

**MAP
ARCHAEOLOGICAL PRACTICE LTD**

**Broachdale Farm
Sheep Rake Lane
Kilham
East Yorkshire**

TA 0446 6756

**Archaeological Strip and Record and
Archaeological Watching Brief**

**MAP 10.34.2011
Planning Ref. DC/11/01637/PLF**

Report Prepared By	Report Authorised By
Date:	Date:

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Non Technical Summary

An Archaeological Strip and Record and Archaeological Watching Brief was undertaken at Broachdale Farm, Kilham in October 2011 during the ground works associated with the construction of two wind turbines. This work involved the observation of the excavation of the foundation bases for the turbines and their associated cable trenches.

Archaeological features were confined to the cable trench associated with Turbine 1. Excavation bisected three features. Two were north-south aligned linears previously recorded through aerial reconnaissance and geophysical survey. Although excavation did show that Linear 1003/1006 was of more than one phase. The third feature had not been previously recognised and may also represent a linear or be a pit.

Finds from the excavations were confined to fragments of animal bone (sheep) from Linear 1015 and three surface flints.

No archaeological finds or features were uncovered during the overburden strip on both Turbine bases.

1. Introduction

- 1.1 MAP Archaeological Practice Ltd undertook an Archaeological Strip and Record and Archaeological Watching Brief at Broachdale Farm, Kilham (TA

0446 6756) at the request of Earthmill. The Archaeological Work was undertaken to fulfil an archaeological condition attached to the Planning Application Consent (Ref. DC/11/01637/PLF).

- 1.2 The Archaeological Strip and Record and Archaeological Watching Brief was undertaken on the 17th, 19th-21st, 24th and 27th of October, 2011.
- 1.3 Archaeological, Historical and Architectural remains are protected by means of Statutory Instruments (including Listed Building Register and Conservation Areas, Planning Policy Statement 5 (PPS5) on 'Planning for the Historic Environment'.
- 1.4 All work was carried out in accordance with PPS5, the Institute of Field Archaeologists' Standard and Guidance for Archaeological Field Evaluation (IFA 2005), the Institute of Field Archaeologists' Code of Conduct (IFA 2006), to the agreed Archaeological Project Design for an Archaeological Watching Brief (MAP 2011 – Appendix 8).
- 1.5 All work was funded by Earthmill.
- 1.6 The project was assigned the site code MAP 10.34.2011.
- 1.7 All maps within this report have been produced from the Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright. License No. AL 50453A.

2. Site Description (Figs. 1 - 2, Pls. 1 - 16)

- 2.1 The construction works were situated to the west of Broachdale Farm, Kilham (TA 0451 6756) within two large open agricultural fields. Turbine 1 was situated at c.117m AOD and Turbine 2 at 104m AOD
- 2.2 Turbine 1 stood at c.120m AOD with the cable run descending from this height to 112m AOD. Turbine 2 stood at c.105m AOD and the cable trench descending to a height of 82m AOD. The development areas had been drilled

and seeded at the time of the works with the crop standing to a height of c. 0.05m.

3. Planning Background

- 3.1 The site had been granted Planning Permission for the erection of two 34.2m high 50kw wind turbines and associated cable trenches (Planning Ref. DC/11/01637/PLF) attached to a planning consent (SMR casework No.SMR/PA/CONS/17037).

4. Archaeological and Historical Background

- 4.1 The site of the proposed development lies within an extremely archaeological landscape containing significant heritage assets dating from the prehistoric and Romano-British periods. Immediately to the east of the proposal site a large crop-mark can be seen running through the landscape north to south, this feature consists of a triple dyke with associated ditches and enclosures. One ditch associated with this feature appears to be running directly through the proposed position of the westernmost turbine. Another crop-mark which has been identified within the landscape is north-south track-way to the east of the one mentioned above, this runs south for over one kilometer from Thwing Parish, north of Crow Wood, passing east of Octon village and east of Swaythorpe deserted medieval village. Further to the north of the application site several square barrows, ring ditches and further linear ditches have been identified through aerial photography immediately south of Broach Dale Farm itself, a dense crop-mark complex has been identified consisting of an east-west and north-south track-way or drove way as well as several phases of rectilinear enclosures, boundary ditches and a ring ditch (Stoertz 1997).
- 4.2 A Geophysical Survey was carried out by WYAS Archaeological Services in August 2011 and covered approximately three hectares. The survey covered areas of one hectare centered on each proposed turbine location and a 20m wide corridor along the route of the cable runs and has identified anomalies locating a square enclosure, drove-way and field boundary adjacent to the proposed location of Turbine 1, confirming and enhancing the crop data. No

anomalies of archaeological potential were identified in the area around the proposed location of Turbine 2 (WYAS 2011).

- 4.4 The cartographic evidence records that there have been no changes in the immediate vicinity of the turbine and cable alignments since the first edition Ordnance Survey Map in the mid nineteenth century AD.

5. Aims and Objectives

- 5.1 The aim of the Archaeological Strip and Record and Archaeological Watching Brief was to observe and establish the presence/absence, date, sequence, nature, depth, quality of survival and importance of any archaeological deposits effected by the ground works associated with the construction of the two wind turbines.

a) To locate, sample, record and interpret any archaeological features and deposits exposed during topsoil stripping and any excavation associated with the development.

b) To locate, recover, identify and conserve (as appropriate) any archaeological artefacts exposed.

c) To prepare and submit a suitable archive to East Riding Museum.

e) To prepare and submit a report on the results of the archaeological watching brief.

6. Methodology

- 6.1 Excavations were undertaken by a back-acting 360°, 13 tonne mechanical excavator with an un-toothed bucket. The excavation of the cable trench adjacent to the road to Broachdale Farm was undertaken by a 3 tonne mechanical mini-excavator.

- 6.2 The initial stage of work was the stripping of the topsoil from an area measuring 6m² for the construction of the turbine bases (Pls. 2 & 10). The

cable trenches were in the main 0.90m deep and up to 0.50m wide (Pls. 4, 5, & 12-15). The exception being the section adjacent to the farm road, which was 0.50m deep (P. 16).

- 6.2 All machine excavation was undertaken under full archaeological supervision.
- 6.4 The archaeological feature and deposits were recorded on *pro-forma* Context Record Sheets according to guidelines laid down in the MAP Archaeological Practise Ltd Excavation Manual. A total of twenty-seven contexts were recorded (Appendix 1).
- 6.5 Artefacts recovered from the field-walking of the cable routes consisted of three flints. Excavation of linear 10015 recovered four fragments of sheep bone (Appendices 2 & 6).
- 6.6 The site archive consists of one plan and six sections, and 27 contexts sheets (Appendix 3).
- 6.7 A full photographic record of digital photographs was made. A total of 131 digital photographs were taken. (Appendix 4).

