	Control
37	7	430454E/573092N 430503E/573104N	blank	0.30m	40.36mAOD	Control
38	7	430422E/573215N 430432E/573166N	Ridge and furrow	0.30m	39.87mAOD	Control
39	2	430481E/573022N 430528E/573039N	Ridge and furrow	0.33m	41.68mAOD	Control
40	2	430504E/572922N 430504E/572971N	Ridge and furrow	0.28m	41.29mAOD	Geo. Anomaly
41	-	429656E/573137N 429687E/573175N	Building remains of Havelock Place	0.30	-	Control
42	-	429686E/573180N 429722E/573217N	Ridge and furrow	1.45m	39.62mAOD	Control
43	-	429911E/573290N 429935E/573246N	Ridge and furrow	0.40m	41.39mAOD	Control
44	9	430306E/573396N 430356E/573397N	Gully/slot (292), shallow ditch (290)	0.43m	39.77mAOD	Control
45	9	430313E/573424N 430313E/573474N	Ditches (277, 279, 282, 284)	0.30m	38.71mAOD	Geo. Anomaly
46	9	430260E/573477N 430309E/573484N	Ridge and furrow	0.28m	37.38mAOD	Control
47	9	430289E/573540N 430325E/573505N	Ridge and furrow	0.25m	37.43mAOD	Control
48	9	430367E/573481N 430417E/573481N	blank	0.30m	38.99mAOD	Control
49	9	430438E/574661N 430487E/573476N	Ridge and furrow	0.28m	39.23mAOD	Control
50	9	430431E/573516N 430481E/573516N	Ridge and furrow	0.35m	38.77mAOD	Control
51	9	430446E/573536N 430437E/573580N	Ridge and furrow	0.26m	38.33mAOD	Control
52	9	430345E/573569N 430412E/573575N	Ridge and furrow	0.28m	37.69mAOD	Control
53	9	430345E/573569N 430394E/573581N	Ridge and furrow	0.30m	37.17mAOD	Control
54	9	430272E/573607N 430280E/573557N	Ridge and furrow	0.30m	36.43mAOD	Control
55	9	430309E/573602N 430357E/573614N	Ridge and furrow	0.30m	36.83mAOD	Control
56	9	430276E/573655N 430325E/573665N	Posthole (199)	0.30m	36.72mAOD	Control
57	9	430277E/573743N 430285E/573694N	blank	0.41m	36.65mAOD	Control
58	9	430367E/573654N 430367E/573704N	Ridge and furrow	0.30m	36.94mAOD	Control
59	9	430362E/573717N 430412E/573725N	Ridge and furrow	0.40m	36.79mAOD	Control
60	9	430427E/573675N	Ridge and furrow	0.30m	36.38mAOD	Control

		430441E/573627N				
61	8	430523E/573483N 430572E/573492N	Ridge and furrow	0.30m	39.30mAOD	Control
62	8	430581E/573521N 430595E/573473N	Probable natural feature (265)	0.25m	39.26mAOD	Control
63	8	430643E/573549N 430656E/573485N	Probable natural feature (353)	0.34m	39.38mAOD	Control
64	8	430635E/573598N 430643E/573549N	Ridge and furrow	0.30m	39.66mAOD	Control
65	8	430566E/573557N 430615E/573565N	Ridge and furrow	0.28m	39.24mAOD	Control
66	8	430538E/573555N 430549E/573507N	blank	0.30m	39.11mAOD	Control
67	8	430493E/573613N 430501E/573564N	blank	0.30m	38.07mAOD	Control
68	8	430556E/573615N 430606E/573622N	Ridge and furrow	0.30m	38.54mAOD	Control
69	8	430501E/573651N 430550E/573658N	Ridge and furrow	0.30m	37.38mAOD	Control
70	8	430590E/573672N 430640E/573679N	Ridge and furrow	0.30m	38.41mAOD	Control
71	8	430617E/573746N 430621E/573696N	Ridge and furrow	0.30m	38.00mAOD	Control
72	8	430533E/573709N 430583E/573716N	Ridge and furrow	0.30m	37.55mAOD	Control
73	8	430488E/573676N 430489E/573126N	Ridge and furrow	0.28m	36.98mAOD	Control
74	10	430510E/573762N 430560E/573770N	Ridge and furrow	0.30m	37.09mAOD	Control
75	10	430517E/573863N 430528E/573814N	blank	0.30m	37.35mAOD	Control
76	10	430443E/573822N 430454E/573874N	blank	0.32m	36.35mAOD	Geo. Anomaly
77	10	430355E/573774N 430403E/573788N	Ridge and furrow	0.30m	36.85mAOD	Control
78	10	430271E/573782N 430321E/573782N	Pit (222)	0.40m	36.80mAOD	Control
79	10	430279E/573850N 430288E/573801N	Post-medieval ditch (211)	0.52m	36.42mAOD	Control
80	10	430378E/573863N 430396E/573817N	Ridge and furrow	0.30m	36.72mAOD	Geo. Anomaly
81	10	430416E/573894N 430440E/573851N	Ridge and furrow	0.35m	36.76mAOD	Control
82	10	430486E/573887N 430535E/573898N	Ridge and furrow	0.30m	37.02mAOD	Control
83	10	430446E/573948N 430494E/573962N	Ditch (234) backfilled with stone frags.	0.30m	35.69mAOD	Control
84	10	430373E/573923N 430473E/573932N	Ridge and furrow	0.32m	36.21mAOD	Aerial photo
85	10	430301E/573868N 430350E/573879N	Ridge and furrow	0.30m	36.60mAOD	Geo. Anomaly
86	10	430275E/573935N 430285E/573886N	blank	0.30m	36.27mAOD	Control
87	10	430297E/573966N 430346E/573974N	Ridge and furrow	0.30m	34.71mAOD	Control
88	10	430315E/574013N 430364E/574023N	Ridge and furrow	0.30m	33.90mAOD	Control
89	10	430386E/574028N 430397E/573980N	Ridge and furrow	0.30m	34.65mAOD	Control
90	10	430425E/574030N 430473E/574042N	Ridge and furrow	0.30m	34.06mAOD	Control
91	10	430509E/574029N 430520E/573980N	Ridge and furrow	0.30m	35.91mAOD	Control
92	11	430283E/574083N	Ridge and furrow	0.30m	34.05mAOD	Control



		430309E/574040N				
93	11	430337E/574085N 430387E/574085N	Ridge and furrow	0.34m	33.67mAOD	Control
94	11	430313E/574121N 430363E/574121N	Prehistoric? Ditch/gully (204) Hollow and assoc. stone (209)	0.50m	33.73mAOD	Control
95	11	430289E/574125N 430323E/574161N	Ridge and furrow	0.28m	33.87mAOD	Geo. Anomaly
96		430653E/573899N 430682E/573939N	Ridge and furrow	0.33m	36.29mAOD	Control
97		430666E/573866N 430694E/573825N	Ridge and furrow	0.36m	36.27mAOD	Control
98	3	430648E/573778N 430698E/573785N	Ridge and furrow	0.32m	37.95mAOD	Control
99	3	430677E/573742N 430726E/573750N	Ridge and furrow	0.40m	37.96mAOD	Control
100	3	430660E/573728N 430667E/573678N	blank	0.36m	38.25mAOD	Control
101	3	430702E/573694N 430739E/573661N	blank	0.31m	38.61mAOD	Geo. Anomaly
102	3	430673E/573628N 430680E/573578N	blank	0.28m	38.97mAOD	Control
103	3	430714E/573583N 430751E/573549N	Ridge and furrow	0.32m	38.75mAOD	Geo. Anomaly
104	3	430691E/573491N 430741E/573500N	Ridge and furrow	0.33m	39.03mAOD	Control
105	3	430589E/573851N 430592E/573801N	blank	0.28m	37.98mAOD	Control

## APPENDIX 2: Feature List

-Excludes furrows (see table, section 5.6)

-All dimensions are given in metres

Context	Type	Filled by	Length	Width	Depth	Tr.	Date
104	Ditch	356	2.00m	0.92m	0.30m	3	Post-med.
105	Ditch/gully	357		0.56m	0.18m	3	Post-med.
110	Ditch	337	2.00m	2.60m	0.35m	5	Post-med.?
111	Ditch recut of 110	336, 335	2.00m	1.70m	0.56m	5	Post-med.
116	Nat. subsoil					9	
117	Nat. subsoil					9	
122	Ditch	121	2.00m	1.21m	0.35m	11	Post-med.
124	Ditch	125	2.00m	1.70m	0.50m	10	Post-med.?
126	Ditch recut Of 124	127	2.00m	1.10m	0.49m	10	Post-med.
128	Ditch	129	2.00m	1.65m	0.57m	14	Post-med.?
131	Ditch recut Of 128	132, 133	2.00m	1.34m	0.41m	14	Post-med.
135	topsoil				0.40m	17	Modern
136	Earth bank		2.00m	3.10m	0.60m	17	med.?
137	Nat. subsoil		2.00m	1.10m	0.80m	17	Modern
138	Ditch	139	2.00m	1.10m	0.80m	17	Modern
140	topsoil				0.34m	8	Modern
141	Nat. gravel					8	
142	Ploughsoil		2.00m	5.50m	0.24m	8	Post-med.
143	Nat. subsoil					8	
144	Ditch	145	2.00m	1.90m	0.35m	8	Post-med.
146	Open Ditch	140	2.00m	2.30m	1.22	8	Post-med.
147	topsoil				0.70m	13	Modern
148	Boundary bank		2.00m	3.50m	0.78m	13	med.?
149	Nat. subsoil					13	
150	Open Ditch	147	2.00m	3.65m	1.40m	13	Post-med.
151	Topsoil				0.40m	18	Modern
152	Ditch	153	2.00m	1.58m	0.28m	18	Post-med.
154	Nat. subsoil					18	
155	Topsoil				0.25m	19	Modern
165	Wall footings		4.00m	0.84m	0.13m	20	Post-med.?
166	Disturbed footings				0.14m	20	Post-med.
167	Topsoil				0.35m	20	Modern
168	Nat. subsoil					20	
169	Wall footings		2.40m	0.85m	0.14m	20	Post-med.?
170	metalling		2.00m	3.40m	0.08m	20	Post-med.?
171	Ash/slag spread		0.35m	0.45m	0.03m	20	Post-med.
173	Posthole	172	0.30m	0.30m	0.15m	20	Post-med.
175	Posthole	174, 176	0.26m	0.30m	0.09m	20	Post-med.
178	Posthole	177	0.41m	0.50m	0.16m	20	Post-med.
180	Posthole	179	0.60m	0.60m	0.21m	20	Post-med.
182	spread		0.50m	0.40m	0.14m	20	Post-med.
183	Cut against footings 169	181	2.30m	0.40m	0.08m	20	Post-med.?

