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Archaeological Evaluation at Toft Hill, Berwick-Upon-Tweed, Northumberland
Planning ref: 06/B/1001

Ross Murray

PROJECT SUMMARY SHEET (THN07)

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SUMMARY

Headland Archaeology conducted an evaluation at Toft Hill, Berwick-Upon-Tweed, Northumberland to test the archaeological potential of a proposed wind farm development. The work was commissioned by Entec UK Ltd on behalf of RWE Npower plc.

A total of four features spread across four separate trenches were deemed to be of archaeological interest, the majority of which were pits of unknown date and function. These features were not associated with each other and did not form any concentrations or structures and therefore do not appear to be of more than local importance. The fill of one pit (context 2), located in Trench 22, produced environmental remains that may allude to its function. These were small quantities of charred oats and burnt bone indicating it may have been an isolated cooking pit.

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1. INTRODUCTION

An archaeological evaluation, commissioned by Entec UK Ltd on behalf of RWE Npower plc, was undertaken on land at Toft Hill, Berwick-Upon-Tweed, Northumberland from 24th September to 3rd October 2007.

The evaluation was undertaken to inform determination of a planning application (Planning Ref. 06/B/101) for development of a windfarm. The works were carried out in accordance with a Written Scheme of Investigation prepared by Headland Archaeology Ltd based on a brief prepared by Northumberland County Council Conservation Team (NCCCT ref: B15/3; 6691).

2. BACKGROUND

A desk-based assessment of the site was undertaken by Entec UK Ltd in 2005 to inform the cultural heritage chapter of the Environmental Statement prepared to support the planning application. The assessment identified evidence of buried archaeological remains within the site and surrounding area, which showed as cropmarks on aerial photographs, and are likely to represent prehistoric and later occupation. These have been taken into account in the design of the wind farm such that the proposed layout avoids identified features. However, it was concluded that there was some potential for further, previously unrecorded, buried remains. In order to assess this potential a programme of archaeological trial trenching was undertaken on key elements of the proposed wind farm that will involve ground intrusion.

3. OBJECTIVES

The objective of the evaluation was to ascertain whether there were any archaeological constraints that may affect the proposed development; in particular, to determine the presence or absence of archaeological remains within the area and to ascertain their quality, nature, extent and character.

4. METHOD

Fieldwork

All aspects of the fieldwork programme were undertaken in accordance with the Northumberland County Council *Standard Brief (Sections 2 & 3)*. Evaluation trenches were laid out using a Total Station EDM based on georeferenced survey data supplied by Entec UK Ltd.

A trench location plan was agreed between NCCCT and Entec UK Ltd. During the course of the evaluation it was necessary to move two trenches (Trenches 26 and 32) due to proximity to a gas main and a ditch not present on OS maps.

The agreed scope the trial trenching was as outlined below:

- Crane pads (circa 40 x 20 m) & turbine foundations (15 x 15 m): two trenches in each of the seven locations (with standard dimensions of 20 x 1.8 m wide) – overall sample of 7% by area.

- Temporary construction compound (50 x 100 m) and substation hardstanding (20 x 7.5 m); three trenches 30 x 1.8 m and one 35 x 1.8 m long to include the proposed location of the substation – overall sample of 5% by area.
- Site roads: 25 trenches measuring 20 x 1.8 m. Positioned at site entrances, significant bends and ‘junctions’ at turbine location spurs (which include the locations of crossing points over drains and other boundaries).

The total area of trenching comprised 1629 sq m arranged over 43 trenches, with contingency made for additional trenching in order to answer any specific queries arising during the evaluation. However, in light of the ongoing evaluation and in discussion with NCCCT, the contingency was not required.

Works were conducted using a wheeled JCB 3CX mechanical excavator, suitably equipped with a 1.5m wide toothless ditching bucket. All trenches were excavated by machine under direct archaeological supervision to remove topsoil and other deposits over the natural substratum (such as colluvium). Machine excavation was terminated at the top of the natural sub-stratum or the first significant archaeological horizon, whichever was encountered first. Any further excavation required to satisfy the objectives of the evaluation was continued by hand.