7. Results

7.1 Turbine 1

- 7.1.1 The strip of the turbine base revealed no archaeological features. A deposit of sandy loam topsoil, measuring 0.33m in depth, lay directly over the frost fractured chalk (Pl. 3).
- 7.1.2 Excavation of the cable trench for Turbine 1 revealed two linear features (1003/1007 & 10016 as defined by the previous geophysical survey – WYAS 2011) and a possible third (1010/1015).
- 7.1.3 *Turbine 1 Cable Trench: Linear 1003/1007* (Fig. 4 : Pl. 6)
Linear 1003 was a north-south aligned ditch which had been re-cut by ditch 1007, when the earlier ditch 1003 had fully silted up. Ditch 1003 was in

excess of 0.80m in width and was 0.40m in depth with a flat bottomed and U-shaped profile. Its western edge had been removed by the ditch re-cut 1007. The fills of Ditch 1003 were three silty clays with varying amounts of chalk fragments and gravel inclusions (1004-1006). The primary fill (1006) of the feature was sampled for environmental evidence, and proved to be sterile, producing only modern straw fragments and snail shell.

Linear re-cut 1007 was 0.94m in width and 0.44m in depth with a U-shaped profile. The features contained two fills (1008 & 1009) silty clays with varying amounts of chalk inclusions. The primary fill of Ditch 1007 (1009) was sampled for environmental evidence and was also sterile apart from modern material.

No finds were recovered from either of the ditches.

7.1.4 *Turbine 1 Cable Trench: Feature 1010/1015* (Fig. 4 : Pl. 7)

Feature 1010/1015 was located 1.4m to the east of Ditch 1003/1007. As with Ditch 1003/1007 this feature appeared to have been re-cut. The earliest feature (1010) was in excess 2.2m in width and 0.26m in depth with a steep sided edge (80°) and flat base. Feature 1010 was filled with a silty clay (1012), when this had silted up naturally to a depth of 0.16m. Re-cut feature (1015) was cut through Deposit 1012. Feature 1015 measured 1.8m wide and was 0.26m deep feature with a very shallow 'U' shaped profile, with primary and secondary fills of silty clay (1013 & 1014) with high proportions of chalk inclusions. The final deposition episode in Features 1010 and 1015 was a 0.12m deep deposit of silty clay (1011). No finds were recovered from these features but an environmental sample was taken from fill (1014). The flot from the environmental sample contained modern material plus one tiny sliver of charcoal measuring <0.2cm, which was not identifiable.

As only a 0.50m wide transect was excavated of this feature it is impossible to determine whether the feature represents a ditch akin to 1003/1007 and 1016 or represented a large pit.

The Geophysical Survey of this area of the cable trench does show an isolated anomaly situated between the ditches, which may equate to Feature 1010/1015.

7.1.5 *Turbine 1 Cable Trench: Linear 1016* (Fig. 4 : Pl. 8)

Linear 1016 measured 2m in width and 0.90m in depth with a 'V' shaped flat-bottomed profile. The feature contained seven distinct fills of sandy clays with varying amounts of inclusions of fractured chalk (1017–1023).

Finds from the ditch were restricted to fragments of skull and a leg bone from a sheep (Appendices 2 & 6). The bone was in a very poor state of preservation. The environmental sample from deposit 1023, the primary fill of linear cut (1016), also produced some very scarce trace fragments of wood charcoal <0.2cm in size, which are probably not that significant (Appendix 7).

7.2 **Turbine 2** (Pls. 9 – 16)

7.2.1 Excavation of the plot for the Turbine 2 and the cable run showed no evidence of any archaeological activity. As with Turbine 1 structural base the subsoil had been removed by ploughing leaving only a 0.30m deep deposit of topsoil (2000) over the natural frost fractured chalk (Pls. 10 & 11).

7.2.2 In the cable trench, down slope of the turbine base deposits of subsoil were recorded (Pl. 13).

8. **Summary and Conclusions**

8.1 Turbine 1 and 2 and associated cable runs were located in an extremely rich archaeological landscape as defined by aerial reconnaissance (Stoertz 1997) and conformed by the Geophysical Survey (WYAS 2011).

8.2 Prior to excavation, both of these sources had indicated that archaeological features would be effected by excavations for the turbine base and cable run. The location of Turbine 1 was slightly modified and by doing so the excavations avoided the square enclosure (WYAS 2011 – Fig. 3). It was not

possible to avoid the two linear features located by the geophysical survey as the cable run was always going to bisect them.

- 8.3 The excavation showed that the westerly of the two linears (1003/1007) was in fact of two phases whereas Linear 1016 was of a single phase and much bigger in size. The lack of suitable dating evidence from both of these features means it is impossible to say if they were contemporary.
- 8.4 The relationship of Feature 1010/1015 to Linears 1003/1007 and 1016 is also problematic. The lack of associated dating evidence is also problematic along with its exact function, although based on the geophysical data it does probably represent a large pit.
- 8.5 The recording of features along the Turbine 1 cable trench has been useful in defining the widths, depths, associated fills and profiles of the archaeological features encountered. It has not however, provided dating evidence for these features nor allowed full relationship to be defined.

9. Bibliography and References

- IFA 2001 Standard and Guidance for the Archaeological Evaluation. Institute of Field Archaeologists.
- Loughlin, N. and Miller, K. 1979 A Survey of Archaeological Sites in Humberside
- Mackney, D. et al 1984 Soil Survey of England and Wales. Northern England. Sheet 1.
- Stoertz, C. 1997 Ancient Landscapes of the Yorkshire Wolds
- WYAS 2011 Geophysical Survey at Broachdale Farm, Sheep Rake Lane, Kilham, East Yorkshire. West Yorkshire Archaeology Service Report 2241.