185	Ditch	184	5.24m	1.42m	0.19m	19/20	Post-med.
187	Posthole	186	0.70m	0.42m	0.30m	20	Post-med.
188	Nat. subsoil					19	
190	ditch	189	1.00m	1.25m	0.18m	19	Post-med.
192	Topsoil				0.34m	21	Modern
193	Post pit	194, 195	0.94m	0.73m	0.71m	21	Post-med.
188	Nat. subsoil					21	
197	spread		4.20m	1.00m	0.08m	21	Post-med.
198	Topsoil				0.28m	56	Modern
199	Posthole	201	0.70m	0.50m	0.19m	56	Post-med.
202	Nat. subsoil					56	
204	Ditch/ gully	203		1.00m	0.35m	94	Prehistoric?
205	Topsoil				0.51m	94	Modern
206	Nat. subsoil					94	
208	Stone spread	Within 207	2.30m	0.85m	0.10m	94	Prehistoric?
209	Irregular hollow	208	2.30m	0.95m	0.15m	94	Prehistoric?
210	Topsoil				0.52	79	Modern
211	Ditch	212	6.00m	1.50m	0.40m	79	Post-med.
213	Nat. subsoil					79	
214	Topsoil				0.40m	78	Modern
217	Nat. subsoil					78	
222	Pit	223	0.81m	0.81m	0.26m	78	Prehistoric?
234	Ditch	235, 359	2.70m	2.00m	0.23m	83	Prehistoric?
265	Gully?	264	2.00m	0.60m	0.29m	62	Natural?
271	Topsoil				0.36m	45	Modern
273	Field drain	272	2.00m	0.35m	0.60m	45	Modern
274	Ditch recut of 278	276, 275, 274	2.00m	3.40m	0.58m	45	Post-med.
279	Ditch	278	2.00m	1.16m	0.40m	45	Post-med.
280	layer		2.00m	7.60m	0.42m	45	?
282	Ditch	281	2.00m	1.80m	0.43m	45	?
284	Ditch	283	2.00m	1.19m	0.30m	45	?
285	Trackway?		2.00m	2.65m	0.06m	45	?
286	Nat. subsoil					45	
290	Ditch	291	2.00m	3.10m	0.23m	44	?
292	Gully/slot	293	8.90m	0.62m	0.16m	44	?
300	Topsoil				0.36m	41	Modern
301	Demolition		7.60m	2.00m	0.08m	41	Modern
302	Ground make-up		2.00m	2.00m	0.94m	41	Modern
303	Demolition		2.00m	4.40m	0.22m	41	Modern
304	Ground make-up		2.00m	2.15m	over 1.00m	41	Modern
305	Demolition		2.00m	10.45 m	0.82m	41	Modern
306	Garden wall		2.00m	0.40m	0.07m	41	19 <sup>th</sup> cent.
307	spread		1.70m	2.15m	-	41	19 <sup>th</sup> cent.
308	Front wall		1.92m	0.45m	-	41	19 <sup>th</sup> cent.
309	Concrete floor		5.00m	1.70m	-	41	19 <sup>th</sup> /20 <sup>th</sup> cent.
310	Rear wall		2.00m	0.45m	1.10m	41	19 <sup>th</sup> cent.
311	Stone step		0.80m	0.53m	0.10m	41	19 <sup>th</sup> cent.
312	Layer		0.60m	1.00m	-	41	19 <sup>th</sup> cent.
313	brickwork		0.46m	0.46m	-	41	19 <sup>th</sup> cent.
314	wall		2.00m	0.60m	-	41	19 <sup>th</sup> cent.
315	Dividing wall		4.90m	0.40m	0.63m	41	19 <sup>th</sup> cent.

316	Flagged floor		1.16m	1.90m	-	41	19 <sup>th</sup> cent.
317	Fireplace		2.10m	0.63m	0.61m	41	Modern
318	Fireplace		3.07m	0.60m	0.34m	41	Modern
319	Topsoil (east)				0.30m	41	Modern
321	Pipe trench	320	-	-	-	41	Modern
322/23	Colliery waste		25.00m	2.00m	0.96m	41	19 <sup>th</sup> /20 <sup>th</sup> cent.
324	Buried ploughsoil		25.00m	2.00m	0.06m	41	?
326	Nat. subsoil					41	
327	Topsoil				0.20m	42	Modern
328	Colliery waste		50.00m	2.00m	0.50m	41	19 <sup>th</sup> /20 <sup>th</sup> cent.
329	Buried ploughsoil		32.00m	2.00m	0.25m	42	?
326	Nat. subsoil					42	
332	Topsoil				0.40m	43	Modern
333	Buried ploughsoil		50.00m	2.00m	0.10m	43	?
334	Nat. subsoil					43	
342	Nat. subsoil					5	
353	Cut	266	2.20m	0.96m	0.62m	63	Nat?
355	Township boundary					17	Med.?
358	Topsoil				0.32m	F12	
360	Topsoil				0.31m	44	
361	Nat. subsoil					44	
363	Ditch	362	2.00m	2.30m	0.50m	84	?

## APPENDIX 3: List of Finds

Context	Trench	Type of find	Description	Quantity	Date
145	8	pottery	sherd	1	modern
145	8	metal	nail or pin	1	?
153	18	pottery	Slipware	3	17 <sup>th</sup> / 18 <sup>th</sup> century
166		glass	broken fragment	1	modern
166		clay pipe	broken fragment	1	modern
167	20	pottery	glazed sherds	24	post-med/modern
			Stoneware	1	16 <sup>th</sup> century
167	20	tile and brick	broken fragments	9	modern
167	20	bone	broken fragment	1	?
167	20	slag		1	?
167	20	glass	broken fragment	1	modern
170	20	glass	broken fragment	1	modern
170	20	slag		1	?
170	20	pottery	sherds	3	modern
170	20	tile	broken fragments	6	post-med/modern
170	20	Daub?	broken fragments	2	post-med/modern
172	20	pottery	sherds	3	modern
174	20	CBM	broken fragment	1	post-med/modern
182	20	pottery	sherds	4	post-med/modern
184	19	pottery	glazed sherds	3	modern
186	20	metal	fence post base	1	modern
186	20	tile	broken fragments	2	modern
186	20	slag		7	?
186	20	pottery	glazed sherds	4	post-med/modern
186	20	metal	nails or pins	3	?
194	21	tile	broken fragments	2	post-med/modern
194	21	slag		3	?
194	21	metal	nail or pin	1	?
195	21	pottery	sherds	3	modern
195	21	tile	broken fragment	1	modern
195	21	metal		1	modern
197	21	pottery	sherd	1	modern
197	21	glass	broken fragment	1	modern
197	21	CBM	broken fragments	5	post-med/modern
199	56	pottery	glazed sherds	8	post-med/modern
199	56	glass	broken fragment	1	modern
199	56	tile	broken fragment	1	post-med/modern
203	94	Tooth/bone	broken fragments	20 +	-
212	79	glass	broken fragments	2	modern
212	79	Pottery	glazed sherd	1	modern
212	79	clay pipe	broken stem fragments	2	post-med/modern
212		coin	Illegible copper alloy	1	post-med
217	78	flint	worked	2	prehistoric
236	87	pottery	glazed sherds	2	post-med/modern
236	87	tile	broken fragment	1	post-med/modern
249	47	pottery	sherd	1	modern
259	71	pottery	sherds	3	modern
259	71	brick and tile	broken fragment	1	post-med/modern

280	45	flint	flake	1	prehistoric
unstrat	88	Pottery	glazed and unglazed sherds	4	post-med/modern
unstrat	88	oyster shell	broken fragment	1	?
unstrat	88	Ceramic	glazed fragment	1	modern
unstrat	88	glass	broken fragment	1	Modern
unstrat	14	flint	Worked flint	2	prehistoric
unstrat	20	pottery	glazed sherds	5	modern
unstrat	84	pottery	sherd	1	modern
unstrat	84	tile or daub	broken fragment	1	post-med/modern

#### APPENDIX 4: Environmental Sample List

Sample	Type	Context	Trench	Description
100	bulk	291	44	Fill of shallow ditch [290] ,
101	bulk	293	44	Fill of possible slot [292]
102	bulk	266	63	Fill of sub-rectangular feature [353]
104	bulk	222	78	Fill of small sub-circular pit [222]
105	bulk	235	83	Fill of ditch [234]
109	bulk	280	45	Layer
111	bulk	283	45	Fill of ditch [284]
112	bulk	136	17	Parish boundary [355],
113	bulk	203	94	Fill of gully [204]
115	bulk	264	62	Fill of small linear feature [265]
118	Column	283	45	Fill of ditch [284]
121	Column	136	17	Parish boundary [355],

**APPENDIX 5: Plant macrofossil and Pollen Assessment**



Archaeological Services  
University of Durham

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**Seghill Landfill, Cramlington,  
Northumberland and Backworth, Tyne and  
Wear**

**plant macrofossil and pollen assessment**

*on behalf of*

**Tyne and Wear Museums, Archaeology Department**

**Report 1513**  
July 2006

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# Seghill Landfill, Cramlington, Northumberland and Backworth, Tyne and Wear

## plant macrofossil and pollen assessment

*Report 1513*

July 2006

*Archaeological Services Durham University*

on behalf of

*Tyne and Wear Museums, Archaeology Department*

East Lodge, Old Jesmond Cemetery, Jesmond Road,  
Newcastle upon Tyne NE2 1NL

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## **1. Summary**

### ***The project***

- 1.1 This report presents the results of plant macrofossil and pollen assessment of samples from Seghill Landfill, Cramlington, Northumberland and Backworth, Tyne and Wear.

### ***Results***

- 1.2 The few charred plant remains included barley chaff and grain, glume wheat chaff and a few weed seeds. The occurrence of glume wheats may indicate a pre-medieval date for some of the features.
- 1.3 Pollen concentration was very low and the grains were degraded. The assemblages suggested an open landscape with areas of heath and damp ground. There was limited evidence for arable and pastoral farming.

### ***Recommendations***

- 1.4 No further plant macrofossil or pollen work is recommended.
- 1.5 The charred barley grain in sample 105 may provide sufficient carbon for a radiocarbon date. A date should also be possible from sample 113, from either the cereal grains or a piece of charcoal which is hazel or alder. No other samples contained material suitable for dating as all other charcoal fragments were from long-lived tree species.

## **2. Project background**

### ***Location and background***

- 2.1 An evaluation was carried out by Tyne and Wear Museums Archaeology Department in advance of the proposed extension of an existing landfill site at Seghill, Cramlington, Northumberland (NGR NZ 304 736). The site includes land at Backworth, Tyne and Wear. There was limited dating evidence from the site. This report presents the results of assessment of plant macrofossils and pollen from a variety of features including ditches, pits and gullies.

### ***Objective***

- 2.2 The objective was to establish the quantity and preservation of plant macrofossils and pollen and to establish their potential for providing information about diet, economy and the palaeoenvironment of the site. The assessment will also investigate the availability of material for radiocarbon dating.

### ***Dates***

- 2.3 The samples were submitted to Archaeological Services on 17<sup>th</sup> July 2006. The assessments and report preparation were undertaken between 17<sup>th</sup> July – 2<sup>nd</sup> August 2006.

### ***Personnel***

- 2.4 Sample processing for plant macrofossils was by Dr David Webster. Pollen preparation and assessment was by Dr Helen Ranner. Plant macrofossil assessment and report preparation was by Dr Charlotte O'Brien.

### ***Archive***

- 2.5 The site code is SHL06. The flots and pollen samples are at the Environmental Laboratory at Archaeological Services Durham University for collection.

## **3. Plant macrofossils**

### ***Methods***

- 3.1 10 contexts were assessed for plant macrofossils. In each case, the entire sample was manually floated and sieved through a 500 µm mesh. The residues were retained, described and scanned using a magnet for ferrous fragments. The flot was dried slowly and scanned at × 40 magnification for waterlogged and charred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant taxonomic nomenclature follows Stace (1997).

### ***Results***

- 3.2 Very low numbers of charred plant remains occurred in the samples. These included a barley and a wheat grain, occasional fragments of chaff, and a few weed seeds. Uncharred seeds of bramble, fat-hen, knotgrass and ivy-leaved speedwell were present. Small amounts of coal and charcoal occurred and

modern roots and straw were present in some flots. Burnt bone fragments occurred in sample 113. The results are presented in Table 1.