On completion of machine excavation, all faces of the trench that required examination or recording were cleaned using appropriate hand tools. The stratigraphic sequence was recorded in full in each of the trenches, even where no archaeological deposits had been identified.

All identified features were investigated and recorded. All features exposed were sample excavated. This involved excavation of 50% of discrete features, and 10% of linear features where a uniform fill was present. No features were wholly excavated

Recording

All aspects of the recording were undertaken in accordance with the Northumberland County Council *Standard Brief (Sections 3 & 4)* and codes of practice of the Institute of Field Archaeologists.

All recording followed Headland Archaeology Ltd standard procedures. All contexts, small finds and environmental samples were given unique numbers. Colour transparencies and black and white prints were taken; a graduated metric scale was clearly visible. An overall site plan will be recorded at 1:2500 or 1:1250 relative to the National Grid. All recording was undertaken on *pro forma* record cards. Survey recording of all trench locations was related to the Ordnance Survey grid.

5. RESULTS

Evaluation trenches (Figure 1)

Forty-three trenches were excavated within the proposed development area (Figure 1) amounting to a 1629 m² sample. Full detailed description of each trench can be found in Appendix 1. Only those trenches where features other than field drains were encountered are described below.

Trench 22 (Figure 2)

Trench 22 was orientated northeast to southwest with a width of 1.8 m and length of 20 m. It had a simple stratigraphic sequence of up to 0.45 m dark brown loam topsoil over orange sandy clay till. A small sub-circular pit (context 2) was present 8.7m from the SW end. This was 0.6 m in diameter and 0.16m deep. A thin lens of charcoal was present towards the base. No artefacts were present.

Trench 25

Trench 25 was oriented north to south with a width of 1.8m and a length of 20 m. It had a simple stratigraphic sequence of up to 0.5 m of dark brown loam topsoil over compact, sandy clay till. A culvert capped with friable yellow sandstone was present 7.5 m from the north end; this was 0.4 m wide and oriented northwest to southeast. No artefacts were present in the drain fill.

The culvert truncated a slightly curvilinear feature (context 3) that began 2.5 m from the north end of the trench. It had a length of 6 m before it petered out, was 0.35m wide and 0.2 m deep. A 1 m wide slot was excavated and showed the feature to have to have near vertical sides and a concave base. It was filled with archaeologically sterile greyish sandy clay (context 4).

Trench 26

Trench 26 was oriented north to south with a width if 1.8 m and a length of 20 m. It was located at the base of a small slope. Its stratigraphic sequence consisted of 0.3 m deep layer of dark brown loam topsoil over a 0.4 m deep layer of colluvium. The natural sub-stratum was compact grey sandy clay. A pit (context 5) was present 4 m from the south end of the trench. This was sub-circular in plan, 1.3m in diameter and 0.3 m deep. The lower fill was a brown organic deposit 0.1 m deep present at the base and up the sides of the cut. This had been sealed by redeposited natural (context 9) similar in nature to the surrounding sub-stratum.

Trench 36

Trench 36 was oriented east to west with a width of 1.8m and a length of 20 m. It had a simple stratigraphic sequence of up to 0.4 m of dark brown loam topsoil over compact, sandy clay till. A circular feature (context 7) was present 6.5m from the east end of the trench. This had a diameter of 0.4 m, a depth of 0.15m and was filled with greenish grey sandy clay with possible flecks of charcoal; it is possible that this was a natural variation in the sub-stratum.

6. ENVIRONMENTAL RESULTS

The main palaeoenvironmental findings were from two pits, context 2 and context 5. Charred cereal grain was present in the fill of context 2, which contained small quantities of oat (*Avena* sp.). Very small quantities of burnt bone were also recorded from this pit. One small fragment of nutshell (*Corylus avellana*) was recovered from the fill of context 5. The sample taken from the linear (context 3) was archaeologically sterile. Full results are given in Appendix 2.

