

EHWF11

Earls Hall Wind Farm, St Osyth, Clacton-on-Sea, Essex

Updated Project Design and Assessment of Results

Client: RENERCO

August 2012

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EARLS HALL WIND FARM, ST OSYTH, CLACTON-ON-SEA, ESSEX

Client	RENERCO
National Grid Reference	TM 1470 1710
Address	Earls Hall Farm, St Osyth, Clacton-on-Sea, Essex
Parish:	Clacton-on-Sea
Council	Essex County Council
Accession Number	COLEM:2012.1
Planning Application No	07/00434/FUL
OASIS No	headland4-116749
NMR No	
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Report	August 2012

Between 7th and 17th February 2012, Headland Archaeology undertook an archaeological investigation at Earls Hall Wind Farm in the St Osyth area of Clacton-on-Sea in Essex. This was in advance of construction of a wind farm comprising five turbines, a substation, an anemometer mast, access tracks and ancillary infrastructure. The Environmental Impact Assessment (EIA) for the wind farm included a full desk-based assessment, supplemented by a site walkover. These were followed by an evaluation and watching brief on test pits in the development area (DA) which identified remains of Bronze Age and medieval activity. With the above evidence in mind, Essex County Council's Historic Environment Officer (HEO) advised that a programme of archaeological mitigation work was required as a condition of planning permission.

A Written Scheme of Investigation (WSI) in accordance with a brief from the HEO specified the work that would be undertaken to fulfil the condition. Archaeological monitoring and recording was required in areas of ground reduction at Turbines 3 and 5. Headland Archaeology was commissioned by RENERCO to undertake this programme of work.

Excavation revealed evidence of a landscape which had been utilised during the Bronze Age, late Iron Age/early Roman and the medieval Periods. Bronze Age activity was represented at Turbine 3 by a group of pits containing domestic waste. Deposits in this area also indicated some occupation in the late Iron Age/early Roman period. At Turbine 5, a series of medieval ditches and pits were revealed, representing remains on the edge of what was likely a more substantial area of activity.

This document presents an assessment of the archaeological remains revealed during the investigations, the data from which have the potential to address a number of regional and local research agendas. The document also contains proposals for further analysis and publication of the data, and the methodologies and resources required to complete the project. The end product will be the publication of the results in the county journal *Essex Archaeology and History* and the deposition of the project archive (Accession Number COLEM: 2012.1) with Colchester Museum.

1. INTRODUCTION

1.1 Project background

Essex County Council granted RENERCO planning permission (07/00434/FUL) for the construction of a wind farm comprising five turbines. As part of the process of considering that application, Essex County Council's Historic Environment Officer (HEO) advised that the Development Area (DA) was located in an archaeologically sensitive area. As a result the applicant was required to commission an archaeological evaluation in order to gain information on the potential of the site to contain sub-surface heritage assets. An assessment of the impact of the proposed development was submitted as part of the planning application for the DA.

An evaluation by trial trenching was undertaken in October 2006 (Foundations Archaeology 2006) and a watching brief on geotechnical test pits took place in 2010 (Northamptonshire Archaeology 2010). Both investigations recorded the presence of archaeological remains at the locations of Turbines 3 and 5. Therefore, a condition was placed on planning permission requiring the implementation of a programme of archaeological investigation. This was to comprise open area excavation in advance of construction at Turbine 3 and Turbine 5.

RENERCO commissioned Headland Archaeology (UK) Ltd to undertake the work. The fieldwork was carried out during construction, between 7th and 17th February 2012. All works were in accordance with a WSI prepared by Entec (November 2010).

1.2 Site Description and Geology

The DA is located at Earls Hall Farm, in the St Osyth area of Clacton-on-Sea and is centred on grid reference TM 1470 1710. It lies to the north of St John's Road and is bounded by agricultural fields to the south, east and west and by Hartley Wood to the north. The DA can be characterised as open arable farmland.

The geology of the area is London Clay Formation overlain by clay, silt and sand. The DA lies at a height of around 16m AOD.

1.3 Archaeological Background

The Essex HER details a number of cropmarks in the area. To the west of Earls Hall Farm cropmarks of former field boundaries (HER 2987) were mapped as part of the NMP (National Mapping Program) update. Cropmarks of two or three linear trackways are also visible to the east of the Farm (HER 8928). Various others have been recorded including trackways, linears and features forming possible enclosures and ring ditches (HER 2995, 2996, 3657, 3658, 17030, 17225). An evaluation in 2009 confirmed cropmarks (HER 47185) north of St John's Road (south of the DA) were on the same alignment as the modern field boundaries and were likely part of a post-medieval field system associated with Joy's Farm (now demolished).

The earliest (and most significant) activity from the area surrounding the DA was found

around 1.5km south-west of the DA at Lodge Farm, St Osyth (HER 2970, 18332, 19799). The site comprised multi-period activity including a Neolithic causewayed enclosure, an early Bronze Age pond barrow, a middle Bronze Age barrow cemetery and a middle Iron Age enclosed settlement. A Roman field system and medieval settlement were also recorded at the site.

Within the DA, a programme archaeological work was undertaken in advance of the determination of the planning application. This included a desk based assessment (CGMS, 2005) and an archaeological trenching evaluation (Foundations Archaeology 2006). The evaluation revealed archaeological remains of medieval ditches, pits and gullies and prehistoric remains associated with a series of cropmarks (HER 3657).

1.4 Purpose of this Report

This report presents an assessment of the results of all stages of the archaeological investigations. An Updated Project Design (UPD) is included, listing all the tasks that will be required to analyse, publish and archive the results of the fieldwork. The completion of these tasks will fulfil the criteria stipulated in the WSI (Entec, 2010), enabling the discharge of the archaeological planning condition by the LPA.

2. ORIGINAL AIMS AND OBJECTIVES OF THE INVESTIGATION

2.1 Introduction

A series of research aims were established prior to the fieldwork taking place. These were necessary to ensure that the investigation was appropriately targeted in accordance with local, regional and national research priorities.

2.2 National Research Frameworks

At a national level, English Heritage's criteria for prioritising archaeological "sites" are evolving. Its funding criteria for rescue projects, as set out in *Exploring our past* (EH 1991), were similar to those it uses to define a "site" as being of schedulable quality. These included period, rarity, group value, survival/condition, fragility/vulnerability and potential. More recently a draft Research Agenda (EH 1997) built upon the earlier criteria, with the aim of developing an approach reflecting 'the greater determination to pursue research themes' and 'wider interests (*e.g.* in landscapes)'. These include goals such as advancing understanding of England's archaeology, supporting the development of national, regional and local research frameworks and promoting public appreciation and enjoyment of archaeology.

Although the Research Agenda was intended for projects seeking English Heritage resources, *i.e.* not those undertaken within the PPG 16 framework, its goals and objectives are relevant to the investigations occasioned by this development.

2.3 Regional and County-based Research Agendas

The County Archaeologists of East Anglia have published a resource assessment (Glazebrook 1997) and subsequent research agendas and strategies (Brown and Glazebrook 2000, Medlycott, 2011) for the eastern counties. This study covers Essex and adjacent counties of Hertfordshire, Cambridgeshire, Suffolk and Norfolk. This document is a useful tool for assessing the significance of the archaeological remains within the DA.