### ***Discussion***

- 3.3 The assessment can provide only limited information about the diet and economy of the site, due to the low numbers of charred plant remains. A charred barley grain and two barley rachis internodes occurred in sample 105, a ditch fill. A wheat grain and 2 wheat glume bases were present in sample 113, a gully fill. These were too damaged to identify whether they were from emmer or spelt wheat. Studies in northern England show that both emmer and spelt were common in the Iron Age, while spelt became the dominant wheat species in the Roman Period (Huntley & Stallibrass, 1995). By the medieval period, the free-threshing bread wheat was the most commonly used wheat in the region. The occurrence of glume wheat chaff therefore suggests that the gully fill pre-dates the medieval, or at least contains material reworked from pre-medieval sediments. The charred heath-grass seed indicates damp, acidic soils with possible heathland near the site. Vetch would have grown in grassy or rough ground places.
- 3.4 A few uncharred seeds occurred in the samples. These included fat-hen, ivy-leaved speedwell and knotgrass, which may have grown as arable weeds or as ruderals on waste or disturbed ground. Brambles were also growing nearby. The non-waterlogged nature of the site may indicate that these uncharred seeds are modern introductions; modern roots and straw were recorded in some samples.
- 3.5 The presence of charred cereal remains and charcoal in samples 105 and 113 may indicate domestic waste dumps. This is substantiated by the occurrence of burnt cattle teeth and jaw fragments in the residue of 113. The very small amounts of charcoal and coal in the other samples are not considered to be significant in terms of interpreting the features or human activities at the site. One of the questions posed by the excavator was whether samples 102 and 115 were from features of a natural origin. The absence of charred plant remains in these samples is consistent with this interpretation, but it should be noted that the preservation of plant remains was poor at the site.

Table 1: Plant macrofossils from SHL06

Sample	100	101	102	104	105	109	111	112	113	115
Context	291	293	266	222	235	280	283	136	203	264
Context type	Ditch fill	Slot fill	Natural origin?	Pit fill	Ditch fill	Layer	Ditch fill	Earth-bank	Gully fill	Natural origin?
<i>Volume processed (ml)</i>	10000	10000	10000	9000	9000	10000	10000	7100	8500	8500
<i>Volume of slot (ml)</i>	4	70	15	150	300	10	55	300	15	55
<i>Volume of slot assessed (ml)</i>	4	70	15	150	300	10	55	300	15	55
<i>Residue contents (relative abundance)</i>										
Burnt bone	-	-	-	-	-	-	-	-	2	-
Unburnt bone	-	-	-	-	-	1	-	-	-	-
<i>Flot matrix (relative abundance)</i>										
Charcoal	1	1	1	1	2	1	-	-	1	1
Charred heather twig	-	1	-	-	1	-	-	-	-	-
Coal	-	-	1	-	1	1	-	-	-	-
Modern roots	1	2	1	1	1	1	1	3	1	2
Modern straw	-	-	-	-	-	-	-	1	-	-
Wood	-	-	-	-	-	-	-	1	-	-
<i>Charred plant remains (total counts)</i>										
(c) Cerealia indeterminate grain	-	-	-	-	-	-	-	-	1	-
(c) <i>Hordeum</i> sp grain (Barley)	-	-	-	-	1	-	-	-	-	-
(c) <i>Hordeum</i> sp rachis internode (Barley)	-	-	-	-	2	-	-	-	-	-
(c) <i>Triticum</i> sp grain (Wheat)	-	-	-	-	-	-	-	-	1	-
(c) <i>Triticum</i> sp(p) glume base (Emmer/spelt wheat)	-	-	-	-	-	-	-	-	2	-
(h) <i>Danthonia decumbens</i> (Heath-grass)	-	-	-	-	-	-	-	-	1	-
(x) Poaceae sp (Grass)	-	-	-	-	-	-	-	-	1	-
(x) <i>Vicia</i> sp (Vetch)	-	-	-	-	-	-	-	-	1	-
<i>Waterlogged remains (relative abundance)</i>										
(a) <i>Chenopodium album</i> (Fat-hen)	1	-	-	-	-	1	-	-	-	1
(r) <i>Polygonum aviculare</i> (Knotgrass)	-	1	-	-	1	2	1	-	-	-
(r) <i>Veronica hederifolia</i> (Ivy-leaved speedwell)	1	-	-	-	-	-	-	-	-	-
(t) <i>Rubus fruticosus</i> agg. (Bramble)	2	-	-	-	-	-	-	2	-	-

(a: arable weed; c: cultivated plant; h: heath; r: ruderal; t: tree/shrub; x: wide niche). Relative abundance is based on a scale from 1 (lowest) to 5 (highest)

## 4. Pollen

### Methods

- 4.1 Two samples were assessed for pollen. These were sample 118 (a ditch fill associated with a possible trackway or boundary feature), and sample 121 (a possible medieval earth-bank). One ml of each sample was processed using sodium hydroxide digestion followed by sieving and heavy liquid separation.

### Results

- 4.2 Pollen concentration was very low and counting was stopped after ten traverses of a 22 x 22mm coverslip. Most of the grains were degraded and crumpled. The assemblages were similar in both samples and were dominated by herbaceous taxa including heather, grass and dandelion-type. A few pine grains were present in both samples and a possible larch grain was recorded in sample 118. Microscopic charcoal was present in both samples. The results are presented in Table 2.

**Table 2:** Pollen and spores from SHL06

Sample	121	118
Context	136	283
Context type	Earth-bank	Ditch fill
<i>Charcoal</i>	Abundant	Abundant
<i>Indeterminate pollen</i>	17	14
<i>Total pollen + spores</i>	83	78
<i>Tree taxa</i>		
<i>cf Larix</i> -type (Larch)	-	1
<i>Pinus</i> (Pine)	2	6
<i>Herbaceous taxa</i>		
Brassicaceae (Cabbage family)	-	3
<i>Calluna vulgaris</i> (Heather)	27	8
<i>cf Cereal</i> -type	1	1
<i>cf Centaurea nigra</i> (Common knapweed)	-	3
<i>Cirsium</i> (Thistle type)	-	1
Ericales undifferentiated (Heather family)	3	1
<i>Plantago lanceolata</i> (Ribwort plantain)	-	1
Poaceae (Grass)	5	9
<i>cf Poaceae</i> (Grass)	15	12
<i>Ranunculus</i> -type (Buttercup)	1	1
<i>Taraxacum</i> -type (Dandelion type)	10	27
<i>Spores</i>		
Cyperaceae (Sedges)	1	1
<i>cf Equisetum</i> (Horsetails)	1	1
Pteridophyta (monolete) undifferentiated (Ferns)	-	1
<i>Polypodium vulgare</i> (Common polypody)	12	-
<i>Selaginella selaginoides</i> (Lesser club moss)	5	1
Fungal spores	Common	Common

### Discussion

- 4.3 The low concentration and degraded nature of the pollen suggests the samples were not permanently waterlogged and that the grains were subject to

oxidation. The low numbers of arboreal pollen grains relative to herbaceous taxa indicate a largely open landscape. This may have been the result of woodland clearance for farming, and the abundant levels of microscopic charcoal in both samples may have resulted from the use of fire in this process. Alternatively the charcoal may have derived from domestic fires.

- 4.4 A single cereal-type grain was present in each sample, which may indicate arable farming, but these pollen grains can also be from large uncultivated grasses such as sweet-grass. Other grains such as buttercups, ribwort plantain and dandelion-types have been associated with agricultural ecosystems, particularly pasture (Behre 1986). This may indicate some pastoral farming in the area as suggested by the cattle teeth/jaw fragments which occurred in sample 113.
- 4.5 Heather pollen was abundant in both samples indicating the proximity of heath or the use of heather for bedding or roofing. Sedges and horsetail suggest that there were areas of damp ground near the site. The larch grain is likely to be a modern contaminant, as these trees were introduced to Britain after 1600 (Mitchell 1974).

## 5. Recommendations

- 5.1 No further plant macrofossil or pollen work is recommended due to their poor preservation and low potential to provide information about the diet, economy or palaeoenvironment of the site. The charred barley grain in sample 105 may provide sufficient carbon for a radiocarbon date. The wheat and indeterminate cereal grain in sample 113 could be combined to provide sufficient material for a date. Alternatively, a small piece of charcoal, which is either hazel or alder, was identified from sample 113. No other samples contained material suitable for dating as all other charcoal fragments were from long-lived tree species.

## 6. Sources

Behre, K-E, 1986 *Anthropogenic indicators in pollen diagrams*, Rotterdam

Huntley, J P, & Stallibrass, S, 1995 *Plant and vertebrate remains from archaeological sites in northern England: data reviews and future directions*. Research Report 4 Archit and Archaeol Soc of Durham and Northumberland, Durham

Mitchell, A, 1974 *A field guide to the trees of Britain and Northern Europe*, London

Stace, C, 1997 *New Flora of the British Isles*, 2<sup>nd</sup> Edition, Cambridge

**APPENDIX 6: Project Design**



Planning refs: 05/00151/CCMEIA and 05/02405/FUL  
NCCCT ref: BV8/2; 4894  
Grid ref: NZ 304 736  
OASIS reference: tyneandw3-15412 (Tyne and Wear)  
tyneandw3-15438 (Northumberland)

## **PROJECT DESIGN FOR ARCHAEOLOGICAL EVALUATION AT SEGHILL, CRAMLINGTON, NORTHUMBERLAND AND BACKWORTH, TYNE AND WEAR.**

### **1. Introduction**

1.1 This project design represents a methods statement for undertaking an archaeological evaluation in advance of the proposed extension of an existing landfill site at Seghill, Cramlington, Northumberland (grid reference NZ 304 736). The site also includes land at Backworth, Tyne and Wear.

1.2 The site is located in a wider archaeological landscape containing sites ranging from cropmarked enclosures of probable prehistoric and Romano-British date to post-medieval industrial sites. A detailed summary of the potential of the site is provided by a recent archaeological desk-based assessment undertaken by the Archaeological Practice Ltd. (their ref AP05/15; NCCCT ref BV8/2; 4605). This document formed the basis of Section 15 ('Archaeology and Heritage') of the applicant's Environmental Statement and was also included in unabridged form as an appendix.

1.3 A geophysical survey has been completed across the proposed development area (Archaeological Services University of Durham report 1414). The survey identified a number of potential archaeological features thought to represent earlier field systems, trackways and possible ring ditches in addition to extensive ridge and furrow cultivation and associated field boundaries of medieval and later date covering the majority of the site.

1.4 In view of both the quantity and quality of prehistoric features and deposits already identified within the locality, there is a high potential for similar remains to be present within the application area. Although there is as yet no evidence for earlier prehistoric activity within the application area, the proximity of the area to the coast, and in particular the estuarine zone around Seaton Sluice will have been attractive to prehistoric populations from the earliest times. Potential exists therefore for earlier prehistoric remains to be identified within the application area.

1.5 The proposed development area spans the counties of Northumberland and Tyne and Wear. Northumberland County Council (NCC) Conservation Team and Tyne and Wear Historic Environment Section have advised their respective County Development Control Teams that the archaeological potential of the site will be further investigated prior to the determination of this planning application. It has been agreed that the geophysical survey will be followed by a programme of fieldwalking and trial trenching.

1.6 Due to the presence of crops on the site and following discussions between NCC Conservation Team, Tyne and Wear Historic Environment Section and the

archaeological consultant, it has been agreed that the trial trenching can precede the fieldwalking, providing that sufficient contingency trenching remains to evaluate any areas of archaeological potential identified by the fieldwalking.