<http://www.old-maps.co.uk/maps.html>

10. List of Contributors

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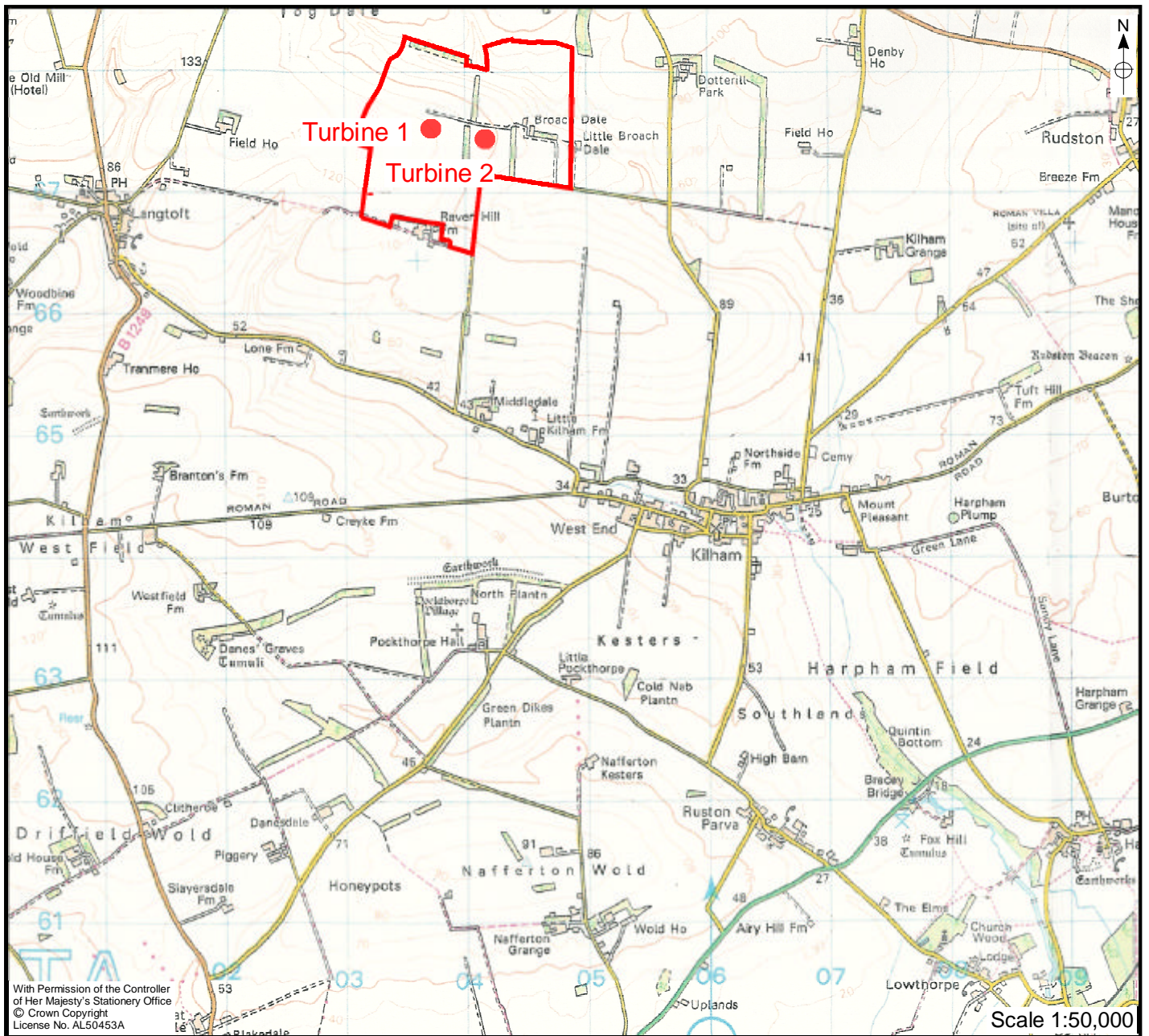


Figure 1. Site Location

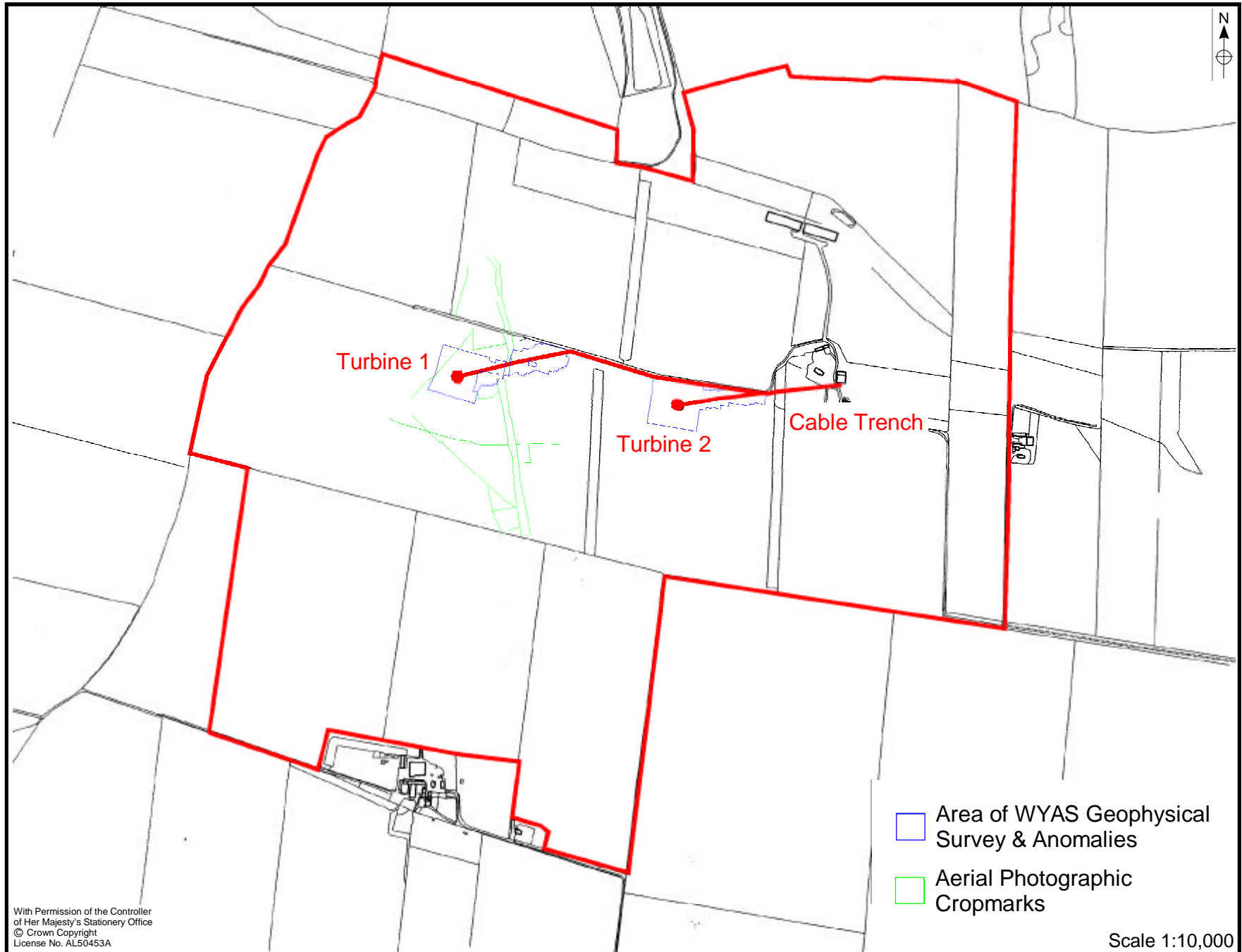


Figure 2. Location of Turbine Bases and Cable Trench.