2.4 Original Research Objectives

A number of research objectives, both generic and period-specific, were considered relevant to these works. They are set out below.

Objective / Theme	Research Aims/Themes	Source (Published or internally generated by Project Team)
1.	What was the nature of prehistoric activity? The evaluation revealed archaeological features which contained pottery and other artefactual evidence. Many of the features also contained quantities of charcoal. Do these features represent industrial activity rather than domestic settlement?	Project Team
2.	What was the nature of the medieval/post-medieval activity? The evaluation also revealed medieval ditches, gullies and pits. What can these tell us about the different uses of the DA throughout the medieval and into the post-medieval period?	Project Team
3.	What role do the ditches, along with evidence from nearby recorded cropmarks play in the way in which the landscape was utilised? Previously, cropmarks have been recorded through Aerial Photography and mapping in the surrounding area of the DA. Through analysing ditches and their alignments, there is great potential for investigating the relationships between field systems and long-distance trackways, settlements, enclosures and funerary site (Medlycott, 2011) in later prehistory and history.	Project Team

Table 1: Summary of original research objectives and themes

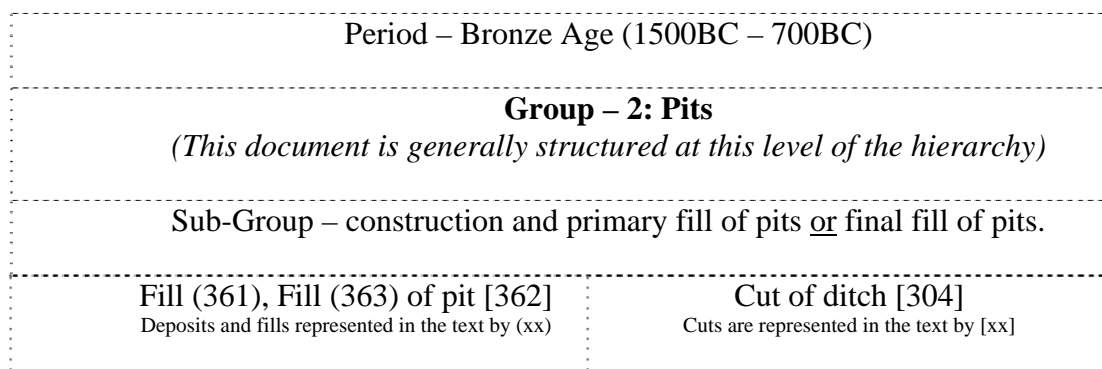
3. PROVISIONAL SUMMARY OF RESULTS

3.1 Methodological approach to assessing contextual data

The contextual data were rapidly assessed in order to establish whether they would provide a coherent spatial and chronological framework. A total of 73 contexts were assigned to provisional Assessment Groups, *e.g.* boundary ditch, pits, *etc.* (Table 2). The allocation of individual contexts to specific sub-groups of contexts was made on the basis of the following criteria:

- Do the contexts form a coherent spatial unit *e.g.* ditch length, pit group *etc.*?
- Do the contexts represent key positions within the stratigraphic sequence?
- Do the contexts contain suitable dating material?

Fills and cuts were then assigned to sub-groups (*e.g.* primary fills of pit in the Bronze Age pits or Cuts of pits within the Bronze Age pits) and sub-groups were then assigned to a number of distinct Groups (*e.g.* Bronze Age pits), corresponding to larger coherent and contemporaneous spatial units. These Groups were then assigned to a number of chronological periods, *e.g.* Bronze Age. This phasing was based on their artefactual assemblage, character and stratigraphic position.



The text which follows is structured by chronological period, and discussed by Group, and, where relevant for detail (by context and/or sub-group); where relevant for making broad interpretations, the discussion Period groupings.

Period	Group	Sub-Group	Description	No. of features	Context numbers
Bronze Age	1	1	Construction of ditch	1	304
		1.1	Backfill of ditch		305
	2	2	Construction and primary fill of pits	5	302=354, 356, 357, 364, 366
		2.1	Use fills of pit [356]		358, 359, 360, 361
		2.2	Disuse fills of pits		303=355, 365, 367

Period	Group	Sub-Group	Description	No. of features	Context numbers
		3	Later cut of pit	1	362
		3.1	Backfill of pit		363
Late Iron Age – early Roman	2	2.3	Later final fill within pit [356]		368
Medieval	3	4	Construction of curving ditch	1	502, 504, 514, 557, 567
		4.1	Backfill of curving ditch		503, 505, 515, 558, 568
		4.2	Construction of pit/posthole related to curving ditch	1	508
		4.3	Backfill of pit/posthole related to curving ditch		509
		5	Construction of pits	2	506=559, 565
		5.1	Backfill of pits		507=560, 566
		6	Construction of related pits	2	563, 569
		6.1	Backfill of related pits		564, 570
		7	Construction of ditches	2	510, 512(?)
		7.1	Backfill of ditches		511, 513(?)
Post med?	4	8	Cut of drain(?)	1	516, 561
		8.1	Backfill of drain(?)		517, 562
Unphased	5	9	Construction of isolated pit	1	553
		9.1	Backfill of isolated pit		554
	6	10	Construction of isolated pit	1	555
		10.1	Backfill of isolated pit		556

Period	Group	Sub-Group	Description	No. of features	Context Numbers
	7	11	Construction of ditches	2	369, 375
		11.1	Final fill of ditches		370, 376
	8	12	Construction of pits	2	371, 373
		12.1	Backfill of pits		372, 374
	9	13	Topsoil and Subsoil		101, 201, 301, 350, 401, 501, 550, 551
		13.1	Geological layers and channels		351, 352, 353, 552
			Total		73

Table 2: Summary of provisional phasing

3.2 Structural Illustrations

Illustration 2 and 3 break the remains up by Period and Group. It is often the case that elements of remains from one period (e.g. medieval ditches) are present in later periods (e.g. post-medieval). By showing remains from several periods together, it allows the reader to appreciate the effect that later features may have had on ‘earlier’ landscapes.

3.3 Summary of Contextual data results

Period: Bronze Age (1500BC – 700BC)

G1: Ditch (*Illus 2*)

A portion of a NE-SW aligned ditch measuring 2.8m in length, 1.30m wide and 0.23m in depth. One fragment of fired clay and three sherds of probable Bronze Age pottery were present in the backfill. The ditch is considered contemporary with the pits of G2 due to their proximity and comparable artefactual evidence.

G2: Pits (*Illus 2*)

Five pits, each with varying dimensions, were recorded on a broadly NE-SW alignment across the NW part of Area 3. Four of the pits formed a cluster to the NE, whilst the fifth [354] was more isolated and lay to the SW (*Illus. 2*). Charcoal and fired clay was present within the deposits of the pits, suggesting a process using high-temperature had taken place in the vicinity. Pottery and flint dating to the Bronze Age was recovered from each of the pits.

SG2.1: These deposits comprised grey/brown silt clay with inclusions of gravel, flint and charcoal. These inclusions were evenly spread throughout the deposits, suggesting mixing prior to deposition. These are likely to represent deliberate backfilling, possibly derived from a single event such as a fire or heating process.

SG2.2: These deposits were more stratified than those of SG2.1 and comprised a sequence of deposits containing charcoal interleaved with grey/yellow clay. These deposits indicate deliberate backfill but their sequential character demonstrates the deposits were unmixed prior to deposition.