## **2. Site Location**

2.1 The site lies within the North Tyneside Council administrative area (Tyne and Wear), and the county of Northumberland. The site is centred on NGR NZ 300 730 and consists of several fields between the villages of Backworth, North Tyneside and Seaton Delaval, Northumberland.

## **3. Archaeological and Historical Background**

### **3.1 Prehistoric Period**

3.1.1 Bee-hive shaped querns of late Iron-Age or Romano-British date found on the site during ploughing are strongly indicative of late prehistoric settlement. This is particularly important in that a large number of settlement enclosures are known in the area from aerial photographs, suggesting that this area was intensively occupied during the late prehistoric period.

### **3.2 Romano-British Period**

3.2.1 There is no known evidence of features of this date within or in the immediate vicinity of the site, although evidence from elsewhere in the Tyne-Tees lowlands suggests that the type and form of late-prehistoric settlement observed in the vicinity of the site continued into the early Romano-British period.

### **3.3 Early Medieval Period**

3.3.1 There is no direct archaeological evidence of features of this date within or in the immediate vicinity of the site, but the presence of settlements in the earliest post-conquest documentary material with Old English derived place names (e.g. Backworth) is suggestive of an early medieval origin for at least some of these settlements.

### **3.4 Medieval Period**

3.4.1 The Medieval villages of Backworth and Holywell are first documented in the twelfth century. At this time, much of the land in the area was in the possession of the Priory of Tynemouth or was part of the holdings of the Delaval family. The presence of ridge-and-furrow cultivation and a farmstead (Wolf Hill) within the site shows that much of the site was used for agricultural purposes during this period, though the nature of any settlement within the site is uncertain. The boundary between these two villages appears to follow the line of the burn as it passes through the application area.

3.4.2 The site of a settlement at Wolf Hill first noted as Wolf Law in the 14th

century and abandoned in the 19th century is particularly important, as few medieval rural settlements have been archaeologically investigated in detail within this region, and it has particular potential to inform study of the development of settlement and agriculture into the post-medieval period.

3.4.3 It is also possible that previously unrecorded evidence of medieval colliery activity may be observed within the site area.

### **3.5 Post-Medieval Period**

3.5.1 The agricultural landscape of the site area seems to have been particularly influenced by the trends towards improvement and enclosure during the late-eighteenth and early-nineteenth centuries. The presence of farmsteads at West Field (first recorded 1820) and Wolf Hill (abandoned in the nineteenth century) is particularly important in this context.

3.5.2 Mining activity is known to have taken place within and adjacent to the site from at least the eighteenth century. Other activities associated with mining include brickworks, residential developments and the construction of railway lines (waggonways), use to transport coal from the mines to the Tyne for shipment.

## **4. Recommended Course of Action**

4.1 The evaluation work proposed here is intended to ascertain whether there are any archaeological constraints that may affect the planned development. The purpose of trial excavation is to establish the presence or absence of archaeological remains, their nature, quality, depth and preservation.

4.2 The geophysical survey has identified the presence of extensive ridge and furrow, showing that the majority of the site has not been subject to later disturbance or activity which would have removed any potential archaeological remains. The geophysical survey has also identified a number of large soil-filled features of potential archaeological origin which appears to indicate that earlier features have survived the impact of medieval and later farming activity.

4.3 There is a strong potential that further archaeological remains will be present on the site. Previous archaeological investigations within both Northumberland and Tyne and Wear have shown that not all archaeological remains will show up on geophysical survey, due to a number of causes including nature of subsoil and fill of feature, size of feature, location and masking by later features, particularly ridge and furrow. The geophysical survey has proved to be invaluable on this site in identifying the extent of ridge and furrow and the location of larger anomalies. It has also reinforced the archaeological potential of the site and the need to evaluate all of the development area that will be subject to any groundworks, such as levelled slag heaps, made ground, earth bunds etc.

4.4 This project design covers the programme of trial trenching. Following discussions between NCC Conservation Team, Tyne and Wear Historic Environment Section and the archaeological consultant, the trenching requirement comprises:

- 2% evaluation of the application area within Northumberland. The area of this part site of the site has been calculated at 31ha, of which a 2% sample requires the excavation of 62no 50m by 2m trenches.
- 1.5% evaluation of the application area within Tyne and Wear. The area of this part of the site has been calculated at 33ha, of which 5ha (the western end of the proposed access road) has been disturbed by opencast mining in the 1970s. A 1.5% sample of this area comprises 42no 50m by 2m trenches.

**Note: there is provision within this Project Design for a further trenching which may be required by either or both of the relevant County Archaeological Officers based on the results of the initial phase of trenching and of any fieldwalking. This contingency is detailed at Section 8 below.**

4.5 The trenches have been positioned to evaluate:

- Anomalies of potential archaeological origin identified by the geophysical survey. Where this is the case, the trenches have been aligned perpendicular to linear anomalies.
- Where trenches are not focused on specific features, these have been distributed randomly over areas either appearing to be blank, or not covered by the geophysical survey.
- The whole development area will effectively be investigated with an even spread of trenches on different alignments.

4.6 Specific features which have been targeted are:

- The Backworth / Holywell settlement boundary
- The former farmstead at Wolf Hill
- Those parts of the proposed new access road which have not been subject to previous open-cast mining

4.7 No trenches have been placed within 25m of the existing overhead electrical service for safety reasons. In order to retain a degree of flexibility, trenches may be moved from their intended positions particularly where safety or logistical issues require. This will only be done with the prior consent of the relevant County Archaeological Officer.

## **5. General Standards**

5.1 All work will be carried out in compliance with the codes of practice of the Institute of Field Archaeologists (IFA) 1 and will follow the IFA Standard and Guidance for Archaeological Field Evaluation.

## **6. Pre-site work preparation**

6.1 An appropriate environmental sampling has been discussed with Jacqui

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<sup>1</sup> Institute of Field Archaeologists, 2000, Code of Conduct

Huntley, Department of Archaeology, University of Durham, Science Laboratories, South Road, Durham.

6.2 This sampling strategy is intended to provide sufficient data to characterise the nature and informative potential of the deposits and features observed in the evaluation. This will fulfil the aim of both informing any further archaeological work and creating a record of deposits where no further work is required. Because of the speculative nature of this work and the wide range of features likely to be encountered, this strategy is best set out as a series of principles. These are:

- 10-30l samples should be taken from occupation and industrial features, 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 pollen cores or Optically Stimulated Luminescence (OSL) dating should be considered, although this type of sampling would normally be undertaken in consultation with the Regional Scientific Advisor.

6.3 The relevant museum will be contacted to discuss archiving, prior to work commencing.

6.4 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.

## **7. Fieldwork**

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

7.2 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.

7.3 All faces of the trench 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.

7.4 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, gulleys) with a non-uniform fill
- 10% of the area of linear/curvilinear features (e.g. ditches, gulleys) with a uniform fill

7.5 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.

7.6 Deposits will be assessed for their potential for providing environmental or dating evidence. Sampling will be in line with the strategy agreed with Jacqui Huntley, NCC Conservation Team and Tyne and Wear Historic Environment Section

7.7 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 relevant Home Office regulations.

7.8 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.

7.9 The drawn record from the site will include all sections from the excavations that clearly allow the nature and depth and any significant changes in the deposits recorded to be demonstrated. Evaluation trenches found to be devoid of archaeological features will be planned in outline and a sample section drawn. If there is any uncertainty, advice will be sought from the Assistant County Archaeologist as to which sections may be appropriate for inclusion within the site record.

7.10 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, regular monitoring of conditions, immediate selection for conservation of vulnerable material).

## **8. Contingency**

8.1 While it has been agreed that the programme of trial trenching can progress prior to the programme of fieldwalking due to current ground conditions, it is important that the trial trenching evaluates all areas of archaeological potential prior to the determination of planning permission. It is also possible that initial programme of trial trenching may identify areas of greater archaeological potential which will require further evaluation. It is therefore vital that a contingency sum is allowed to further evaluate areas of archaeological potential identified by the fieldwalking and initial trial trenching of this site.

8.2 The contingency allowance has been set at:

- Up to 500 linear metres in the part of the application area within Northumberland (5no 50m by 2m trenches or equivalent)
- Up to 0.5% of the application area within Tyne and Wear (18no 50m by 2m trenches or equivalent)

8.3 The activation of the contingency will only be undertaken after discussion with, and with the agreement of the County Archaeological Officer within NCC Conservation Team and Tyne and Wear Historic Environment Section and the developer.

## **9. Archaeological Recording**

9.1 The evaluation trench will be accurately related to the National Grid and located on a map of the area at an appropriate scale.

9.2 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.

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

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

9.5 A photographic record of all contexts will be taken in colour transparency and black and white print and will include a clearly visible, graduated metric scale. A register of all photographs will be kept.

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

## **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 IFA Guidelines for Finds Work 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 archive and the finds will be deposited in the appropriate local museum, within 6 months of completion of the post-excavation work and report.

10.2.2 Before the commencement of 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.

10.2.3 NCC Conservation Team and Tyne and Wear Historic Environment Section will require confirmation that the archive had been submitted in a satisfactory form to the relevant museum.

## **10.3 Reporting**

10.3.1 The evaluation is the third stage in a potential multi-staged programme of archaeological work and has been requested prior to the determination of planning permission.

10.3.2 Due to the strict deadlines laid out in the planning system, Tyne and Wear Museums or consultant will submit copies of the report to NCC Conservation Team, Tyne and Wear Historic Environment Section, the respective planning departments and their client within 20 working days of being commissioned to carry out the work unless agreed in advance with all relevant parties.

10.3.3 The following copies of the report are required:

- Two copies of the report for NCC Conservation Team (one bound and one unbound)
- One bound copy of the report and one copy on CD for Tyne and Wear Historic Environment Section
- One bound copy for NCC Planning Department
- One bound copy for North Tyneside Planning Department
  - 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:
    - Planning application numbers, Northumberland County Council Conservation Team reference, OASIS reference numbers and an 8 figure grid reference
    - 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 Sites



## and Monuments 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)
- A summary statement of the results
- A table summarising the deposits, features, classes and numbers of artefacts encountered and spot dating of significant finds
- Tables and matrices summarising feature and artefact sequences
- Archive description of contexts grouped by phase
- Description and illustration of artefacts
- Colour photographs of archaeological features or finds
- Laboratory reports and summaries of environmental data
- Consideration of results in wider research context

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

## **10.4 OASIS**

10.4.1 NCC Conservation Team and Tyne and Wear Historic Environment Section support the Online Access to Index of Archaeological Investigations (OASIS) Project. 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 consultant or contractor will therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. If the contractors are unfamiliar with OASIS, they are advised to contact Northumberland SMR prior to completing the form. Once a report has become a public document by submission to or incorporation into the SMR or HER, Northumberland SMR and Tyne and Wear HER will validate the OASIS form thus placing the information into the public domain on the OASIS website. The archaeological consultant or contractor will indicate that they agree to this procedure within the specification/project design/written scheme of investigation submitted to NCC Conservation Team and Tyne and Wear Historic Environment Section for approval

## **10.5 Publication**

10.5.1 A summary will be prepared for 'Archaeology in Northumberland' and submitted to Sarah MacLean, Northumberland Historic Records Officer, by December of the year in which the work is completed.

10.5.2 A short report of the work will also be submitted to a local journal if appropriate.

## **11. Monitoring**

11.1 The County Archaeologists will be informed on the start date and timetable for the evaluation in advance of work commencing.

11.2 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

Regular communication between Tyne and Wear Museums, the County Archaeologist and other interested parties will be maintained to ensure the project aims and objectives are achieved.