7. DISCUSSION

A total of four features spread across four separate trenches were deemed to be of archaeological interest, the majority of which were pits of unknown date and function. These features were not associated with each other and did not form any concentrations or structures and therefore do not appear to be of more than local importance. The fill of one pit (context 2), located in Trench 22, produced environmental remains that may allude to its function. These were small quantities of charred oats and burnt bone indicating it may have been an isolated cooking pit.

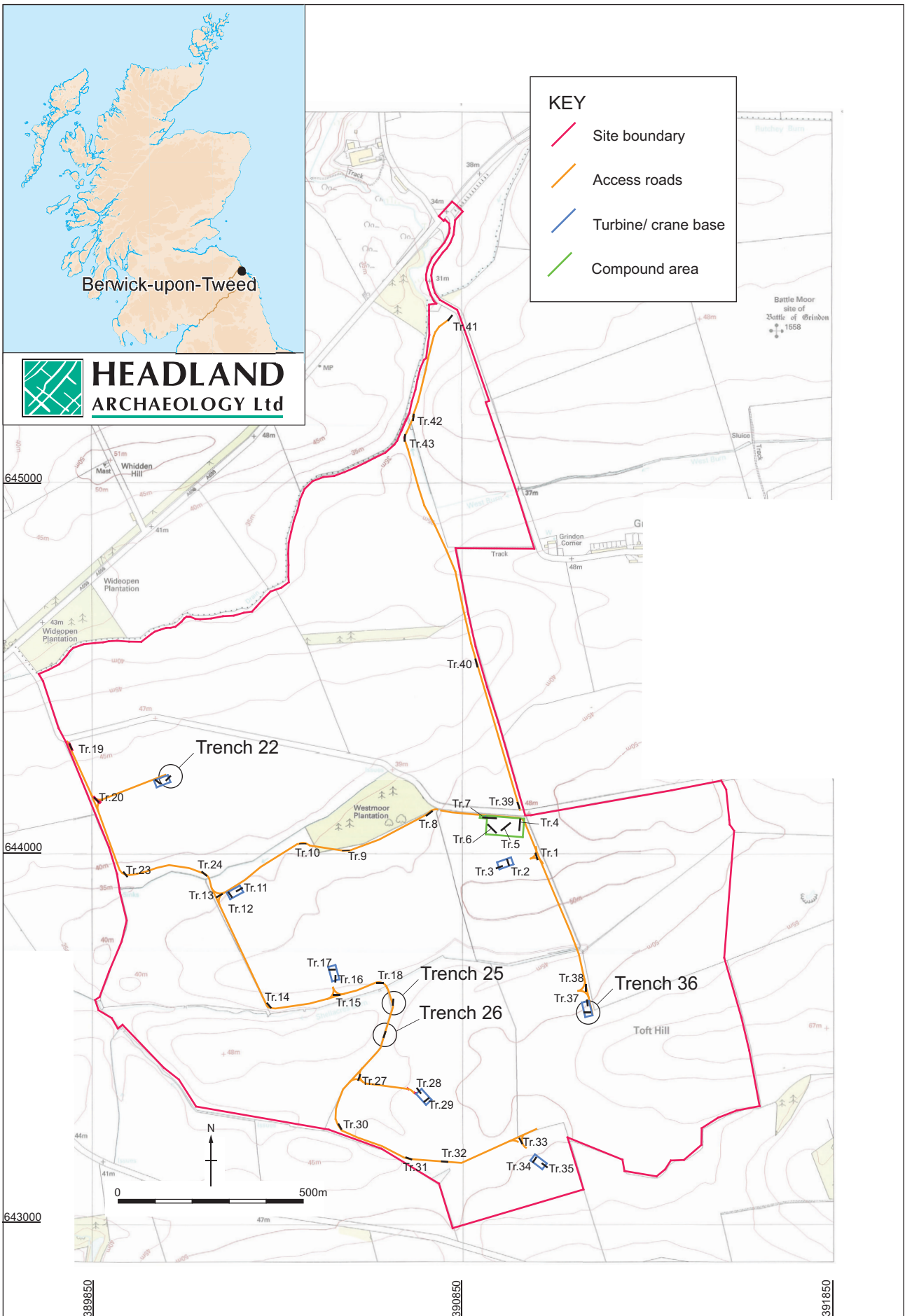
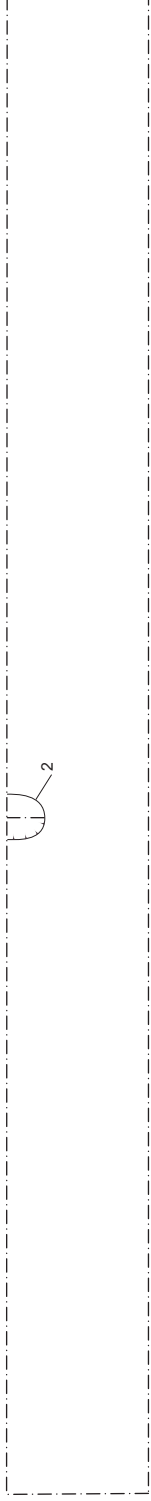
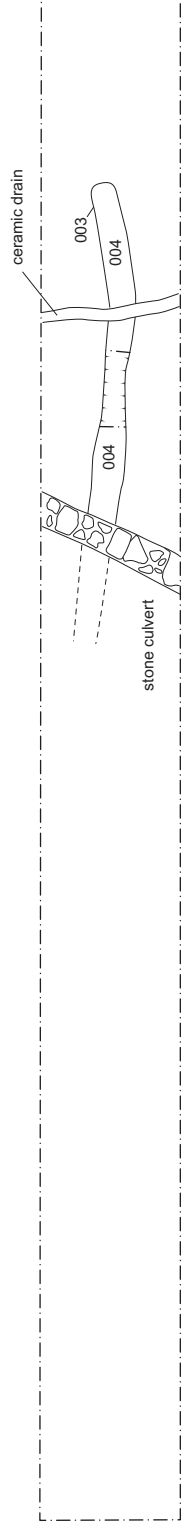