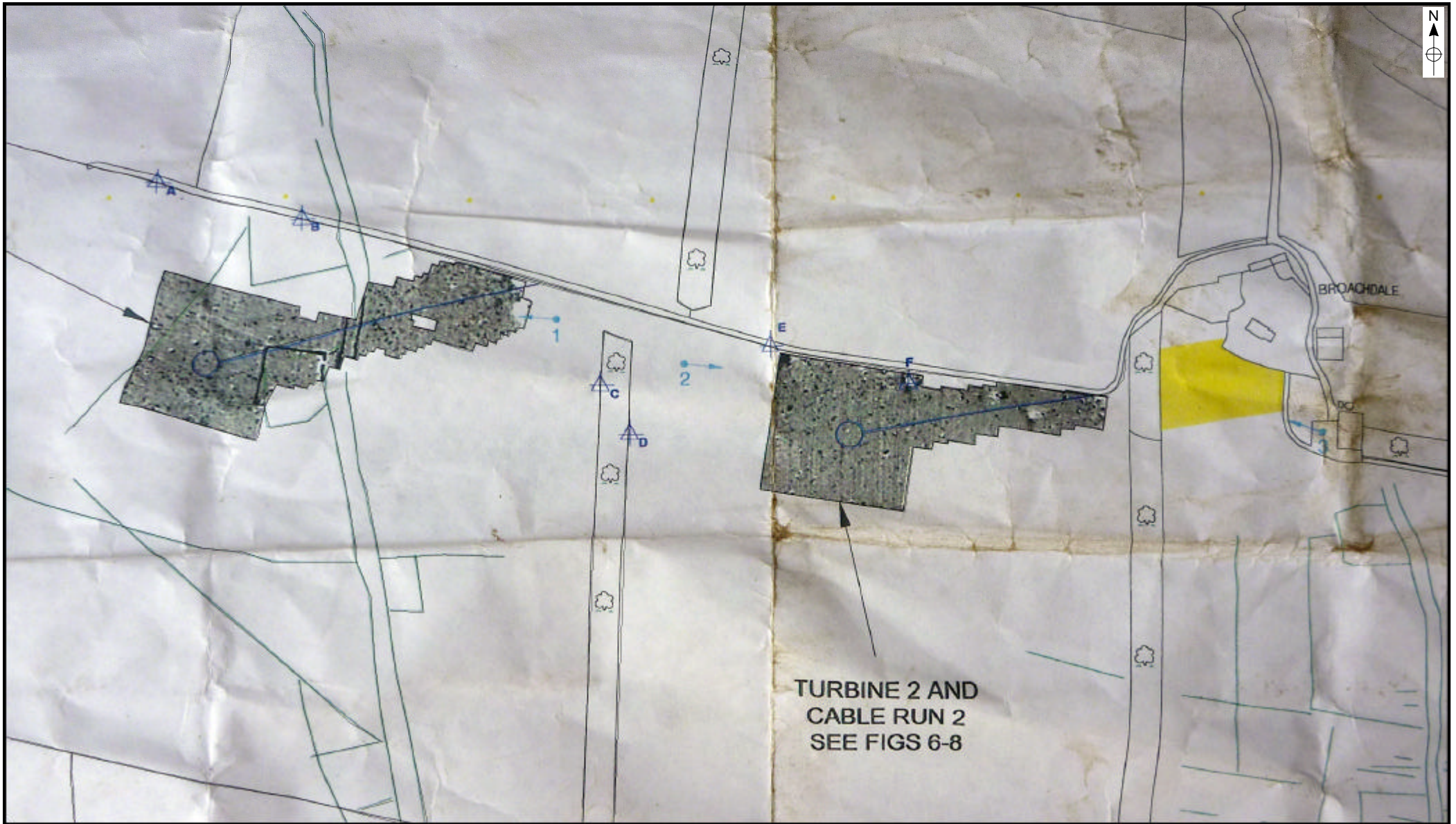
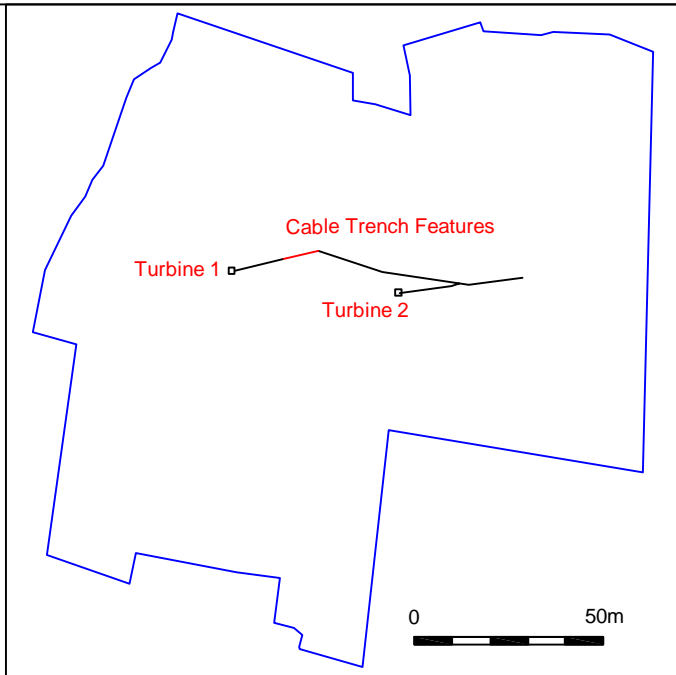