Period: Late Iron Age – early Roman (50BC – AD50)

G2 (continued):

Sherds of pottery dating to the late Iron Age/early Roman period were recovered from the final fill (SG2.3 – 368) of pit [356], along with iron fragments likely to be the remains of hobnails. The presence of these artefacts within the upper fill of an otherwise Bronze Age pit suggests the pit may have existed in the landscape as a depression which was filled in the later period.

However, it is also possible that the entire sequence of deposits within [356] represent late Iron Age/early Roman activity; the Bronze Age pottery within deposits (358) and (368) may be residual material derived from the surrounding Bronze Age features.

Period: Medieval (AD1066 – AD1500)

G3: Curving ditch and associated pits (*Illus 3*)

A ditch ([557] – SG 4) orientated NW-SE and then curving to NE-SW was recorded in Area 5. It was part of a group of features dating to the medieval period. The ditch varied in width and depth (max. 1.18m x 0.23m) and gradually became shallower at the terminal ends. The ends were most likely the result of plough truncation rather than a creation of deliberate terminals. The backfill contained charcoal and burnt clay from which a number of fragments of daub, broken quern stone and 11th-12th century pottery were recovered suggesting domestic activity. A pit [508] measuring 0.59m in length, 0.41m wide and 0.13m deep was located near the NW edge of the NE-SW aligned part of the ditch. Two sherds of pottery were recovered from its backfilled deposit. It is possible the ditch and pit had some structural function, although the truncation has meant that only its very basal remains survive.

Two pits ([559], [565] – SG 5) were situated beside the NW corner of the ditch, both with a diameter of 1m. They were similar in character with a maximum depth of 0.23m. They contained a backfill composed of waste material including charcoal and burnt clay. 11th Century pottery was recovered from the backfill of both pits. The backfill of the pits were similar to that contained in SG 4 and is likely to be the same event. These features were not defined as individual pits and ditches before excavation due to the backfill material spread across the top of the features. This was likely due to disturbance of the features from ploughing.

On the periphery of SG 4 and SG 5, two further pits ([563], [569] - SG6) were recorded; one to the east and one to the west. They were sub-circular in plan and shallow with a maximum depth of 0.10m. Both had been truncated by drain cuts. No datable material

was recovered from the backfilled deposits but they are likely to be broadly contemporary with SG 4 & 5 due to their close proximity and similar backfill.

A ditch (SG7) aligned predominantly E-W and curving southwards at either end was recorded to the west of SG 4 & 5. It measured 0.86m wide and was 0.11m deep. No finds were recovered from the backfill, although a single sherd of 12th-14th century pottery and a worked flint flake were located within the overlying plough soil. The ditch was recorded during the evaluation but was not re-discovered during the open-area excavation.

Period: Modern (AD 1800 – AD 1800)

G4: Drains (*Illus 3*)

Several deep field drains were seen across Area 5, truncating features in G3 (SG 5 & SG 6). Their fills were derived from the fills of features they were cut into and contained no dating evidence.

Period: Unphased

G5 & G6: Isolated pits (*Illus 3*)

Although it was possible to assign a date to most of the features revealed on the site, a small number remained unphased. Included in these was a pit (G5) located in Area 5, NE of the G3 medieval remains. It had a diameter of 0.53m and was shallow with a depth of 0.04m. No finds were retrieved from the pit and its purpose was unclear. The soft, loose texture of the backfill suggests the feature could have been relatively modern in date, but this was not confirmed by artefactual dating.

A feature (G6) was recorded towards of the western end of Area 5. It measured 1.10m in diameter and had a depth of 0.07m. The shallow nature and gradual sloping sides of the cut suggested the feature to be more a spread of material than a purposely cut pit. The fill/spread was of sandy clay with fired clay patches. No datable material was retrieved and the feature remains unphased.

G7: Ditches (*Illus 2*)

Two unphased ditches situated on the access track at Area 3 were recorded. Both were aligned NE-SW and filled with a light brown grey silty clay. One sherd of pottery was retrieved from the top of the backfill of [375] which dated to the 11th Century. However, this is likely to be residual due to its placement within the ditch backfill. No other datable material was recovered.

G8: Pits (*Illus 2*)

Two undated shallow pits (averaging 0.05m in depth) were identified on the Area 3 access track. Both were backfilled with charcoal rich material, however, they were almost entirely truncated by land drains which prevented their original extent and function from being determined. No datable material was recovered.

G9: Natural channels (*Illus 2*)

Naturally formed channels were present in Area 3, SE of the pit locations. These were spread across the area of Turbine 3.

4. ANALYTICAL POTENTIAL OF THE DATA

4.1 Introduction

For the following discussion, the datasets recovered during the investigations have been divided into three main classes: contextual; artefactual; and ecofactual.

- **Contextual** data relate to the identification of individual events such as the digging of a ditch, its primary infilling *etc.* These have been recorded as context records during the evaluation and open area excavation. All contexts have a detailed record sheet; many have a plan and section drawing along with photographs.
- **Artefactual** data comprise manmade objects recovered during the open area excavation. These have been divided for ease of discussion into different materials *e.g.* pottery, flint, metal *etc.* (including registered artefacts and bulk finds, such as industrial residues).
- **Ecofactual** data comprise natural materials found within excavated deposits. These are able to yield information on the nature of past human activity and its environmental setting. They include information obtained from environmental samples (*e.g.* plant remains).

Contextual data are discussed first in the following sections, as they have provided the framework for the preceding summary of results and the subsequent dataset discussions. The methodological approach taken with each dataset is discussed, followed by sections dealing with quantification, provenance (spatial and chronological) and also condition. All these factors are important in deciding the potential of the material for analysis.

4.2 Contextual Data

Quantity of records

Table 3 presents a breakdown of the total quantity and type of contextual records. These comprise the written description/interpretation of a deposit/feature (context sheets), a map-like drawing showing the location and inter-relationship between features, including digital mapping (a plan), a profile drawing through a feature and its fills (section), and photographs.

Contexts	Plan Sheets	Sections	Photographs
73	3	13	93

Table 3: Quantity records

Survival and condition of remains encountered

The majority of the remains identified dated to either the Bronze Age or the medieval period. The remains had been truncated by extensive ploughing during the medieval/post-medieval and periods. This was evident through the presence of plough marks visible at the level at which significant archaeological remains were encountered.

Ploughing was furthermore evinced by the absence of subsoil across the majority of the excavation area. Within Area 5, a very shallow subsoil of sandy clay (Max depth 0.07m) was present below the topsoil, but varied in extent across the site and for the majority was not encountered. Within Area 3, no subsoil existed. The components of these landscapes that survived best were relatively deeply cut negative features such as pits and ditches.

The archaeological features comprise two groups of evidence; pits mainly dating to the Bronze Age (with one exception, the origins of which may be in the late Iron Age/early Roman period), and medieval activity which is indicative of settlement. A relatively small amount of features make up both of these groups and it is not clear if they are representative of a small portion of what was a much larger quantity of remains, or whether they represent isolated activity. Nonetheless, these remains are set in a wider landscape which comprises archaeology representative of multi-period activity dating from the Neolithic up until present day (see section 1.3).