Figure 1 - Toft Hill Windfarm, Northumberland: Plan showing location of trenches.

Trench 22



Trench 25



Trench 26



Trench 36

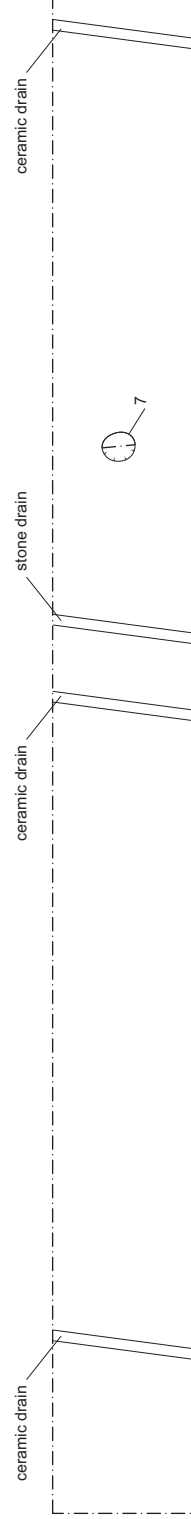


Figure 2 - Toft Hill Windfarm, Northumberland: Plan showing trenches with features.

Appendix 1: Site Registers

1.1 Trench Register

All trenches were 1.8 m wide

Trench No	Orientation	Description	Length (m)	Av. Topsoil Depth (m)
1	NW-SE	Topsoil: Dark brown loam. Subsoil: Light yellow-brown sandy clay	20	0.40
2	NW-SE	Topsoil: Dark brown loam. Subsoil: Light yellow-brown sandy clay	20	0.40
3	NE-SW	Topsoil: Dark brown loam. Subsoil: Light yellow-brown sandy clay	20	0.40
4	N-S	Topsoil: Dark brown loam. Subsoil: Light yellow-brown sandy clay	35	0.35
5	NE-SW	Topsoil: Dark brown loam. Subsoil: Light yellow-brown sandy clay	35	0.35
6	NW-SE	Topsoil: Dark brown loam. Subsoil: Light yellow-brown sandy clay	35	0.35
7	E-W	Topsoil: Dark brown loam. Subsoil: Light yellow-brown sandy clay	40	0.30
8	NE-SW	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones	20	0.35
9	E-W	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones	20	0.40
10	E-W	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones. Contained two parallel ceramic field drains, oriented SE-NW, located 8 m from west end	20	0.40
11	NE-SW	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones. Contained two parallel ceramic field drains, oriented SE-NW. One was located 1.5 m from southwest end the other 1.5 m from the NE end.	20	0.40
12	NE-SW	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones. Contained ceramic field drain, oriented E-W located 8 m from	20	0.40

		southwest end		
13	NE-SW	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones. Contained ceramic field drain, oriented E-W, located 6.5 m from the northeast end.	20	0.35
14	NW-SE	Topsoil: Dark brown loam over colluvium (up to 0.70 m deep) Subsoil: Orange-brown sandy clay with occasional stones	20	0.35
15	W-E	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones	20	0.35
16	N-S	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones. Contained ceramic field drain, oriented NW-SE, located 5.4m from north end.	20	0.30
17	W-E	Topsoil: Dark brown loam over colluvium (up to 0.40 m deep) Subsoil: Orange-brown sandy clay Contained two ceramic field drains, oriented NW-SE, located 4 m and 13 m from west end.	20	0.40
18	W-E	Topsoil: Dark brown loam over colluvium (up to 0.40 m deep) Subsoil: Red-brown silty sand Contained two ceramic field drains, oriented NW-SE, located 4 m and 16 m from west end and a stone rubble drain, oriented NW-SE, 4.5m from the east end.	20	0.40