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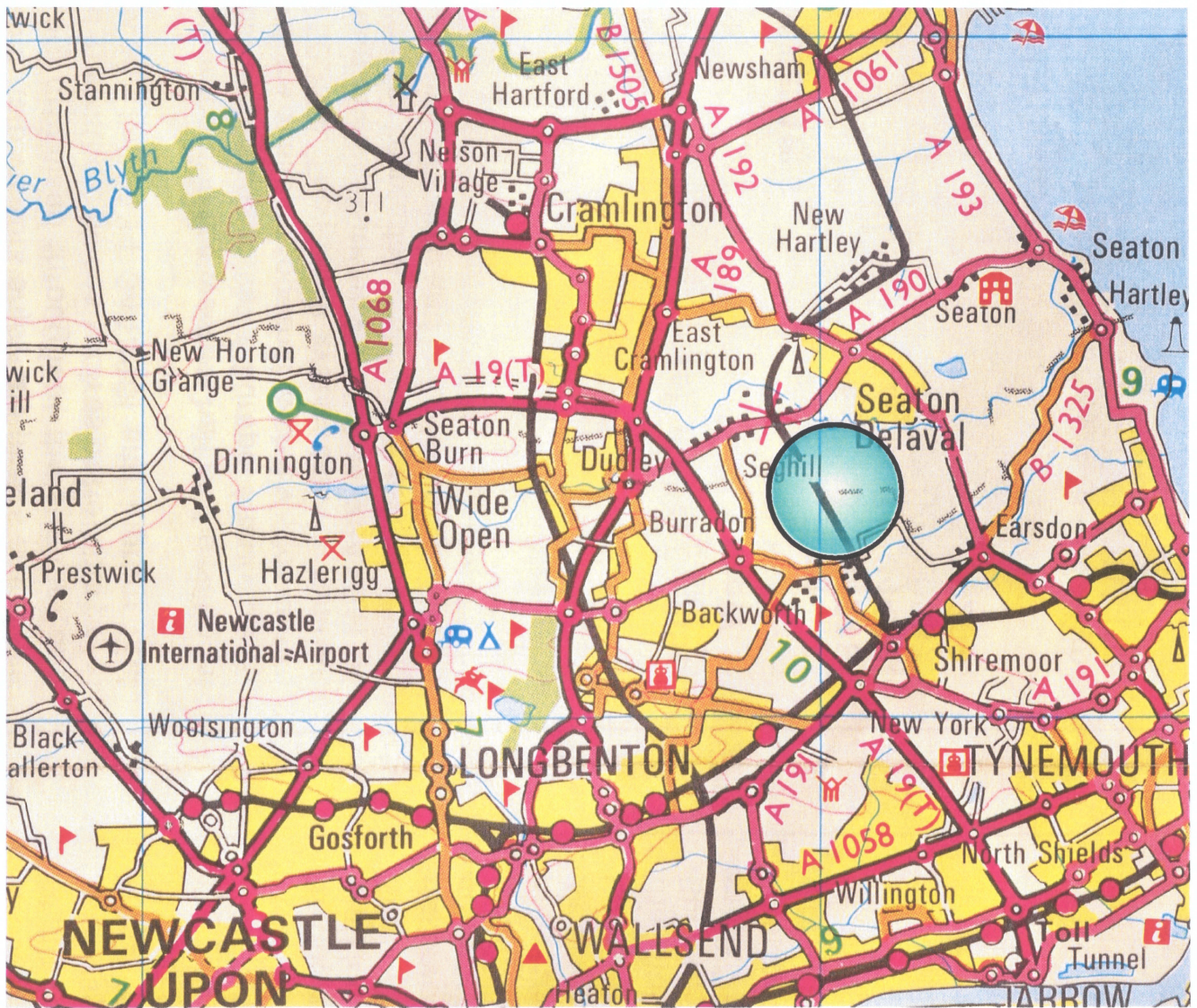
Jonathan McKelvey  
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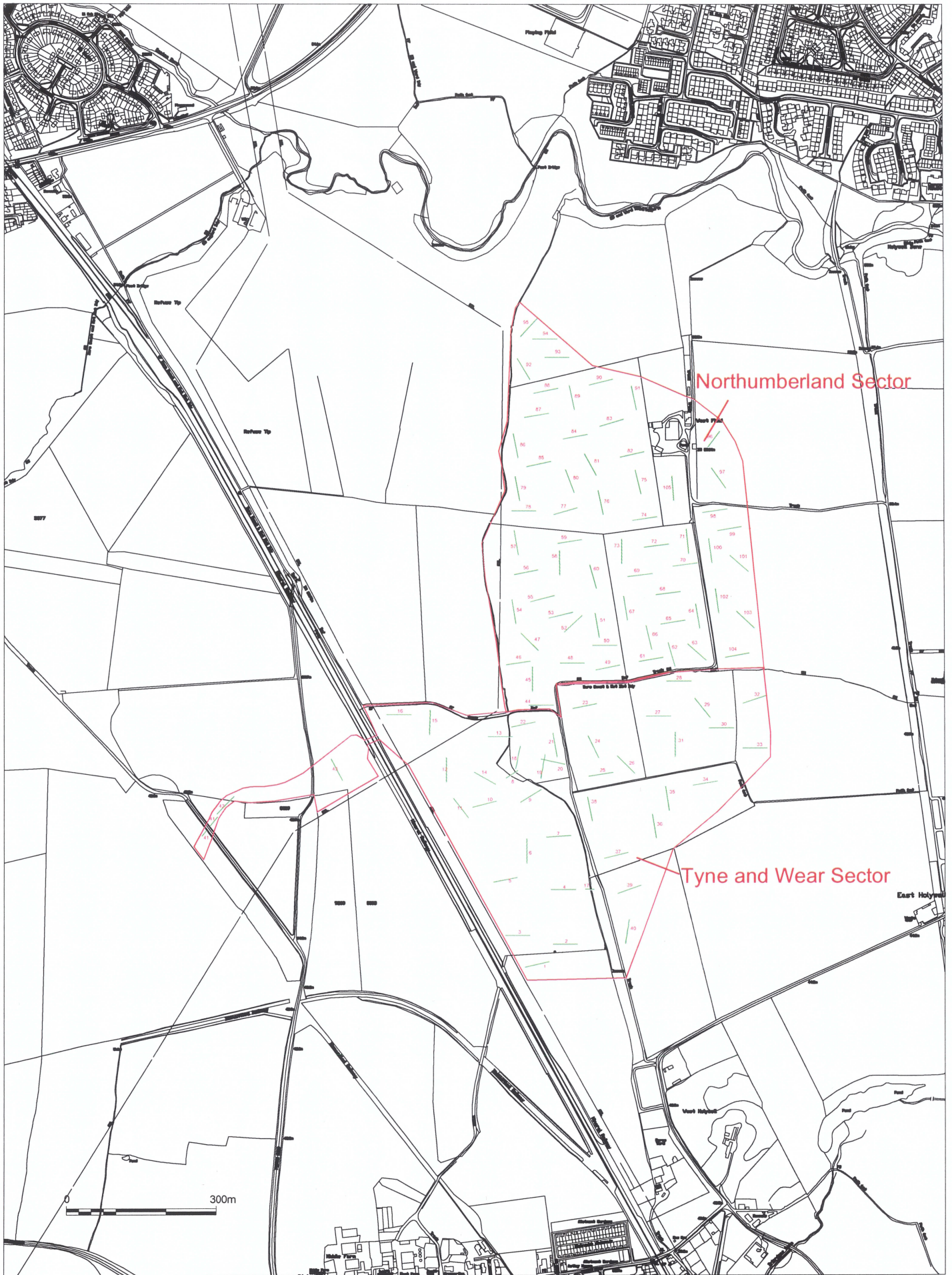
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1:50000  
N  
↑