It is worth noting that within G9, natural channels were recorded and the Bronze Age pits were situated on the edge of these; these may aid in the reconstruction of the Bronze Age landscape at Area 3.

The distribution of certain types of artefact (*e.g.* pottery) has assisted in identifying where activity was focused. The presence of varying artefactual data will provide further information on the use of the land during the Bronze Age and medieval periods.

4.3 Artefactual Data

Pottery

The pottery assemblage notes a mixture of Prehistoric, Romano-British and early medieval wares. The prehistoric pottery comprised undecorated and undiagnostic body sherds which showed a degree of wear, likely to be due to the softness of underfired fabric. Sherds of Essex Prehistoric fabric (RCW), dating to the late Iron Age (c 50BC – 50AD), and Romano-British Greywares were recovered from the site, but it is not clear if these two types are contemporary at this site as the former was found in a pit fill, whilst the latter was residual within medieval context (505).

The range of fabric types within the medieval assemblage indicates that medieval activity at the site was somewhat short lived between the mid 11th century and the mid/late 12th century. Most of the assemblage is made up of three vessels, all jars, and is in good condition. The assemblage is indicative of medieval settlement within the immediate vicinity of the ditch. Further analysis of the medieval pottery assemblage has the potential to provide useful information on ceramic use and also place it in its regional context. Given the paucity of medieval pottery recorded from Clacton, this assemblage is a useful addition to the corpus of knowledge of the area.

Lithics

A number of pieces of worked flint with some quartzite and other stone were recovered from the site. Most notable was a large multi-platform core (SG7.1). However this was found to be residual. The remaining lithics were almost all burnt meaning very little diagnostic information could be identified. The burning and distribution of the finds

through multiple features and deposits suggest later disturbance, although mid/late Bronze Age pot found alongside the lithics in pit fills (355, 358 and 363) suggest they might be contemporary. The assemblage is of limited archaeological significance and would not benefit from any further investigation.

Fired Clay

The pieces of fired clay found in the final fill of pit G2 lack any impression which would provide clues to their function. It is likely that they derive from some kind of activity in the direct vicinity of the pit, whether it be industrial or structural is unknown. Further investigation would not provide more information.

Industrial Waste

A very small assemblage of fragments of possible iron-working waste was recovered from a number of pit and ditch fills. The fragments within G3 suggest iron-working of some description was being undertaken on or near the site at some point. Fragments found within G2 features are of less certain identity and may be iron pan, or possible iron-rich stone which has been subjected to heat. Associated fired clay does suggest some sort of high-temperature activity or event but the evidence for the nature of this is inconclusive. Further investigation is not recommended due to the lack of potential of the assemblage.

Other finds

Pieces of one, possibly two rotary querns were recovered from the ditch fill (SG4.1) and were associated with medieval pottery. Rotary querns were in common use from the Iron Age through to the 13th century (Watts 2006). In this case it is likely the finds are contemporary with the associated mid 12th century pottery and are indicative of domestic activity.

Some fragments of iron were found in the final fill of pit [356] in G2; their function is not clear but they may be fragments of hobnails. Associated pottery suggests a possible Roman date for these finds but they were most likely intrusive through ploughing within this deposit. A fragment of green bottle glass was also recovered (G2), however this is unlikely to be earlier than the post-medieval period and is presumably intrusive. These finds were of little archaeological significance and would not benefit from any further investigation.

4.4 Ecofactual Data

Charred Plant Remains

The charred grain assemblage recovered from G3 [ditch SG4 and pits SG5] consisted of small quantities of oats, probable oats, hulled barley, wheat and club/bread wheat. Wild taxa were also present within G3 with a small range of knotgrass, mayweeds and grass recovered. Charcoal was present in both Bronze Age and medieval phases and represented both oak and non-oak taxa used for wood fuel.

The presence of only charcoal within G2 Bronze Age activity limits the scope for further analysis which might inform on the function of pit. Analysis of charcoal found with burnt bone fragments in pits [356] and [366] would provide information on the tree

types being used for fuel, together with timber size and gathering methods during the Bronze Age.

Further analysis of the material recovered from medieval features (G3) is unlikely to provide any additional information than that which is already presented within this assessment.

4.5 Potential of Datasets to Address Original Research Objectives

The potential of each dataset to contribute to the project's original research objectives is summarised in Table 4.

	Objective	Contextual	Pottery	Lithics	Fired Clay	Industrial Waste	Other finds	CPR
1	What was the nature of prehistoric activity?	Medium	Medium	Low	Low	Low	-	Medium
2	What was the nature of the medieval/post-medieval activity?	Medium	Medium	-	-	-	-	Low
3	What role do the ditches, along with evidence from nearby recorded cropmarks play in the way in which the landscape was utilised?	Low	-	-	-	-	-	-

High Dataset is able to contribute direct, significant data which can expand our knowledge in this area.

Medium Dataset can contribute direct data which will be relatively standard for this chronological period and region.

Low Dataset has a relatively low potential to augment our knowledge of this subject. It may be of only minor relevance to the research aim, or may help to add to a database of 'less significant evidence' which, when combined, is useful in recognising patterns, e.g. pottery assemblages, settlement types.

- Dataset has no potential to provide useful information on this subject.

Table 4: Potential of recovered datasets to address the original research objectives

5. RESEARCH OBJECTIVES FOR ANALYSIS

5.1 Introduction

Following assessment of the various datasets, it has been possible to refine and add to the original objectives (Table 5). The ways in which these research objectives will be addressed are listed below, with reference to national and regional research frameworks. Original research objective 3, regarding the role of ditches and cropmarks within the surrounding landscape, has not been retained due to insufficient evidence to undertake substantial analysis. This subject, however, will be addressed briefly within the analysis.

5.2 Revised research objectives

Table 6 summarises the potential (Low, Moderate, High) of each dataset to contribute to the revised research objectives for analysis.

What is the date and nature of the Bronze Age activity identified within the development area? How can this information expand our knowledge on activity at this time in the Clacton Area?

Previous evaluation in the area revealed features which contained pottery and other artefactual evidence dating to the Bronze Age. The excavation at Turbine 3 of Earl's Hall Wind Farm found further evidence from this period in the form of Bronze Age pits. Analysis will focus on discovering what the purpose of these pits may have been and how this relates to Bronze Age (and later) activity in the surrounding area. This will be established through contextual (medium potential), artefactual (medium potential) and ecofactual (medium potential) data.

What is the date and nature of medieval activity identified within the development area? How can this information expand our knowledge of activity in the Clacton Area at this time?

At Turbine 5 of Earl's Hall Wind Farm, previous evaluation revealed medieval ditches and pits. The excavation in this area exposed the full extent of these remains and confirmed the presence of medieval activity in the immediate area. Small medieval settlements are continuously being discovered in the region and understanding the way they appeared, grew, shifted and also disappeared is an area of research outlined by Medlycott (2011, 70). The artefactual (medium potential) and ecofactual (low potential) assemblage, alongside contextual data (medium potential) will be examined to determine the nature of this settlement, dates of use, and indicators of abandonment of the site, all of which will contribute to this research aim.

What can the charred plant remains recovered from the site tell us about the human impact on the environment, particularly woodland management, during the Bronze Age?