19	NW-SE	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones.	20	0.35
20	NW-SE	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones. Contained a stone rubble drain, oriented E-W, located 8 m from the NW end.	20	0.45
21	NW-SE	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones.	20	0.45
22	NE-SW	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay with occasional stones. Contains pit (context 2)	20	0.40
23	NW-SE	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay	20	0.30
24	NW-SE	Topsoil: Dark brown loam.	20	0.35

		Subsoil: Orange-brown sandy clay		
25	N-S	Topsoil: Very dark brown loam. Subsoil: Yellow-brown sandy clay Contained linear (context 3) and stone-capped culvert, oriented NW-SE, located 7.5m from north end and ceramic field drain, oriented E-W, located 4 m from north end.	20	0.40
26	N-S	Topsoil: Very dark brown loam over colluvium (up to 0.40 m deep) Subsoil: Blue-grey sandy clay Contained pit (context 5)	20	0.40
27	NE-SW	Topsoil: Very dark brown loam over Subsoil: Yellow-sandy clay	20	0.40
28	NW-SE	Topsoil: Dark brown loam. Subsoil: Dark brown sandy gravel	20	0.40
29	NE-SW	Topsoil: Dark brown loam over b-horizon (up to 0.4 m deep) Subsoil: Dark brown sandy gravel	20	0.40
30	NW-SE	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy gravel	20	0.40
31	NW-SE	Topsoil: Dark brown loam. Subsoil: Grey-brown sandy clay Contained ceramic field drain, oriented NW-SE, located at 7.5 m from southeast end	20	0.40
32	E-W	Topsoil: Dark brown loam. Subsoil: Orange-brown sandy clay	20	0.40
33	NW-SE	Topsoil: Dark brown loam. Subsoil: Red-brown sandy silt Contained ceramic field drains, oriented E-W, located 2 m from north and 1.5 m from south end	20	0.45
34	NE-SW	Topsoil: Dark brown loam. Subsoil: Red-brown sandy clay	20	0.35
35	NW-SE	Topsoil: Dark brown loam. Subsoil: Red-brown sandy clay	20	0.50
36	E-W	Topsoil: Dark brown loam over red-brown b-horizon (up to 0.40 m deep) Subsoil: Red-brown sandy clay Contained three ceramic field drains, oriented NW-SE, located 2.3 m, 10.5 m and 19.5m from the west end. One stone rubble drain, oriented NW-SE, was located 11.5 m from the west end.	20	0.40
37	N-S	Topsoil: Dark brown loam Subsoil: Red-brown sandy gravel	20	0.40
38	N-S	Topsoil: Dark brown loam Subsoil: Red-brown sandy gravel that had been disturbed at the north end	20	0.40
39	N-S	Topsoil: Dark brown loam over red-brown b-horizon (up to 0.50m deep)	20	0.30