Figure 1: General location of Site







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1:1000  
 ↑ N

Figure 2: Site Location and trench plan





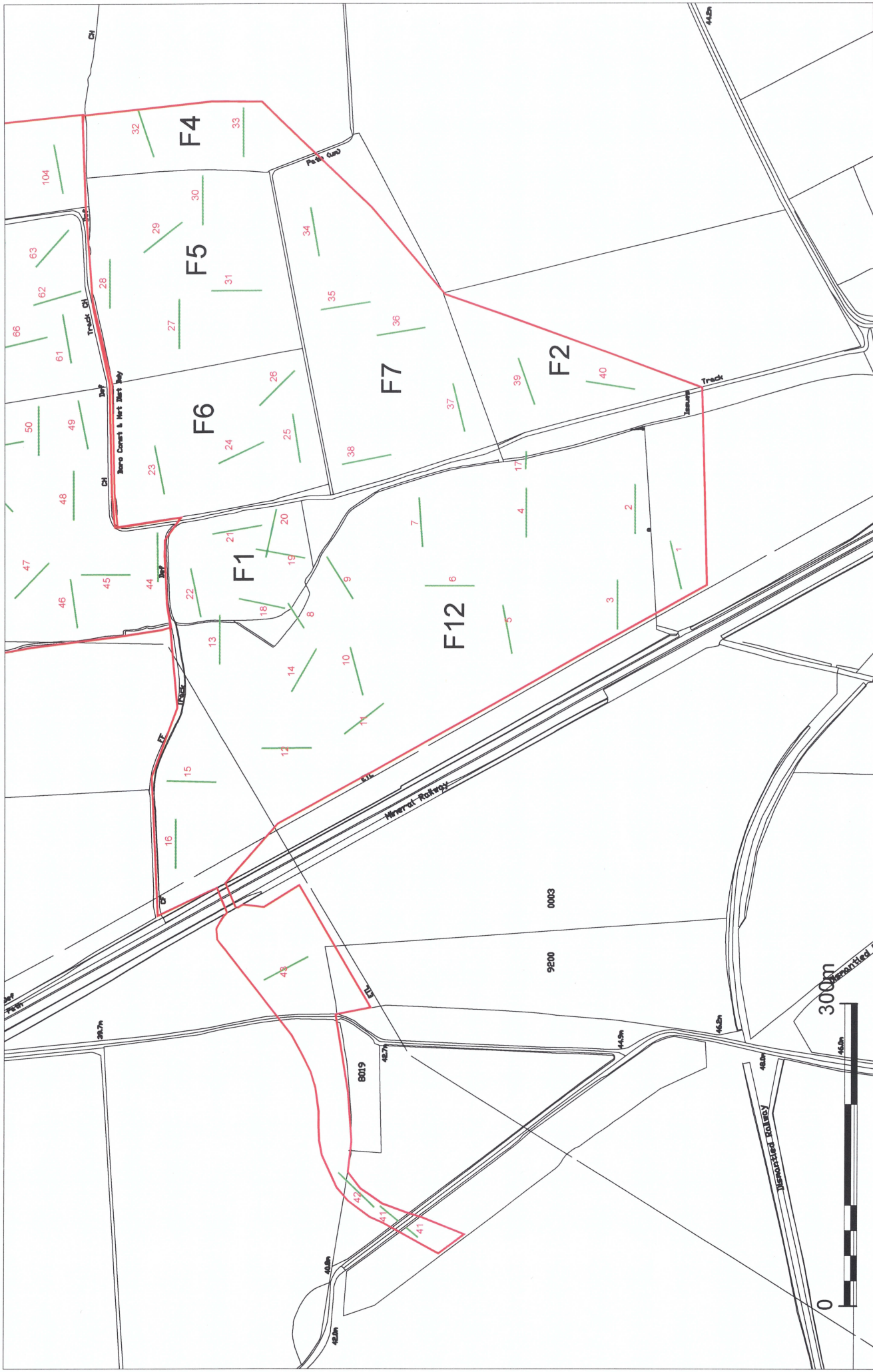
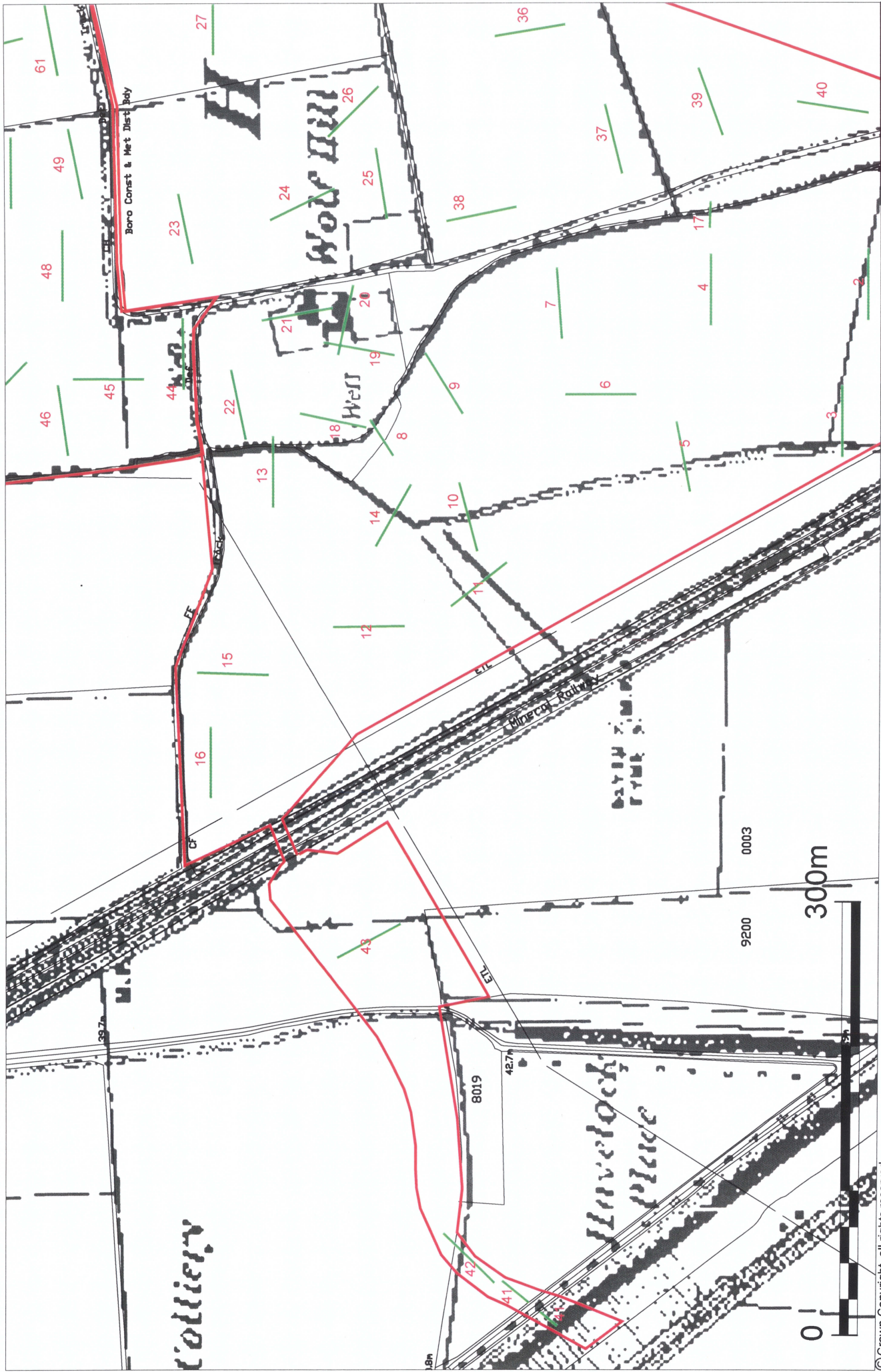


Figure 3: Tynes and Wear Sector Trench Plan



Figure 4: Northumberland Sector Trench plan





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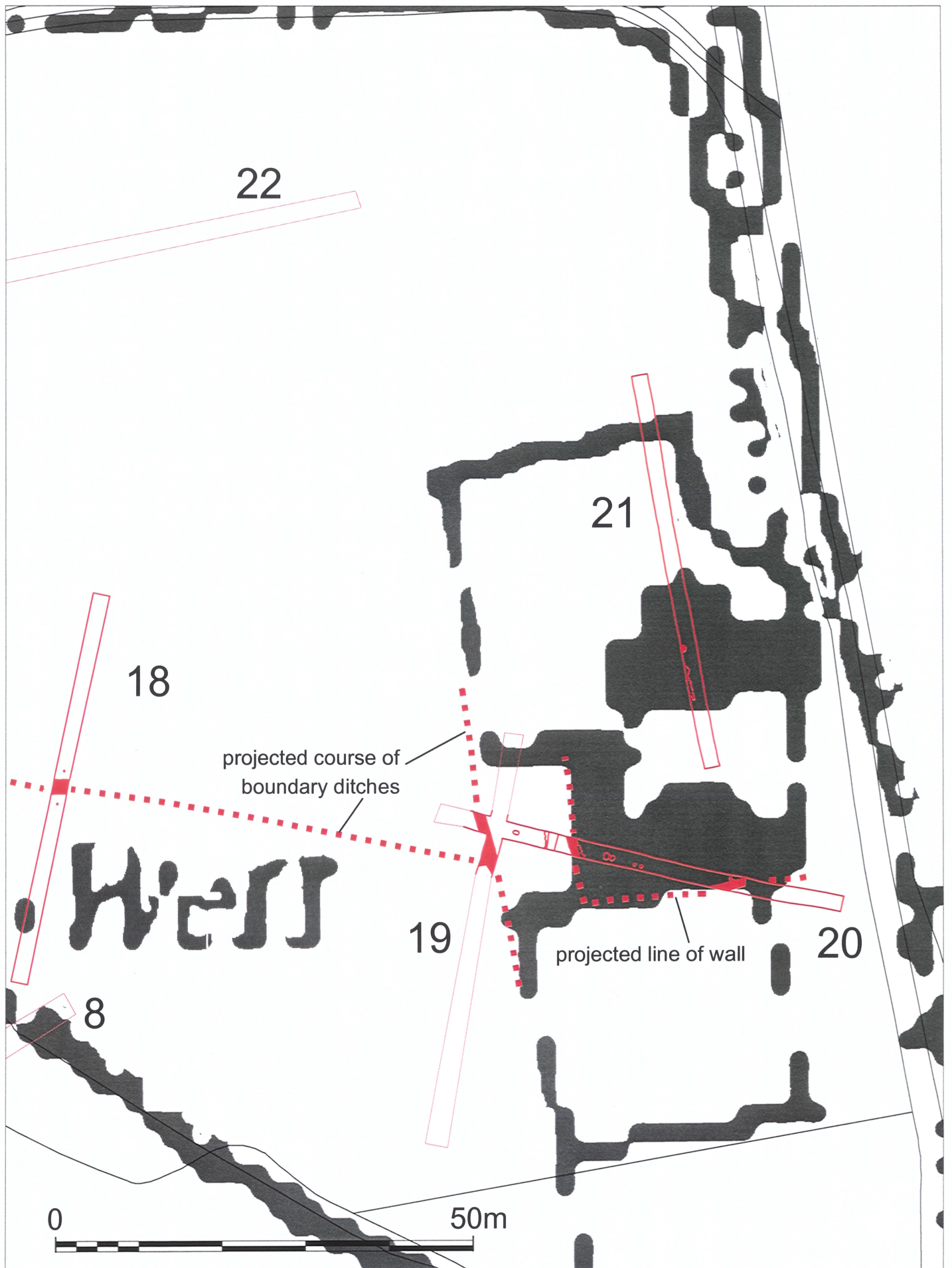
1:3500