Figure 3. Detail from the WYAS Geophysical Survey Results



Features in Cable Trench north-east of Turbine 1

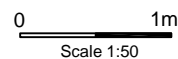
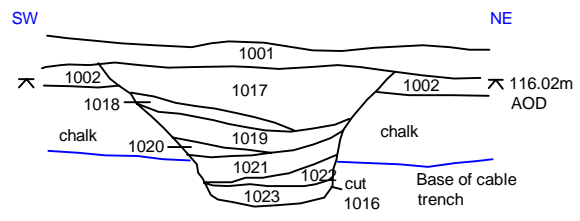
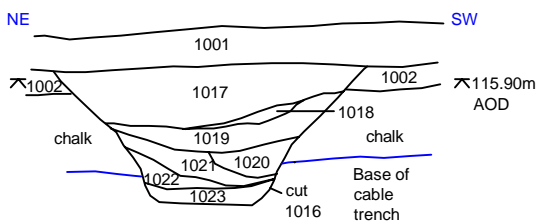
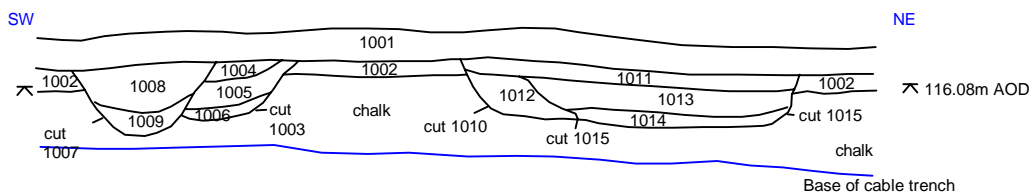
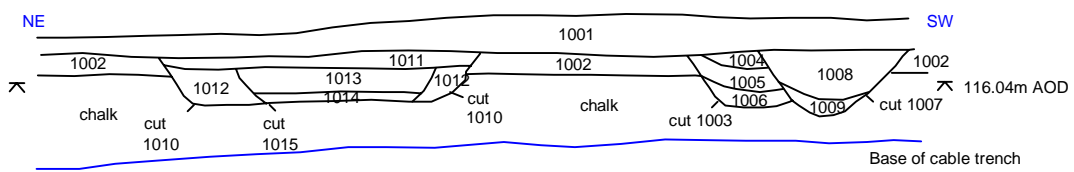
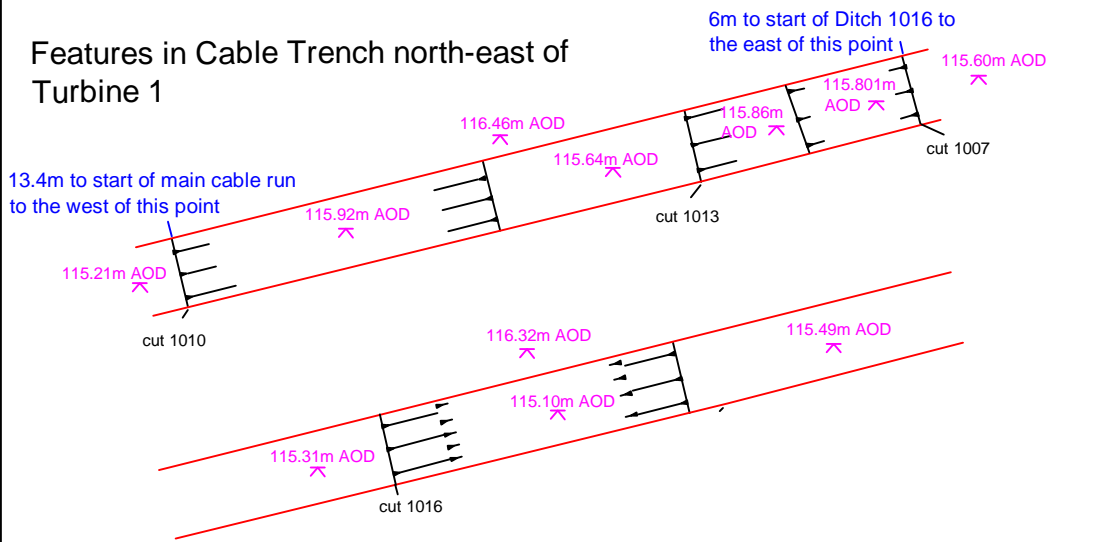




Plate 1. General location of Turbine 1 prior to excavation. Facing South.



Plate 2. Site of Turbine 1 after topsoil strip. Facing South.



Plate 3. East facing section of stripped turbine base. Facing North-east.



Plate 4. Turbine 1 cable run from turbine base after excavation. Facing South.



Plate 5. Turbine 1 cable run after excavation. Facing North-east.



Plate 6. Linear 1003 /1007 north facing section. Facing South.



Plate 7. Linear 1010/1015 north facing section. Facing South.



Plate 8. Linear 1016 south facing section. Facing North.



Plate 9. General location of Turbine 2 prior to excavation. Facing South.



Plate 10. Site of Turbine 2 after topsoil strip. Facing West.



Plate 11. East facing section of stripped turbine base. Facing West.



Plate 12. Turbine 2 cable run from turbine base after excavation. Facing East.



Plate 13. Turbine 2 section of cable run - north facing section. Facing South.



Plate. 14. Turbine 2 cable route through woodland belt after excavation. Facing East.



Plate 15. Turbine 2 cable route through to farm buildings. Facing North-east.



Plate 16. Turbine 2 cable route to transformer after excavation. Facing North.

APPENDIX 1

Broachdale Farm, Kilham Site Code MAP 10.34.2011

Context Listing

Turbine 1

Context	Type	Description
1000	Cut	Turbine 1
1001	Deposit	Topsoil - 10YR 5/6 sandy loam
1002	Deposit	Subsoil - 10YR 5/8 clay
1003	Cut	Linear
1004	Deposit	Fill of 1003 - 10YR 5/8 clay with occasional chalk fragments
1005	Deposit	Fill of 1003 - 10YR 5/6 sandy clay with occasional chalk fragments
1006	Deposit	Primary fill of 1003 - 7.5YR 5/6 silty clay with occasional chalk fragments
1007	Cut	Linear - recut of 1003
1008	Deposit	Fill of 1007 - 10YR 5/6 clay with occasional chalk fragments
1009	Deposit	Primary fill of 1007 - 7.5YR 6/6 silty sandy clay with occasional chalk fragments
1010	Cut	?Pit
1011	Deposit	Fill of 1010 & 1015 - 10YR 5/8 clay with occasional chalk fragments
1012	Deposit	Fill of 1010 - 7.5YR 5/6 silty clay with occasional chalk fragments
1013	Deposit	Fill of 1015 - 7.5YR 5/4 silty clay with chalk fragments
1014	Deposit	Primary fill of 1014 - 7.5YR 6/6 silty sandy clay
1015	Cut	?Pit - recut of 1010
1016	Cut	Linear
1017	Deposit	Fill of 1016 - 10YR 5/8 clay with occasional chalk fragments
1018	Deposit	Fill of 1016 - 10YR 5/6 clay with occasional chalk fragments
1019	Deposit	Fill of 1016 - 7.5YR 5/4 silty clay with chalk fragments
1020	Deposit	Fill of 1016 - 10YR 5/8 clay with occasional chalk fragments
1021	Deposit	Fill of 1016 - 7.5YR 5/6 silty clay with 50% chalk fragments
1022	Deposit	Fill of 1016 - 7.5YR 5/4 silty clay with 50% larger chalk fragments
1023	Deposit	Primary fill of 1016 - 7.5YR 6/8 with fractured chalk and marl

Turbine 2

Context	Category	Description
2000	Cut	Turbine 2
2001	Deposit	Topsoil - 10YR 5/6 sandy loam
2002	Deposit	Subsoil - 10YR 5/8 clay

APPENDIX 2

Broachdale Farm, Cliffe
Site Code MAP 10.34.2011

Finds Catalogue

Context	Catagory	Quantity	Description	Weight (g)
1022	Animal Bone	4	Skull fragments x 3 Metatarsus fragment	0.024kg

APPENDIX 3

Site Code MAP 10.34.2011

Archive Listing

No.	Description	Scale
1	Plan : Turbine 1 - cable trench. Linear 1003 &1006, 1009 & 1015	1 : 20
2	Section : Turbine 1 - cable trench Linears 1003 &1007 south facing section	1 : 10
3	Section : Turbine 1 - cable trench Linears 1003 &1007 north facing section	1 : 10
4	Section : Turbine 1 - cable trench Linear 1010 north facing section	1 : 10
5	Section : Turbine 1 - cable trench Linear 1010 south facing section	1 : 10
6	Section : Turbine 1 - cable trench Linear 1016 north facing section	1 : 10
7	Section : Turbine 1 - cable trench Linear 1016 south facing section	1 : 10