Human impact on the environment during this period and particularly to woodland management has been identified as an important area of research for the area (Brown and Murphy, 2000). Analysis of the charcoal fragments (medium potential) will provide information on the tree types being used for fuel, together with timber size and gathering methods (e.g. coppicing, deliberate selection). Further to this,

comparison of the results with pollen records for this area will allow comment on woodland types being resources and former woodland composition.

What can the artefactual data reveal about the activity in the area during both the Bronze Age and the medieval period?

With few artefacts from the Bronze Age and medieval period found in recent times in the Clacton area, study of the artefact assemblage (medium potential), along with contextual data (medium potential) may be useful in providing information on the activity at the site and surrounding areas during both periods. In particular, the need for further work on medieval pottery industries in the area has been highlighted (Medlycott, 2011, 71) and analysis of material recovered at Earl's Hall Farm will aid in this.

Objective	Contextual	Pottery	Lithics	Fired Clay	Industrial Waste	Other Finds	Charred Plant Remains	Charcoal
• What is the date and nature of the Bronze Age activity identified within the development area? How can this information expand our knowledge on activity at this time in the Clacton Area?	Medium	Medium	Low	Low	Low	Low	-	Medium
• What is the date and nature of the medieval activity identified within the development area? How can this information expand our knowledge on activity at this time in the Clacton Area?	Medium	Medium	-	-	-	Low	Low	Low
• What can the charred plant remains recovered from the site tell us about the human impact on the environment, particularly woodland management, during the Bronze Age?	Low	-	-	-	-	-	-	Medium
• What can the artefactual data reveal about the activity in the area during both the Bronze Age and the medieval period?	Medium	Medium	Low	Low	Low	Low	-	-

High Dataset is able to contribute direct, significant data which can expand our knowledge in this area.

Medium Dataset can contribute direct data which will be relatively standard for this chronological period and region.

Low Dataset has a relatively low potential to augment our knowledge of this subject. It may be of only minor relevance to the research aim, or may help to add to a database of 'less significant evidence' which, when combined, is useful in recognising patterns, e.g. pottery assemblages, settlement types.

- Dataset has no potential to provide useful information on this subject.

Table 5: Research objectives for analysis and potential of datasets

6. UPDATED PROJECT DESIGN

6.1 Introduction

This section provides a task list for the analysis, publication and archiving programme. Table 6 provides a description of the tasks associated with analysing each dataset and summarises the tasks associated with publication, archiving and overall project management. Table 8 describes the project team and lists their initials, and Table 9 details the proposed timescale for completion of each key stage in the project.

6.2 Publication Synopsis

An article will be submitted to the editors of Essex Archaeology and History for inclusion in that journal. It will contain the following sections. These are derived from the Revised Research Objectives in Section 5.2, Table 5 (this document). Analysis and the written report which is the product of this work is an iterative task, therefore, the following outline is subject to change as ideas evolve and new ideas are generated.

Section	Pages	Illus
Introduction		
• Project background	¼	
• Site location and description (including geology and topography)	¼	1
• Archaeological and historical background	½	1
Results of investigation		
• Bronze Age		1
○ Pits	½	
○ Surrounding landscape	½	
• Medieval		1
○ Settlement activity	½	
○ Surrounding landscape	½	
Discussion	1	
Conclusions	½	
Acknowledgements	¼	
References	1	
Appendices		
• <i>Medieval Pottery</i>	2½	3
• <i>Charcoal</i>	2	

Table 6: Summary of all tasks associated with Analysis, Publication and Archiving

Task Names divided by Key Stage	Description of Task	Title/ Organisation initials	Person Days
Structural analysis liaison/meetings	On-going discussion will take place between the principal members of the project team throughout the analysis and publication stages. These will involve discussion over the nature of the work required, as well as commissioning the work and addressing any queries that arise during the course of the analysis.	PO	1/2
Analysis of HER and historical maps	The Essex Historic Environment Record will be visited to provide background information on archaeological sites in the vicinity. The focus will be on medieval sites in the vicinity. All relevant maps, photographs and other documents will be examined.	PO	1
Contextual, Sub-Group and Group analysis	<p>Each context will be assigned to a single Sub-Group, consisting of one or more (usually several) contexts that are closely related both stratigraphically and interpretatively. The Sub-Group to which each is assigned will be determined by analysis of the primary contextual information, specifically context sheets and sections/plans that were produced on site.</p> <p>The fills of features will be assigned to separate Sub-Groups from their cuts. The only exceptions to this are for deposits interpreted as packing or lining, and for primary fills that formed only a short time after the feature was constructed. For deep features that may have filled up over a long period of time, more than one Sub-Group will be used in order to separate their lower and upper fills. However, to ensure that their spatial location is easily identifiable, they will be issued a Sub-Group number comprising a decimal point of the 'containing' Sub-Group. For example, the non-primary lower fills of enclosure SG7 would be assigned to SG7.1, and the upper fills to SG7.2. When assigning contexts to Sub-Groups, the artefactual and ecofactual assemblage recovered from each context will be considered. This will identify any that contained significant assemblages which may need to be referred to in detail in the descriptive section of the publication text. Such contexts will also be separated out at Sub-Group level.</p> <p>Groups will be composed of Sub-Groups that are stratigraphically similar, and which combine to form a coherent unit of contemporary activity. Sub-Groups containing non-primary fills may be assigned to separate Groups, in order to reflect the possibility that they are considerably later in date than the construction/primary fill Sub-Groups, and would therefore need to be analysed separately. However, to ensure that their spatial location is easily identifiable, they will be issued a Group number comprising a decimal point of the 'containing' Group. For example, the non-primary fills of farmstead G7 would be assigned to G7.1.</p>	PO	1/4
Phase analysis	Each Group will be assigned to a higher level of interpretation known as a Phase, which may contain one or more	PO	1/4

Task Names divided by Key Stage	Description of Task	Title/ Organisation initials	Person Days
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Groups. Each Phase will represent a chronological period. A plan will be produced for each Phase, with the location of all relevant Groups marked.

The following example allows us to tell the *story* of some postholes which were created to hold timbers for a building in use in an Iron Age settlement. That building was abandoned and the postholes became infilled during the early Roman Period, when the land was part of an arable field. To tell that story means that fills and cuts unified within one, and more, postholes need to be divided according the Period they were created and the Phase of activity which caused that. In order to achieve those, it was necessary to divide them amongst different Groups and sub-groups.

This system has the flexibility to discuss Features where that is useful and to separate elements of those same Features and discuss those where that adds value to our *story*.

Example 1: How do the Primary Fills of postholes in Structure 1 fit in?

Period – Iron Age (700BC-AD43)	
Phase 1 (Settlement 1, late Iron Age 100BC – AD43)	
Group G1 – Structure 1	
Sub-Group SG1.1 – primary fills and cuts of post holes in Structure 1 (G1)	
<i>Starting with the following contextual data</i>	
Primary Fill (301), Secondary Fill (302) of posthole [300]	Cut of posthole [300]
Primary Fill (304), Secondary Fill (305) of posthole [303]	Cut of posthole [303]
Primary Fill (307), Secondary Fill (308) of posthole [306]	Cut of posthole [306]

Example 2: How do the Secondary (and final) fills of postholes in Structure 1 fit in?