N

Figure 5: Areas A, C, D showing First Edition OS 1865 plan

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1:600



Figure 6: Trenches at Wolf Hill farm aligned with First Edition OS 1865 plan

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Figure 7



Figure 8

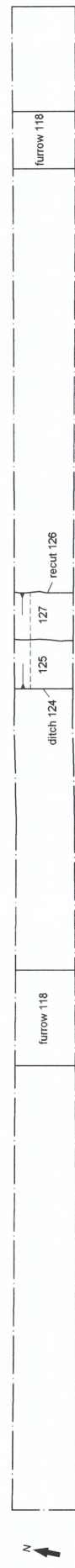


Figure 9



1:200



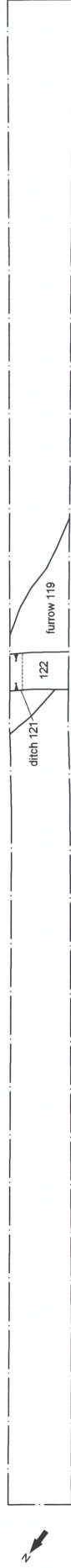


Figure 10

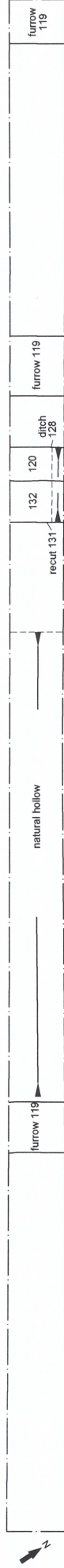


Figure 11



Figure 10: Plan of Trench 11  
 Figure 11: Plan of Trench 14

1:200

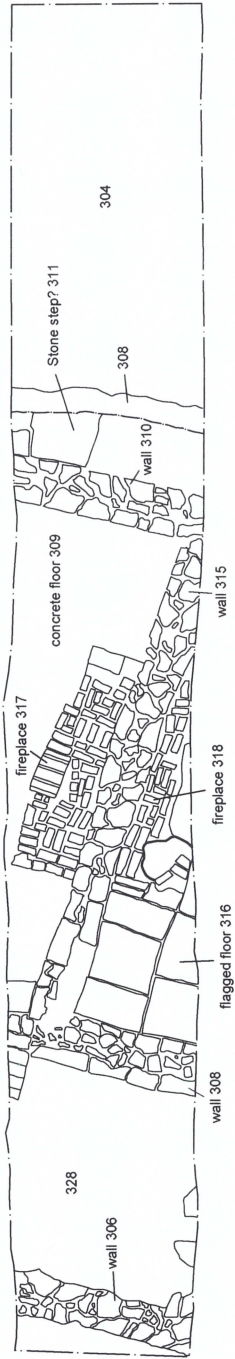


Figure 12

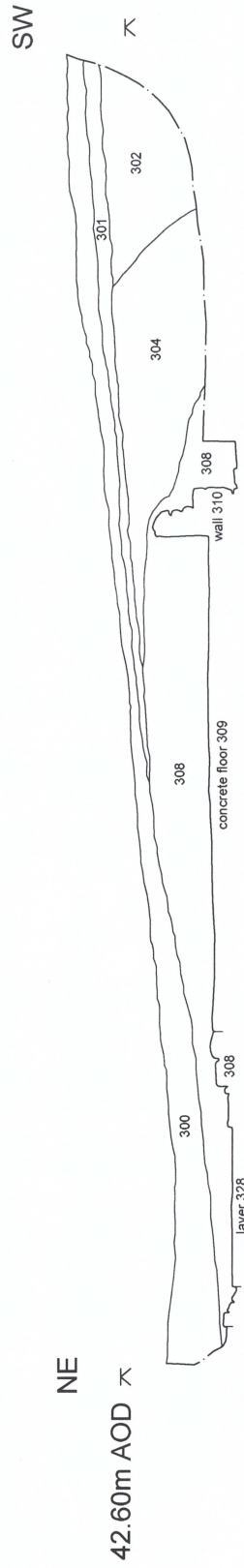


Figure 13

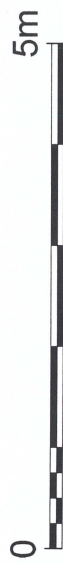


Figure 12: Plan of Trench 41

Figure 13: North facing section of trench 41



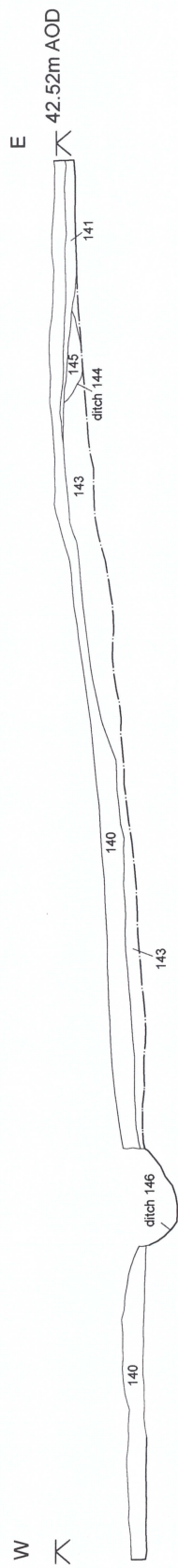


Figure 14



Figure 15



Figure 14: South East facing section of Trench 8  
 Figure 15: Plan of Trench 8

W ↗

E ↖ 38.45m AOD

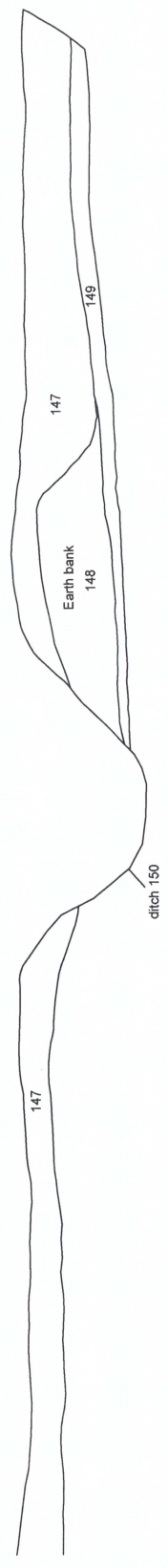


Figure 16

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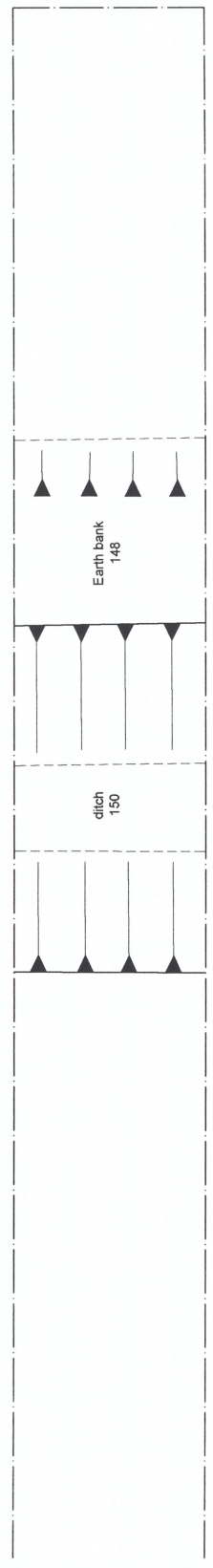


Figure 17



Figure 16: South facing section of Trench 13  
 Figure 17: Plan of Trench 13



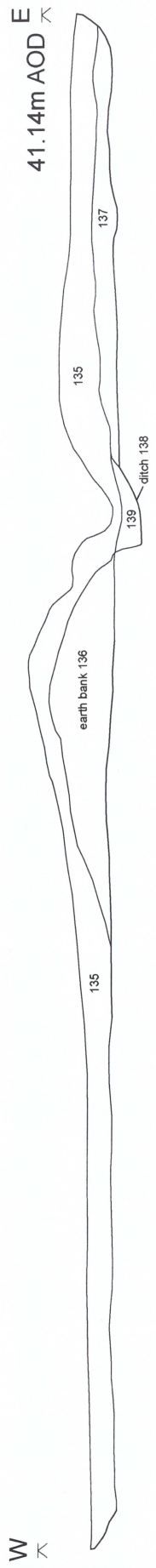


Figure 18

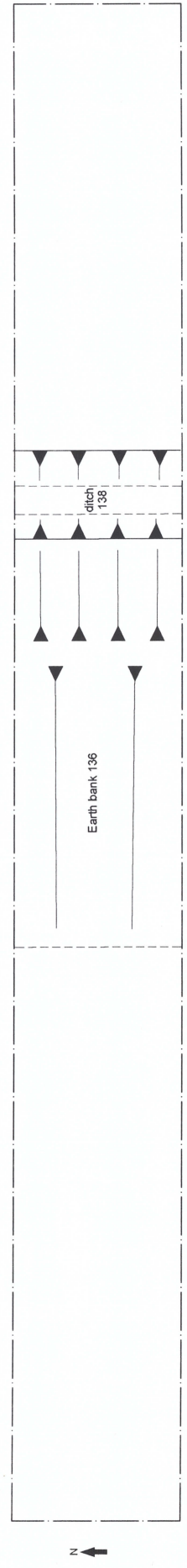


Figure 19



Figure 18: South facing section of Trench 17  
 Figure 19: Plan of Trench 17



Figure 20

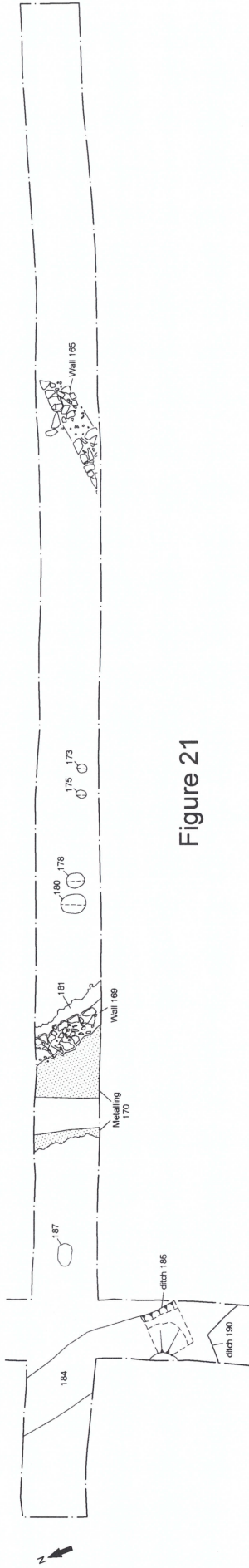


Figure 21



Figure 22



Figure 20: Plan of Trench 18  
 Figure 21: Plan of Trench 19,20  
 Figure 22: Plan of Trench 21

1:200





Figure 23

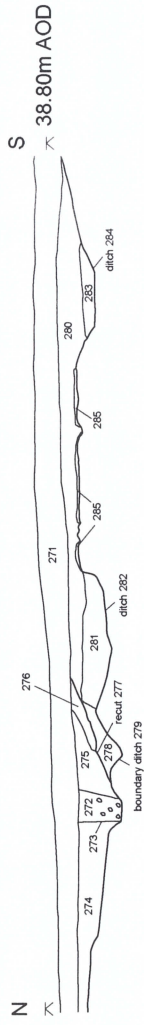


Figure 24

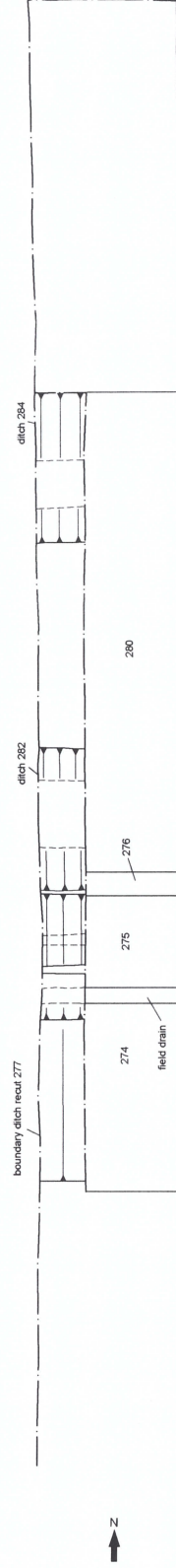


Figure 25



Figure 23: Plan of Trench 44  
 Figure 24: West facing section of Trench 45  
 Figure 25: Plan of Trench 45