		Subsoil: Red-brown sandy clay		
40	N-S	Topsoil: Dark brown loam over red-brown b-horizon (up to 0.50m deep) Subsoil: Red-brown sandy clay	20	0.40
41	NE-SW	Topsoil: Dark brown loam over colluvium (up to 1 m deep) Subsoil: Red-brown silty clay	20	0.50
42	N-S	Topsoil: Dark brown loam over colluvium (up to 1 m deep) Subsoil: Not encountered (excavation stopped at 1.4 m) Contained two ceramic field drains, oriented NW-SE, located 1 m from west end and 2.5 m from east end.	20	0.50
43	NE-SW	Topsoil: Dark brown loam over colluvium (up to 0.50 m deep) Subsoil: yellow-grey silty gravel.	20	0.25

1.2. Context Register

Context Number	Description	Dimensions (m)
1	Fill of pit 2. Compact greyish brown sandy silt. Charcoal lens present at base. Diffuse interface with cut.	Length= 0.60 Width= 0.50 Depth= 0.16
2	Cut of pit. Sub-circular in plan. Steeply sloping sides gradually breaking to a concave base.	Length= 0.60 Width= 0.50 Depth= 0.16
3	Cut of linear. Slightly curving in plan with near vertical sides and a concave base. Had a squared shaped terminal at northern end and petered out as southern end.	Length= 6.00 Width= 0.35 Depth= 0.20
4	Fill of linear 3. Compact greyish sandy clay mottled with yellow-grey clay.	Length= 6.00 Width= 0.35 Depth= 0.20
5	Cut of pit. Sub-circular in plan. Steep sloping sides gradually breaking to a broad concave base.	Diameter= 1.20 Depth= 0.30
6	Lower fill of pit 5. Mid brown organic silt.	Depth= 0.10
7	Cut of small possible pit. Circular in plan. Shallow sloping sides and a concave base.	Diameter=0.40 Depth= 0.15
8	Fill of possible pit 7. Compact greenish-grey sandy clay.	Depth= 0.15
9	Upper fill of pit 5. Compact blue-grey sandy clay. Redeposited natural.	Depth= 0.20

1.3. Sample Register

Sample Number	Context Number	Description
1	1	Fill of pit 2
2	-	Void
3	4	Fill of linear 3
4	6	Organic fill of pit 5
5	8	Fill of possible pit 7

1.3. Photograph Register

Black and white print and colour slide, Film 1

Shot No.	Direction Facing	Description
1	SW	View of Trench 8
2	W	View of Trench 9
3	W	View of Trench 10
4	SW	View of Trench 11
5	NW	View of Trench 12
6	NE	View of Trench 13
7	SE	View of Trench 14
8	E	View of Trench 15
9	S	View of Trench 16
10	E	View of Trench 17
11	E	Pre-excavation view of Trench 18
12	E	View of Trench 18
13	SE	Pre-excavation view of Trench 19
14	SE	View of Trench 19
15	SE	Pre-excavation view of Trench 20
16	SE	View of Trench 20
17	SE	Pre-excavation view of Trench 21
18	SE	View of Trench 21
19	NE	Pre-excavation view of Trench 22
20	NE	View of Trench 22
21	SE	Pre-excavation view of Trench 23
22	SE	View of Trench 23
23	SE	Pre-excavation view of Trench 24
24	SE	View of Trench 24
25	N	View of Trench 1
26	N	View of Trench 2
27	W	View of Trench 3
28	NE	View of Trench 4
29	SW	View of Trench 5
30	NW	View of Trench 6
31	W	View of Trench 7
32	SE	View of Trench 24
33	S	View of Trench 25
34		Pre-excavation view of Trench 28 and 29
35	SW	N-facing section of pit 5, Trench 26
36	S	View of Trench 26