Period – Roman Period (AD43-AD410)	
Phase (Field Systems, early Roman period AD43-AD150)	
Group G2 – Remains related to the abandonment of Iron Age Settlement	

Task Names divided by Key Stage	Description of Task	Title/ Organisation initials	Person Days
	Sub-Group 1.2 – Secondary fills of post holes in Structure 1 (G1)		
	<i>Starting with the following contextual data</i>		
	Primary Fill (301), Secondary Fill (302) of posthole [300]		Cut of posthole [300]
	Primary Fill (304), Secondary Fill (305) of posthole [303]		Cut of posthole [303]
	Primary Fill (307), Secondary Fill (308) of posthole [306]		Cut of posthole [306]
Assistance with structural analysis	The Project Manager will discuss the process of contextual analysis (Sub-Grouping, Grouping, Phasing) with the PO on a regular basis in order to ensure this iterative process benefits from a range of ideas/experiences brought in from other projects.	PM	1/4
Pottery transportation			1/4
Specialist liaison		FM	1/2
Pottery quantification and recording	Quantification, identification and dating of pottery were completed at assessment stage though some amendments may be made during analysis.	FS/ Freelance	-
Charcoal quantification and recording	Charcoal analysis of the 4 samples with the greatest potential for study; 2 samples (05 and 07) from Phase 1 and 2 samples (03 and 04) from Phase 2. Analysis will inform on taxa present, former woodland change and composition, potential woodland exploitation and management. A maximum of 20 fragments per sample will be analysed.	ED/HA	1
Keystage 1: completion of analysis			
Structural phasing/publication liaison	Once the final phasing has been established, the various specialists will be informed. Each will receive detailed phasing information, the required format of their publication text, and any other information that they may require.	PO	1/4
Pottery phasing &	Checking/adjustment of the provisional chronology of the pottery with reference to the stratigraphic matrix.	FS/ Freelance,	1

Task Names divided by Key Stage	Description of Task	Title/ Organisation initials	Person Days
publication text	Checking the whole assemblage for cross-fitting sherds from different contexts. Full publication of the pottery by phase, with appropriate data tables, and a discussion of the assemblage in its regional context.		
Pottery illustration	Line illustration of selected sherds (preliminary estimate of no more than 6 sherds)	GD/HA	1½
Charcoal phasing/publication liaison	Direction given on overall phasing of the site and publication layout.	ED/HA	¼
Charcoal publication text	Any references to be added to place site in wider context and how this information ties in with research frameworks within the area. Publication text and tables to be written as to direction given above.	ED/HA	1
Keystage 2: completion of all specialist text			
Structural illustration	Plans will be produced to show all features in each Phase with Groups identifiable.	PO & GD/HA	1
Assistance with structural illustration	The Project Officer will advise and assist the Graphics section in order to ensure illustrations are as helpful to the reader and integrated with the text as is possible.	PO/HA	¼
Production of site narrative and integration of all specialist publication reports to create site narrative report	The site narrative will form the basis of the descriptive section of the publication text. It will be organised by Period, Phase, Group and, where appropriate, Sub-Group and context number. A report will be submitted to the HEO that is suitable for inclusion in an approved archaeological journal, in this case Essex Archaeology and History. The chronological phased development of the site will provide the basic structure for the site narrative. Within each Phase, text will be organised by Group, with artefactual and ecofactual information integrated into the text as appropriate. Evidence from documentary, cartographic and photographic sources will be integrated into this chronological framework.		3
Assistance with site narrative report	The Project Manager will assist the Project Officer where necessary. Input may be given by other individuals with experience of similar sites etc.	PM/HA	½
Amendments and queries in consultation with specialists during	The Project Officer will work in consultation with specialists in integrating reports into the article. The synthetic narrative of the article will set the tone and direction with specialist contributions serving this aim. Certain technical data may be saved to the project archive rather than appear in print in order to ensure an un-cluttered and interesting	PO/HA	½

Task Names divided by Key Stage	Description of Task	Title/ Organisation initials	Person Days
article preparation	narrative.		
Production of synthesis	The assessment suggests that the discussion will concentrate on the evidence from the Bronze Age and medieval period with the focus lying on the related research objectives identified in Section 5.2. Further analysis of the material relating to those periods will be guided by the data presented in this assessment. The outline of the publication should be considered as only a guideline, and may be altered during the analysis and pre-publication stages if the results warrant it.	PO	1
Editing publication text		PM/PO	1
Keystage 3: completion of 1st Draft			
Headland's refereeing process		-	1/2
Keystage 4: Submission to Bedfordshire Archaeology			
Submission to <i>Essex Archaeology and History</i>		-	
Amendments resulting from editor's comments		PO	1/2
Proof reading		-	1/4
Printing		-	-
Archive preparation (Structural)	On publication of the final report the archive of materials (subject to the landowner's permission) and accompanying records will be deposited with Colchester Museum, Accession Number COLEM: 2012.1.	PO	1
Archive preparation (Artefacts)	In accordance with guidelines (Essex Museum Workers Group 2008) 'Guidelines on the preparation and transfer of archaeological archives to Colchester and Ipswich Museum service'.	FS/HA	1/4

Task Names divided by Key Stage	Description of Task	Title/ Organisation initials	Person Days
Archive preparation and liaison with Museum			1
Archive microfiching			-
Archive transfer (storage costs)			-
Archive transfer			1/2
Project management (Overall)			1/2
Project management (Headland)	The management of the project includes monitoring the task budgets, programming tasks, checking timetables, and liaising with all members of the project team.		1/2
Keystage 5: end of project			

6.3 The Project Team

To ensure a consistent approach, the same specialists will be used (as far as possible) who have been involved in the assessment stage of the project.

Task	Organisation, Title and Name	Initials of Title
Daily management	Headland Archaeology (HA), Project Manager, James Newbould and Project Officer, Nuala Woodley	PM/PO
Structural analysis	HA, Project Officer, Nuala Woodley	PO
Pottery analysis	Freelance Finds Specialist, Paul Blinkhorn	FS
Charcoal	HA, Environmental Department, Abby Mynett / Scott Timpany	ED
Illustration	HA, Graphics Department	GD
Archiving	HA, Project Officer, Nuala Woodley	PO

Table 7: The project team

6.4 Timetable

Following acceptance by the client and HEO of the assessment and Updated Project Design, Headland will proceed with analysis and publication of the results. This would ensure that project momentum is maintained.

Table 8 sets out the five key stages within the analysis and publication programme. An indication of the time required to reach the first three key stages is indicated, and these could serve as appropriate monitoring points, if required.

Task	Anticipated date of completion
Structural Analysis	December 2012
Quantification and recording by specialists	January 2013
Completion of KEY STAGE 1	
Compilation of specialist reports	February 2013
Completion of KEY STAGE 2	
Compilation of 1st draft	April 2013
Completion of KEY STAGE 3	
Refereeing	May 2013
Completion of KEY STAGE 4	
Publication of report*	Mid-Late 2013

Deposition of archive

Late-2013

Completion of KEY STAGE 5

Table 8: Provisional timetable to complete the project

*Publication, and therefore deposition of the archive with Colchester Museum, will be dependant on the publication timetable of *Essex Archaeology and History*.