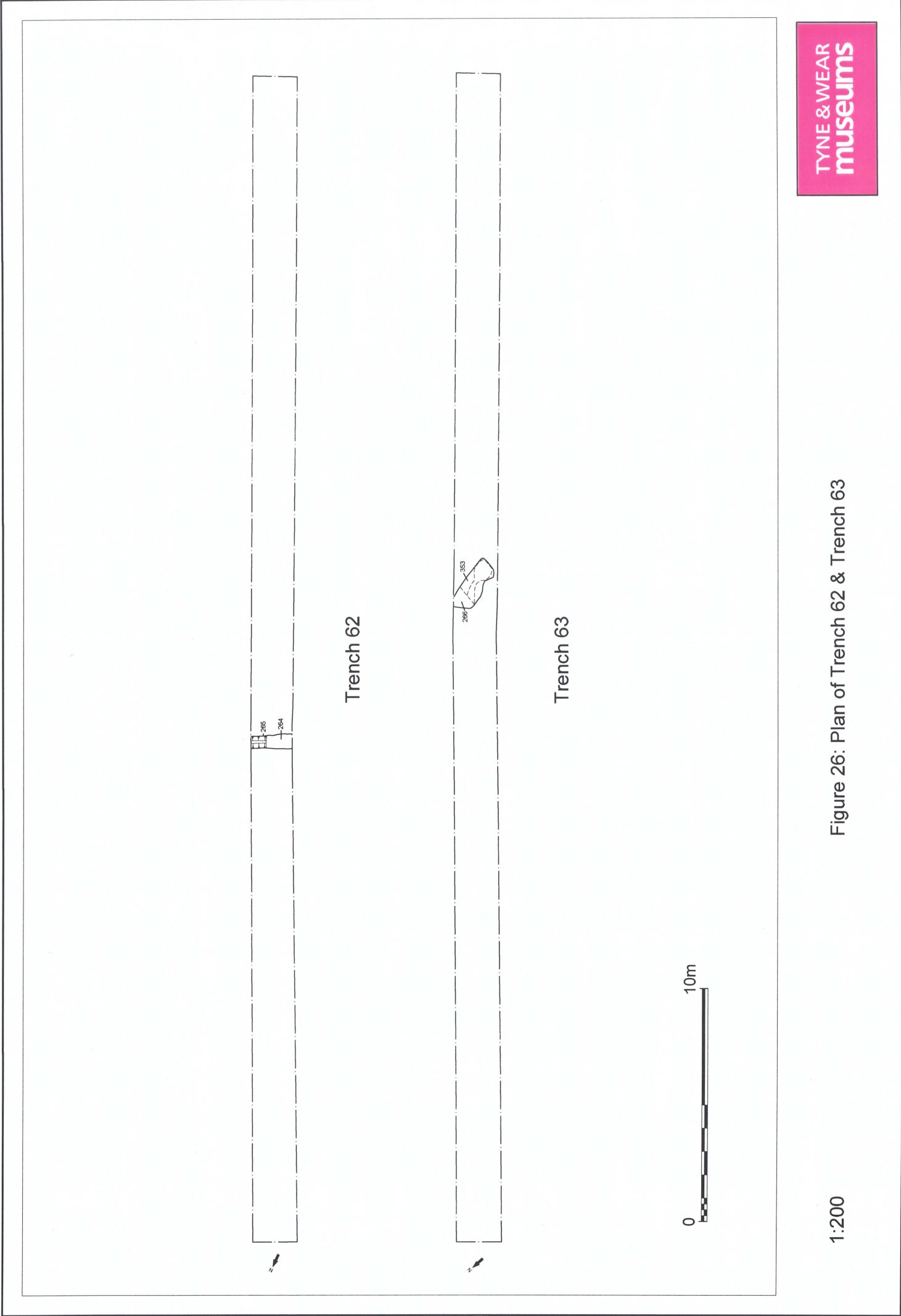


Figure 26: Plan of Trench 62 & Trench 63

1:200



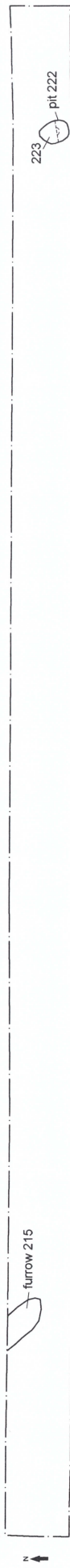


Figure 27



Figure 28

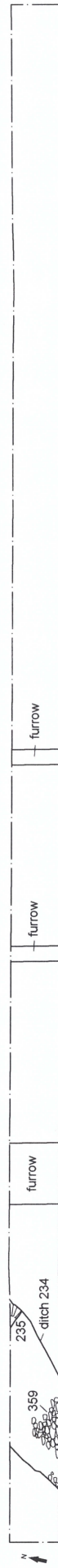


Figure 29



Figure 27: Plan of Trench 78  
 Figure 28: Plan of Trench 79  
 Figure 29: Plan of Trench 83

1:200



Figure 30



Figure 31



Figure 30: Plan of Trench 84  
 Figure 31: Plan of Trench 94



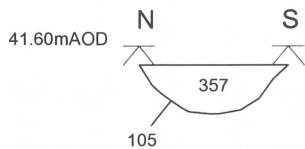


Figure 32 a: Trench 3 west facing section of ditch 105

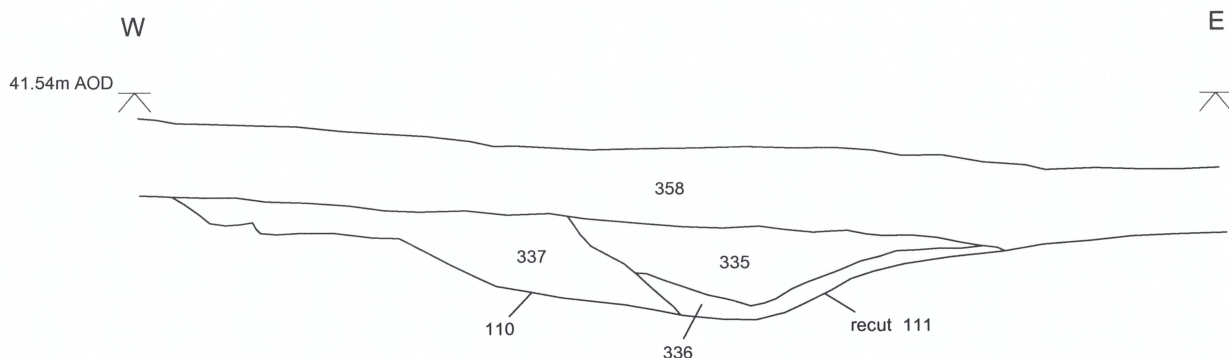


Figure 32 b: Trench 5 south facing section of ditch 110, recut 111

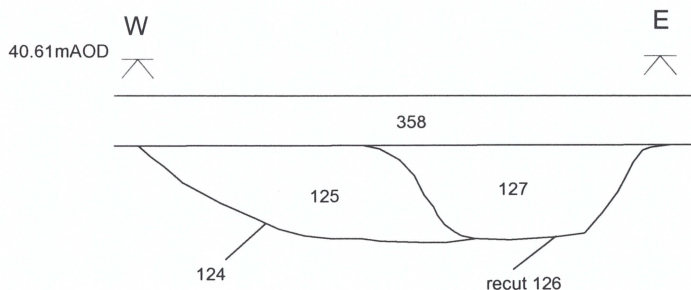


Figure 32 c: Trench 10 south facing section of ditch 124, recut 126

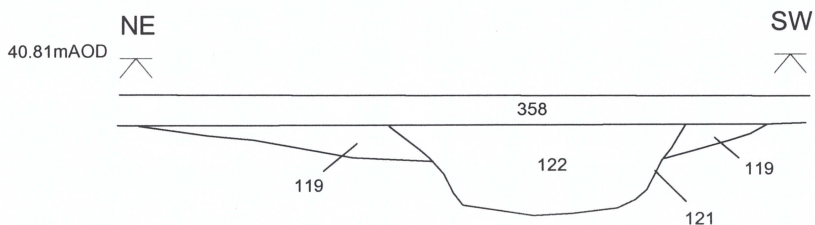


Figure 32 d: Trench 11 south west facing section of ditch 121

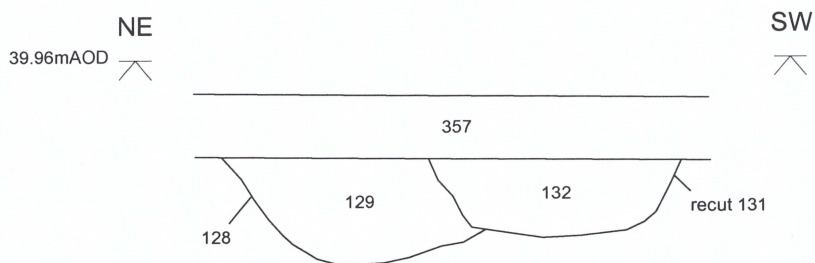


Figure 32 e: Trench 14 south west facing section of ditch 128



Figure 32: Sections

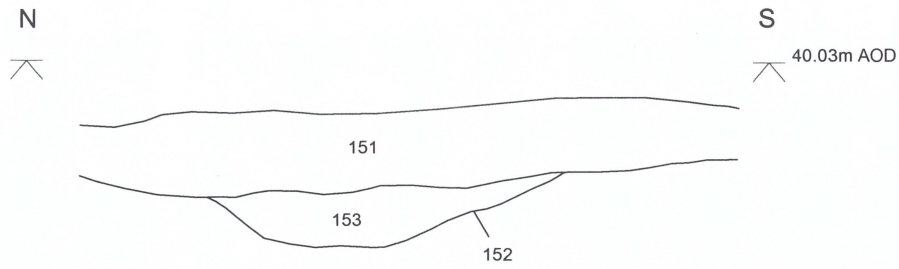


Figure 32 f: Trench 18, west facing section of ditch 152

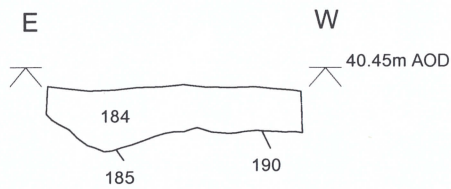


Figure 32 g: Trench 19, north facing section of ditch 185

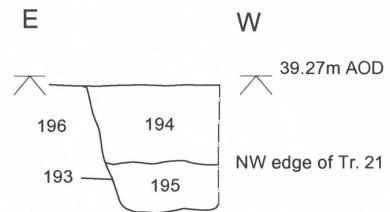


Figure 32 h: Trench 21, north facing section of pit 193

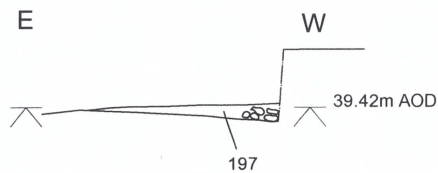


Figure 32 i: Trench 21, north facing section of layer 197

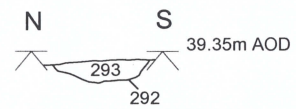


Figure 32 j: Trench 44, west facing section of slot 292, segment a

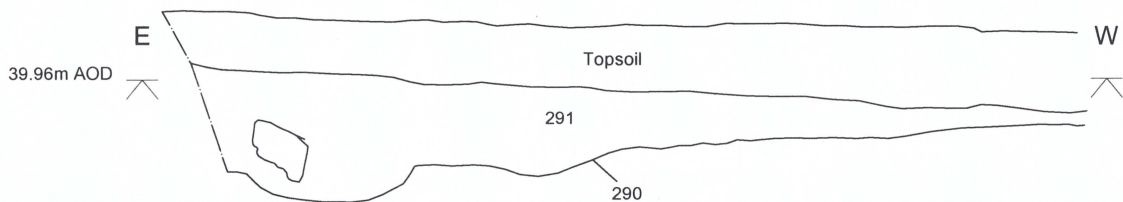


Figure 32 k: Trench 44, north facing section of ditch 290

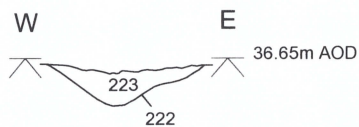


Figure 32 L: Trench 78, south facing of pit 222



Figure 32 M: Trench 79, east facing section ditch 211





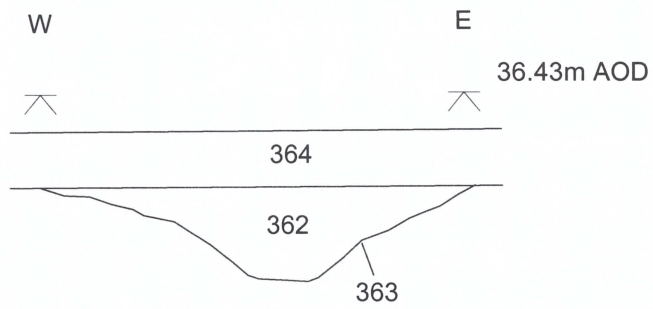


Figure 32 n: Trench 84, south facing section of ditch 363

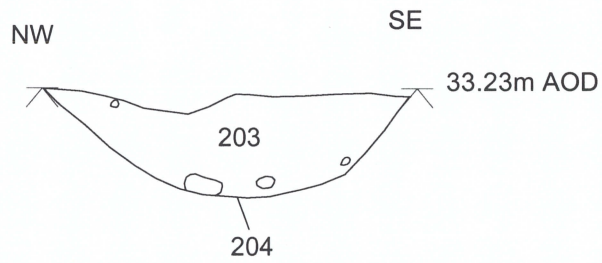


Figure 32 p: Trench 94, north facing section of slot 204







Plate 1: Recut ditch (110, 111) trench 5, facing west.



Plate 2: Havelock Place, trench 41, facing east,  
facing west.





Plate 3: Township Boundary, trench 17, facing northeast.



Plate 4: Wolf Hill Farm, trench 20, facing east.





Plate 5: Features within trench 45, facing north.



Plate 6: Pit (222), trench 78, facing north.





Plate 7: Ditch (234), trench 83, facing southwest.



Plate 8: Gully (204), trench 94, facing northeast.



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