Black and white print and colour slide, Film 2

Shot No.	Direction Facing	Description
1	-	ID shot
2	SW	View of Trench 27
3	E	View of Trench 28
4	SW	View of Trench 29
5	-	Repaired field drain in Trench 17
6	-	Repaired field drain in Trench 17
7	N	S-facing section of pit 2, Trench 22
8	SE	View of Trench 14 after re-excavation
9	E	View of Trench 18 after re-excavation
10	E	Pre-excavation view of Trench 31
11	SE	Pre-excavation view of Trench 32
12	N	View of stone-capped culvert and linear 3 in Trench 25
13	SW	View of stone-capped culvert in Trench 25
14	S	Pre-excavation view of Trench 33 (foreground), 34 and 35 (background)
15	NW	View of Trench 30
16	E	View of Trench 31
17	N	Pre-excavation view of Trench 36, 37 and 38
18	E	View of Trench 32
19	N	View of Trench 33
20	E	View of Trench 36
21	N	View of Trench 37
22	N	Pre-excavation view of Trench 39
23	N	View of Trench 39
24	S	Pre-excavation view of Trench 40
25	S	View of Trench 40
26	NE	View of Trench 34
27	NW	View of Trench 35
28	N	View of Trench 38
29	N	Pre-excavation view of Trench 43
30	N	View of Trench 42
31	NE	View of Trench 41
32	N	View of Trench 43
33	SE	NW-facing section of feature (7) in Trench 36
34	SW	Repaired field drain in Trench 42
35	NE	Repaired field drain in Trench 42

Appendix 2: Environmental samples report

SJ Haston
Headland Archaeology (24/10/07)

Introduction

Four samples were collected for environmental assessment from the fills of archaeological features on an area of land at Toft Hill, Berwick-Upon-Tweed, Northumberland.

Method

Samples were processed in laboratory conditions using a standard floatation method (cf. Kenward *et al*, 1980). All plant macrofossil samples were analysed using a stereomicroscope at magnifications of x10 and up to x100 where necessary to aid identification. Identifications were confirmed using modern reference material and seed atlases including Cappers *et al* (2006).

Results

Occasional charcoal fragments are present in three of the four samples none of which contained fragments of a size suitable for identification and/or Accelerated Mass Spectrometry (AMS) dating. Charred cereal grain is present in sample 001, which contained small quantities of oat (*Avena* sp.). Rare quantities of burnt bone were also recorded from sample 001. One small fragment of nutshell (*Corylus avellena*) was recovered from sample 004. Sample 003 was archaeologically sterile.

Discussion.

The main palaeoenvironmental findings from the assessment were from the two pits, pit 002 and pit 005. Pit 002 contained a thin lens of charcoal at the base, which along with the mixture of charred grain, charcoal and burnt bone recovered from the processed sample 001 may suggest the *insitu* burning of foodstuffs in an isolated cooking pit. The organic fill of Pit 005 was found to contain frequent unburnt wood fragments and one small fragment of hazelnut shell (*Corylus avellena*) none of which were charred.

References

Cappers R.T.J., Bekker R.M. and Jans J.E.A. (2006) *Digital seed atlas of the Netherlands* (Barkhuis Publishing and Groningen University Library, Groningen).

Kenward, H. K., Hall, A. R. and Jones, A. K. G. (1980). A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits. *Science and Archaeology* 22, 3-15.