7. Bibliography

Brown N. and Murphy P. 2000 'Neolithic and Bronze Age' in J.N Brown and J. Glazebrook (eds) *Research and Archaeology: a framework for the Eastern Counties, 2. research agenda and strategy* East Anglian Archaeology Occasional Paper No. 8, 9-13.

Brown, N. and Glazebrook, J., 2000, *Research and Archaeology: a Framework for the Eastern Counties, 2. Research Agenda and Strategy*, EAA Occasional Paper 8

CgMs Consulting 2005 *Archaeological Desk Based Assessment: Earl's Hall Wind Farm, St Osyth, Clacton on Sea, Essex*. CgMs.

English Heritage, 1991, *Exploring our Past*

English Heritage, 1997, *Draft Research Agenda: Archaeology Division*

Entec 2010 *Earls Hall Wind Farm: Written Scheme for Archaeological Investigation*. Entec UK Ltd.

Foundations Archaeology 2006 *Earls Hall Farm Wind Farm, St Osyth, Clacton on Sea, Essex: Archaeological Evaluation*. Foundations Archaeology Report No. 516.

Glazebrook, J., 1997, *Research and Archaeology: A framework for the Eastern Counties: Resource Assessment*, EAA Occasional Paper 3

Medlycott, M., 2011, *Research and Archaeology Revisited: a revised framework for the East of England*, EAA Occasional Paper 24.

Northamptonshire Archaeology 2010 *Watching brief on geotechnical test pits at Earl's Hall Wind Farm, St Osyth, Clacton-on-Sea, Essex*. Report 10/100

APPENDIX 1: FINDS ASSESSMENT

by Julie Franklin, Paul Blinkhorn, Julie Lochrie

Introduction

This report identifies, quantifies and interprets the hand-collected and wet-sieved finds from excavations at Earls Hall Wind Farm: both the trial trenching by Foundations Archaeology and the excavations by Headland Archaeology. Information from both finds assessments has been combined to create an overview of the entire assemblage. A complete table of all the finds is included at the end.

A summary of the assemblage is shown in Table 9.

Table 9 Summary of the finds assemblage by phase and group, quantified by number of finds or weight as appropriate

Phase	Group	Sub-Group	Pottery (MBA/EIA)	Pottery (LIA/Rom)	Pottery (Medi)	Lithics	Fired Clay	Industrial Waste	Stone	Other Finds
BA	1	1.1	3 (25g)	-	-	-	85g	-	-	-
BA	2	2.1	19 (126g)	14 (65g)	-	33	6g	11g	-	Iron 5 finds
BA	2	2.2	-	-	-	13	1420g	-	-	-
BA	2	3.1	1 (1g)	-	-	74	19g	1g	-	Glass 1 find
Medi	3	4	-	-	5 (40g)	-	-	-	-	-
Medi	3	4.1	-	-	120 (1193g)	6	32g	1g	2	-
Medi	3	4.3	1 (2g)	-	1 (7g)	-	-	-	-	-
Medi	3	5.1	-	-	3 (26g)	1	-	<0.5g	-	-
Medi	3	6.1	-	-	-	4	-	-	-	-
Medi	3	7.1	-	-	1 (12g)	1	-	-	-	-
Unphased	6	10.1	-	-	2 (11g)	19	<0.5g	-	-	-
Unphased	7	11.1	-	2 (7g)	4 (10g)	-	-	-	-	-
Unstrat	-	-	-	-	1 (14g)	-	-	-	-	-
Total	-	-	24 (154g)	16 (72g)	137 (1313g)	151	1562g	13g	2	6

Methodology

The pottery was initially bulk-sorted and databased. The material from each context was recorded by number and weight of sherds per fabric type, with featureless body sherds of the same fabric counted, weighed and recorded as one database entry. Feature sherds such as rims, bases and lugs were individually recorded, with individual codes used for the various types. Decorated sherds were similarly treated. In the case of the rim sherds, the form, diameter and the percentage remaining of the original complete circumference was recorded.

The terminology used is that defined by the Medieval Pottery Research Group's *Guide to the Classification of Medieval Ceramic Forms* (MPRG 1998) and to the standards laid out in the *Minimum Standards for the Processing, Recording, Analysis and Publication of post-Roman Ceramics* (MPRG 2001).

The lithic assemblage included a large number of burnt pieces. Most of these were probably natural, though the damage caused by burning might hide some features. Only pieces which were likely to have been knapped were kept. Pieces which appeared to be natural were discarded and not catalogued.

Other finds were recorded on a find by find basis. Fragments of daub and industrial waste were quantified by weight, while metalwork, stone and other finds were recorded by numbers.

Results

Pottery

The pottery assemblage comprised 177 sherds with a total weight of 1539g. A mixture of Prehistoric, Romano-British and early medieval wares were noted (see Table 2).

Table 10 Pottery occurrence by number and weight (in g) of sherds per context by fabric type

Phase	Group	Sub-Group	Context	F1 No	F1 Wt	F2 No	F2 Wt	F10 No	F10 Wt	F300 No	F300 Wt	F301 No	F301 Wt	F302 No	F302 Wt	Date
			U/S							1	14					Medi
BA	1	1.1	305	3	25											BA
BA	2	2.1	358	2	11											BA
BA	2	2.2	303	3	10											BA
BA	2	2.2	355	12	38											BA
BA	2	2.2	368	2	67	14	65									LIA-RB
BA	2	3.1	363	1	1											BA
MED	3	4	504							3	18	2	22			M12thC
MED	3	4.1	503							5	197					M11thC
MED	3	4.1	505					1	7	94	670	3	133			M12thC

MED	3	4.1	558							11	102	6	84			M12thC
MED	3	4.3	509	1	2					1	7					M11thC
MED	3	5.1	507							2	20					M11thC
MED	3	5.1	560							1	6					M11thC
MED	3	7.1	511											1	12	M12thC
U/P	6	10.1	556							2	11					M11thC
U/P	7	11.1	376					2	7	4	10					M11thC
			Total	24	154	14	65	3	14	124	1055	11	239	1	12	

Fabric Abbreviations: F1 - Essex Prehistoric fabric C (mid/late Bronze Age – early Iron Age); F2 - Essex Prehistoric fabric RCW (late Iron Age – early Roman); F10 - Romano-British Greyware (1st – 4th C); F300 - Early Medieval Sandy Ware (mid 11th – early 13th C); F301 - Early Medieval Sandy Ware, Middleborough Type (mid 12th – early 13th C); F302 - Essex Sandy Grey Ware (mid 12th – late 14th C)

The prehistoric fabrics were recorded using the scheme advanced by Brown (1988). The entire assemblage comprised undecorated and undiagnostic body sherds, and all sherds showed a degree of wear, although this appears to be a result of the softness of the somewhat underfired fabric rather than attrition from redeposition or disturbance. The flint-tempered fabric F1 is typical of the mid/late Bronze Age – early Iron Age tradition of the region (eg. Benfield 2007). These were concentrated in a number of G1 and G2 pit and ditch fills (305, 358, 303, 355, 363).

The sherds of RCW probably date to the late Iron Age (c 50BC – 50AD), but could be early Roman in date. All the fragments are from a single, low-fired and extremely friable sherd which has largely disintegrated, making exact identification uncertain. The Romano-British pottery consisted entirely of Greywares. It is not clear if these two types are contemporary at this site. The former was found in a G2 pit fill, (368), while the latter was residual in a medieval context. Fragments of iron finds may be contemporary with this phase.