APPENDIX 4

Broachdale Farm, Kilham Site Code MAP 10.34.2011

Photographic Listing

No.	Jpeg	Description	Facing	Scale
1	1060610	General location of Turbine 2 prior to excavation	South	No scale
2	1060611	General location of Turbine 2 prior to excavation	North	No scale
3	1060612	General location of Turbine 2 prior to excavation	North	No scale
4	1060613	General location of Turbine 2 cable run alignment prior to excavation	North-east	No scale
5	1060614	General location of Turbine 2 cable run alignment prior to excavation	North-east	No scale
6	1060615	General location of Turbine 2 cable run alignment prior to excavation	South-west	No scale
7	1060616	General location of Turbine 2 cable run alignment prior to excavation	South-west	No scale
8	1060617	Northern boundary of OS Field	West	No scale
9	1060618	Northern boundary of OS Field	West	No scale
10	1060619	Northern boundary of OS Field	East	No scale
11	1060620	Northern boundary of OS Field	East	No scale
12	1060621	Site of Turbine 2 prior to excavation	West	No scale
13	1060622	Site of Turbine 2 prior to excavation	West	No scale
14	1060623	Site of Turbine 2 prior to excavation	North	No scale
15	1060624	Site of Turbine 2 after topsoil strip	West	2 x 2m
16	1060625	Site of Turbine 2 after topsoil strip	West	2 x 2m
17	1060626	East facing section of stripped turbine base showing depth of topsoil	West	1 x 0.4m
18	1060627	East facing section of stripped turbine base showing depth of topsoil	West	1 x 0.4m
19	1060628	East facing section of stripped turbine base showing depth of topsoil	West	1 x 0.4m
20	1060629	East facing section of stripped turbine base showing depth of topsoil	West	1 x 0.4m
21	1060630	General location of Turbine 1 prior to excavation	South	No scale
22	1060631	General location of Turbine 1 prior to excavation	South	No scale
23	1060632	General location of Turbine 1 prior to excavation	North	No scale
24	1060633	General location of Turbine 1 prior to excavation	North	No scale
25	1060634	General location of Turbine 1 cable run alignment prior to excavation	North-east	No scale
26	1060635	General location of Turbine 1 cable run alignment prior to excavation	North-east	No scale
27	1060636	General location of Turbine 1 cable run alignment prior to excavation	East	No scale
28	1060637	Site of Turbine 1 prior to excavation	South	No scale
29	1060638	Site of Turbine 1 prior to excavation	South	No scale
30	1060639	Site of Turbine 1 prior to excavation	South	No scale
31	1060640	Site of Turbine 1 prior to excavation	North	No scale
32	1060641	Site of Turbine 1 after topsoil strip	South	2x 2m
33	1060642	Site of Turbine 1 after topsoil strip	South	2x 2m
34	1060643	East facing section of stripped turbine base showing depth of topsoil	West	1 x 0.4m
35	1060644	East facing section of stripped turbine base showing depth of topsoil	West	1 x 0.4m
36	1060645	East facing section of stripped turbine base showing depth of topsoil	West	1 x 0.4m
37	1060646	Geophysical survey plot		
38	1060647	Geophysical survey plot		
39	1060648	General location of Turbine 1 cable run alignment prior to excavation	North-east	No scale
40	1060649	General location of Turbine 1 cable run alignment prior to excavation	North-east	No scale
41	1060650	Linears 1003 & 1007 north facing section	South	1 x 1m
42	1060651	Linears 1003 & 1007 north facing section	South	1 x 1m
43	1060652	Linears 1003 & 1007 north facing section	South	1 x 1m

44	1060653	Linears 1003 & 1007 north facing section	South	1 x 1m
45	1060654	Linear 1010 north facing section	South	1 x 2m
46	1060655	Linear 1010 north facing section	South	1 x 2m
47	1060656	Linear 1010 north facing section	South	1 x 2m
48	1060657	Linear 1010 north facing section	South	1 x 2m
49	1060658	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
50	1060659	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
51	1060660	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
52	1060661	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
53	1060662	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
54	1060663	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
55	1060664	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
56	1060665	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
57	1060666	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
58	1060667	Linear 1016 north facing section - prior to full excavation	South	1 x 1m
59	1060668	Linears 1003 & 1007 south facing section	North	1 x 1m
60	1060669	Linears 1003 & 1007 south facing section	North	1 x 1m
61	1060670	Linears 1003 & 1007 south facing section	North	1 x 1m
62	1060671	General location of Turbine 2 cable run alignment prior to excavation	East	No scale
63	1060672	General location of Turbine 2 cable run alignment prior to excavation	East	No scale
64	1060673	General location of Turbine 2 cable run alignment prior to excavation	East	No scale
65	1060674	General location of Turbine 2 cable run alignment prior to excavation	West	No scale
66	1060675	General location of Turbine 2 cable run alignment prior to excavation	West	No scale
67	1060676	General location of Turbine 2 cable run alignment prior to excavation	West	No scale
68	1060677	Linear 1016 south facing section - prior to full excavation	North	1 x 1m
69	1060678	Linear 1016 south facing section - prior to full excavation	North	1 x 1m
70	1060679	Linear 1016 south facing section - prior to full excavation	North	1 x 1m
71	1060680	Linear 1010 south facing section	North	1 x 2m
72	1060681	Linear 1010 south facing section	North	1 x 2m
73	1060682	Linear 1010 south facing section	North	1 x 2m
74	1060683	Linear 1010 south facing section	North	1 x 2m
75	1060684	Linear 1010 south facing section	North	1 x 2m
76	1060685	Turbine 1 cable run after excavation	North-east	2 x 1m
77	1060686	Turbine 1 cable run after excavation	North-east	2 x 1m
78	1060687	Turbine 1 cable run after excavation	South-west	2 x 1m
79	1060688	Turbine 1 cable run after excavation	South-west	2 x 1m
80	1060689	Linear 1016 basal fills in situ	South	1 x 0.4m
81	1060690	Linear 1016 basal fills in situ	South	1 x 0.4m
82	1060691	Linear 1016 basal fills in situ	North	1 x 0.4m
83	1060692	Linear 1016 basal fills in situ	North	1 x 0.4m
84	1060693	Turbine 2 cable route through woodland belt	East	No scale
85	1060694	Turbine 2 cable route through woodland belt	West	No scale
86	1060695	Turbine 2 cable route through to farm buildings	East	No scale
87	1060696	Linear 1016 north facing section	South	1 x 1m
88	1060697	Linear 1016 north facing section	South	1 x 1m
89	1060698	Linear 1016 north facing section	South	1 x 1m
90	1060699	Linear 1016 base of feature	North	1 x 0.4m
91	1060700	Linear 1016 base of feature	North	1 x 0.4m
92	1060701	Linear 1016 base of feature	North	1 x 0.4m
93	1060702	Linear 1016 base of feature	South	1 x 0.4m
94	1060703	Linear 1016 base of feature	South	1 x 0.4m
95	1060704	Linear 1016 south facing section	North	1 x 1m
96	1060705	Linear 1016 south facing section	North	1 x 1m
97	1060706	Linear 1016 south facing section	North	1 x 1m
98	1060707	Turbine 1 cable run from turbine base after excavation	North	2 x 1m
99	1060708	Turbine 1 cable run from turbine base after excavation	North	2 x 1m
100	1060709	Turbine 1 cable run from turbine base after excavation	South	2 x 1m
101	1060710	Turbine 1 cable run from turbine base after excavation	South	2 x 1m
102	1060711	Turbine 2 cable run from turbine base after excavation	East	2 x 1m
103	1060712	Turbine 2 cable run from turbine base after excavation	East	2 x 1m
104	1060713	Turbine 2 section of cable run north facing section	South	2 x 1m
105	1060714	Turbine 2 section of cable run north facing section	South	2 x 1m

106	1060715	Turbine 2 cable route after excavation	West	2 x 1m
107	1060716	Turbine 2 cable route after excavation	West	2 x 1m
108	1060717	Turbine 2 cable route through to farm buildings	North-east	No scale
109	1060718	Turbine 2 cable route through to farm buildings	South-west	No scale
110	1060719	Turbine 2 cable route through to farm buildings	South-west	No scale
111	1060720	Turbine 2 cable route through woodland belt after excavation	East	2 x 1m
112	1060721	Turbine 2 cable route through woodland belt after excavation	East	2 x 1m
113	1060722	Turbine 2 cable route through woodland belt after excavation	West	2 x 1m
114	1060723	Turbine 2 cable route through woodland belt after excavation	West	2 x 1m
115	1070234	Turbine 2 cable route to transformer prior to excavation	North	No scale
116	1070235	Turbine 2 cable route to transformer prior to excavation	North	No scale
117	1070236	Turbine 2 cable route to transformer prior to excavation	South	No scale
118	1070237	Turbine 2 cable route to transformer prior to excavation	South	No scale
119	1070238	Turbine 2 cable route west facing section - area of transformer	East	1 x 0.4m
120	1070239	Turbine 2 cable route west facing section - area of transformer	East	1 x 0.4m
121	1070240	Turbine 2 cable route to transformer after excavation	North	2 x 1m
122	1070241	Turbine 2 cable route to transformer after excavation	North	2 x 1m
123	1070242	Turbine 2 cable route to transformer after excavation	South	2 x 1m
124	1070243	Turbine 2 cable route to transformer after excavation	South	2 x 1m
125	1070244	Turbine 2 cable route through to farm buildings after excavation	West	2 x 1m
126	1070245	Turbine 2 cable route through to farm buildings after excavation	West	2 x 1m
127	1070246	Turbine 2 cable trench prior to road crossing - east facing section	West	1 x 0.4m
128	1070247	Turbine 2 cable trench prior to road crossing - east facing section	West	1 x 0.4m
129	1070248	Turbine 2 cable route through to farm buildings after excavation	East	2 x 1m
130	1070249	Turbine 2 cable route through to farm buildings after excavation	East	2 x 1m
131	1070250	Turbine 2 cable route through to farm buildings after excavation	East	2 x 1m

APPENDIX 5

Broachdale Farm, Kilham
Site Code MAP 10.34.2011

Environmental Sample Listing

Sample No.	Context No.	Type	Description	No. of Tubs
1	1006	GBA	Fill of 1003 - 10YR 5/8 clay with occasional chalk fragments	1
2	1009	GBA	Primary fill of 1007 - 7.5YR 6/6 silty sandy clay with occasional chalk fragments	1
3	1014	GBA	Primary fill of 1015 - 7.5YR 6/6 silty sandy clay	1
4	1023	GBA	Primary fill of 1014 - 7.5YR 6/8 with fractured chalk and marl	1

APPENDIX 6

Broachdale Farm, Kilham (MAP 10.34.2011) Assessment of Animal Bone

Context	No.	Weight gms	Taxon	Element	Part of Element	Butchery	Notes
1022	4	24	Ovid	Metarsus	Shaft frag		poor state of presefrvation
				Skull	x 3 frags		

Discussion

The assemblage recovered from the Watching Brief was very small and in a very poor state of preservation. There is little information to gained from the site other than to say thn that the faunal remains consisted a 3 fragments of skull and a fragment of leg bone from a sheep/goat. The fragments of bone recovered are not suitable for radio carbon dating and do not merit retention.

APPENDIX 7

Broachdale Farm, East Yorkshire (10.34.2011)

Carbonised Plant Macrofossils and Charcoal

Diane Alldritt

1: Introduction

Four environmental sample flots from Broachdale Farm, East Yorkshire (MAP 10.34.2011) were examined for carbonised plant macrofossils and charcoal. Samples originated from the primary fills of a series of linear features.

2: Methodology

Bulk environmental samples were processed by MAP using a Siraf style water flotation system (French 1971). The flots were dried before examination under a low powered binocular microscope. Very little charred material was present with <2.5ml of tea-leaf sized detritus, which was too small to identify, recovered from two samples, whilst the other two were sterile. Modern root fragments were present in small amounts from <2.5ml to 5ml, together with occasional non-marine mollusc (snail) shell and straw fragments, indicating a small degree of modern contamination.

3: Results

Results are presented in table 1 and discussed below.

4: Discussion

The environmental samples from Broachdale Farm were mostly sterile, with only occasional very small slivers of wood charcoal recorded. The majority of this wood

charcoal measured <0.2cm and was not identifiable to type. Non-marine mollusc shell was recorded in all four samples, but in small amounts.

Sample 1 (1006) from the primary fill of linear cut (1003) was sterile, producing only modern straw fragments and snail shell. Sample 2 (1009) from the primary fill of linear cut (1007) was also sterile apart from modern material.

Sample 3 (1014) contained modern material plus one tiny sliver of charcoal measuring <0.2cm, which was not identifiable. Sample 4 (1023) from the primary fill of linear cut (1016) also produced some very scarce trace fragments of wood charcoal <0.2cm in size, which are probably not that significant.

5: Conclusion

The four Broachdale Farm samples produced very little other than modern material. The scarce charcoal fragments recorded in two of the samples are probably trace inclusions and not particularly significant. The linear features may well have been kept clean of household and other waste during their use, or been at some distance from activities producing burnt waste.

Overall the samples produced very little evidence for any burning activity and suggested a low potential for future sampling to produce any significant remains. No further work is required on this sample set.

References

French, D. H. 1971 An Experiment in Water Sieving. *Anatolian Studies* 21 59-64.

Table 1: 10.34 Broachdale Farm, East Yorkshire: Environmental Samples:

10.34 Broachdale Farm, East Yorkshire	Sample	1	2	3	4
MAP 10.34.2011	Context	1006	1009	1014	1023
	Feature	linear 1003	linear 1007	fill of ?	linear 1016
	Total CV	0	0	<2.5ml	<2.5ml
	Modern	2.5ml	2.5ml	5ml	5ml
Non-carbonised Remains					
Non-marine mollusc shell		2	4	2	3
Modern straw fragments		3	2	4	

**Broachdale Farm
Sheep Rake Lane
Kilham
East Yorkshire**

**Written Scheme of Works:
Watching Brief**

1. SUMMARY

- 1.1 This brief is for a programme of monitored archaeological observation, investigation and recording to be carried out during the erection of 2 no. 34.2m high 50kw Wind Turbines and associated cable trenches at Broachdale Farm, Sheep Rake Lane, Kilham, East Yorkshire (Planning Ref. DC/11/01637/PLF) attached to a planning consent (SMR casework No.SMR/PA/CONS/17037).

2. SITE LOCATION

- 2.1 The proposed site is located at Broachdale Farm, Sheep Rake Lane, Kilham, East Yorkshire.

3. PLANNING BACKGROUND

- 3.1 The Planning Reference (DC/11/01637/PLF), has to have been granted subject to an archaeological condition to secure a programme of archaeological work, which stated that:

- 3.2 *“No development shall take place on the site until the applicant, or their agent or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the Planning Authority. Development shall be carried out in accordance with the approved details (Planning Policy Statement 5).*

4. ARCHAEOLOGICAL BACKGROUND

- 4.1 The site of the proposed development lies within an extremely archaeological landscape containing significant heritage assets dating

from the prehistoric and Romano-British periods. Immediately to the east of the proposal site a large crop-mark can be seen running through the landscape north to south, this feature consists of a triple dyke with associated ditches and enclosures. One ditch associated with this feature appears to be running directly through the proposed position of the westernmost turbine. Another crop-mark which has been identified within the landscape is north-south track-way to the east of the one mentioned above, this runs south for over one kilometer from Thwing Parish north of Crow Wood, passing east of Octon village and east of Swaythorpe deserted medieval village. Further to the north of the application site several square barrows, ring ditches and further linear ditches have been identified through aerial photography immediately south of Broach Dale Farm itself, a dense crop-mark complex has been identified consisting of an east-west and north-south track-way or drove way as well as several phases of rectilinear enclosures, boundary ditches and a ring ditch.

- 4.2 A Geophysical Survey was carried out by WYAS Archaeological Services in August 2011 and covered approximately 3 hectares. The survey covered areas of one hectare centered on each proposed turbine location and a 20m wide corridor along the route of the cable runs and has identified anomalies locating a square enclosure, driveway and field boundary adjacent to the proposed location of T1, confirming and enhancing the crop data. No anomalies of archaeological potential have been identified in the area around the proposed location of T2. It was recommended that further archaeological work may be required in advance of, or during construction.

5. METHODOLOGY

- 5.1 The proposed scheme of works shall comprise the archaeological monitoring of all below ground disturbance, including the cable

trenches associated with the turbine bases, preliminary landscaping and ground preparation. These works should be undertaken under archaeological supervision. This is to enable the identification and recording of any archaeological material that might be uncovered. If archaeological deposits are encountered, then they are to be investigated and fully recorded; this may necessitate a temporary halt to construction works in this part of the site, whilst the investigations and recording are completed.

- 5.2 If human remains are encountered, they should be properly investigated, recorded and where appropriate lifted in accordance with a Ministry of Justice License for the removal of human remains. Should significant archaeological remains be present, it may be necessary to excavate some areas archaeologically to ensure their proper investigation and recording.
- 5.3 The developers chosen archaeologist must be acceptable to the Local Planning Authority after consultation with the Sites and Monuments Record Office. Access to the site will be afforded to the developers chosen archaeologist at all reasonable times.
- 5.4 Reasonable prior notice of the commencement of development is to be given to the archaeological contractor. A two-week period is suggested, where possible. The Sites and Monuments Record Office will be notified by the archaeological contractor in advance of the programme of archaeological observation, investigation and recording.
- 5.5 On completion of the work an ordered archive will be prepared by the archaeologist and deposited with a registered museum. The proposed recipient museum must be contacted at the beginning of the project. A copy of the archive index and the name of recipient museum will be sent to the Sites and Monuments Record. Contractors will make allowance for a minimum of one box in calculating estimates for the museums storage grant.

- 5.6 With the exception of human remains, and finds of treasure (as defined under the 1996 Treasure Act), which will be reported to the coroner, all finds are the property of the landowner. However it is generally expected that the finds will be deposited with the archive. A finds recovery and conservation strategy will be agreed with the developer in advance of the project commencing. This will include contingency arrangements for artefacts of special significance. Any recording, marking and storage materials will be of archive quality and recording systems must be compatible with the recipient museum. Copies of all recording forms and manuals will be submitted to the Archaeology Manager, prior to commencement of site works, if these have not been supplied previously.
- 5.7 Within six weeks of the completion of the work, a report will be produced by the archaeologist, and submitted to the developer, the Local Planning Authority and the SMR Office.

The final report will include the following (as appropriate):

- A non-technical summary
- Site code/project number
- Planning reference number and SMR casework number
- Dates for fieldwork/visits
- Grid reference
- A location plan, with scale
- A plan of the developer's plan, with scale showing the areas monitored (e.g. the service trenches and any associated landscaping, construction of access routes etc.) and indicating the position of archaeological features in relation to the foundations etc.
- Section and plan drawings (where archaeological deposits are exposed), with ground level, Ordnance Datum and vertical and horizontal scales

- General site photographs (a minimum 35mm format) including general as well as photographs of significant archaeological deposits or artefacts if encountered
- A written description and analysis of the methods and results of the watching brief, in the context of the known archaeology of the area
- Specialist artefact and environmental reports, as necessary
- The archaeological contractor will also supply a digital copy of the report in PDF format to the Humber Sites and Monuments Record Office,
- Where a significant discovery is made, consideration should be given to the preparation of a short note for inclusion in a local journal
- All work will be carried out in accordance with the developer's proposed timetable and shall not cause undue delay to the development unless otherwise agreed.

7. MONITORING

- 7.1 The work will be monitored under the auspices of the Sites and Monuments Record Office, who should be consulted before the commencement of site works.

8. HEALTH AND SAFETY

- 8.1 Health and Safety will take priority over archaeological matters. All undertaking fieldwork will comply with all Health and Safety Legislation. We are adequately insured to cover all eventualities, including risks to third parties.

9. References

WYAS , Archaeological Services 2011 Geophysical Survey at Broachdale Farm, Sheep Rake Lane, Kilham, East Yorkshire. Report 2241