The medieval pottery was recorded utilizing a coding system and chronology based on that of the Post-Roman pottery from Colchester (Cotter 2000). It was predominantly made up of sherds of early medieval Sandy Ware, with smaller quantities of early medieval Sandy Ware, Middleborough Type and Essex Sandy Grey Ware. The range of fabric types indicates that medieval activity at the site was somewhat short-lived, from the mid-11th century at the earliest to the mid/late 12th century at the latest. The lack of common glazed wares, particularly Hedingham Ware, indicate that deposition is not likely to have continued into the 13th century. Most of the assemblage is made up of three partially reconstructable vessels, all jars. Although small, the medieval assemblage is in good condition, with many fairly large and/or refitting sherds. The sherd size and number of joining sherds indicates this is a primary group and that there was medieval settlement within the immediate vicinity of these excavations. The pottery is very much concentrated in the curving ditch and associated features (G3).

Lithics

There were 151 lithic finds in all, discounting the discarded natural pieces. These were mostly pieces of worked flint with some quartzite and other stones. The most notable of

these was a large multi-platform core [(511), SG7.1, G3). Though residual in a medieval ditch fill, it is likely to date to the Neolithic or early Bronze Age.

The remaining lithics were almost all burnt and the resulting damage means that very little diagnostic information can be gleaned from the finds. They are not inconsistent with the date of the core but may equally be later.

The burning and distribution of the finds through multiple features and deposits suggests pre-mixing of material prior to deposition. They are concentrated in G2 features, particularly pit fill (363), but also (355), (358), (365), (367) and (368). Associated pottery in three of these fills (355, 358, 363) suggests a mid/late Bronze Age to early Iron Age date and it is possible that the lithics are contemporary with this. Associated pottery in fill (368) however is of probable late Iron Age date and it is very unlikely the associated lithics are this late.

Fired Clay

The pieces of fired clay lack any impressions which would provide clues to their function. The largest pieces and largest concentration derive from final pit fill (367), (SG2.2, G2) and it is likely that these pieces derive from activity in the vicinity of this pit, whether it be industrial or structural. Associated lithics suggest a prehistoric date for this activity.

Industrial Waste

A very small collection of fragments of possible iron-working waste was recovered from a number of pit and ditch fills. All the finds were recovered from sample retents and thus there is likely to be some bias in the distribution. Fragments within G3 features are associated with medieval pottery and suggest iron-working, probably smithing was being undertaken in the general, though not immediate, vicinity at that time. Fragments found within G2 features are of less certain identification. They are associated with pottery of middle Bronze Age to early Iron Age date and iron-working of that period is unlikely. The fragments are typically less than 10mm in size and never number more than six in any one fill. They may be iron pan, or possibly iron-rich stone which has been subjected to heat. Associated fired clay does suggest some sort of high-temperature activity or event but the evidence for the nature of this is inconclusive.

Other Finds

Pieces of one, possibly two rotary querns were recovered from the same ditch fill (505), associated with medieval pottery. Both were fragmentary. One was made up of a number of sherds, and one possible edge piece of Neidermendig stone, a type of volcanic stone, particularly suited for querns, imported from the Rhineland during the Roman and medieval periods (Alex Croom pers com). The remaining sherd was of an unusual conglomerate stone. Smoothing to one face suggests this too may be part of a quern. Rotary querns were in common use from the Iron Age through to about the 13th century (Watts 2006). It is likely that the finds are contemporary with the associated mid 12th century pottery.

Some fragments of iron, were found in a G2 pit fill (368). Their function is not entirely clear, but they may be fragments of hobnails. Associated pottery suggests a possible late Iron Age - early Roman date for these finds. There was also a fragment of green bottle glass. This is unlikely to be earlier than the post-medieval period and is presumably intrusive in a G2 pit fill (363).

Summary

The prehistoric finds include pottery, lithics, fired clay and possibly iron-working waste. These are all concentrated in G2 pit fills with several containing two or more types of finds, but each type of finds is concentrated in a different sub-group (pottery SG2.1; fired clay SG2.2; lithics, SG3.1). This suggests different taphonomy for each, either due to differences in dating or differences in the functions and activities undertaken in different areas.

The presence of a quantity of late Iron Age to Romano-British pottery in pit fill (368) suggests pit [356] may belong to this period as opposed to the Bronze Age. Therefore, the Bronze Age pottery within deposits (358) and (368) may be residual.

The medieval period is predominantly represented by pottery, but it seems likely that the quern stones also belong to this period. Medieval activity is concentrated around the curved ditch (G3).

Recommendations

The medieval pottery is of some significance. The three near complete vessels indicate that there was medieval activity in the immediate vicinity of the ditch in the later 11th or 12th century. They also provide evidence of ceramic use and form during a period from which little pottery is published from the Clacton area. A brief report on this pottery should be prepared for publication. The three near complete vessels should be reconstructed and illustrated.

The earlier pottery is of little diagnostic interest and the other finds are of limited archaeological significance. No further work is recommended for these finds.

References

- Benfield, S 2007 'The Prehistoric and Roman Pottery' in H Brooks and B Holloway, *An archaeological excavation on the site of the West Clacton reservoir and pumping station, Dead Lane, Great Bentley, Essex. April-May 2007*, CAT Report 425, 6-7
- Brown, N 1988 A Late Bronze Age enclosure at Lofts Farm, Essex, *Proceedings of the Prehistoric Society*, 54, 263-4
- Cotter, J, 2000 *Post-Roman pottery from excavations in Colchester, 1971-85* Colchester Archaeological Report 7

MPRG, 1998

Guide to the Classification of Medieval Ceramic Forms MPRG Occasional Paper 1

MPRG, 2001

Minimum Standards for the Processing, Recording, Analysis and Publication of post-roman Ceramics Medieval Pottery Res Group Occ Paper 2

Watts, S 2006

Rotary querns c 700-1700, Finds Research Group AD700-1700 Datasheet 38

APPENDIX 1.1 – FINDS CATALOGUE

Finds

Job	Context	Sample	Quantity	Weight (g)	Material	Object	Description	Spot Date	Sub-Group	Group	Phase
COS06	305			85	CBM	Fired Clay	lump		1.1	1	BA
EHWF-001	355	1		6	Industrial Waste	MWD	fragments		2.1	2	BA
EHWF-001	355	1	9		Lithics	Flint	Small flakes and chips, one with possible retouch and some burnt indeterminate pieces, possibly natural		2.1	2	BA
EHWF-001	358	3		4	CBM	Fired Clay	fragments		2.1	2	BA
EHWF-001	358	3		4	Industrial Waste	MWD	fragments		2.1	2	BA
EHWF-001	358	3	10		Lithics	Flint	Flakes, a blade and chips, including one burnt piece. One secondary hard hammer flake has edge damage which may indicate it was utilised		2.1	2	BA
EHWF-001	360	2		0	CBM	Fired Clay	fragments		2.1	2	BA
EHWF-001	360	2		1	Industrial Waste	MWD	fragments		2.1	2	BA
EHWF-001	363			19	CBM	Fired Clay	fragment		3.1	2	BA
EHWF-001	363	5		0	CBM	Fired Clay	fragment		3.1	2	BA
EHWF-001	363	5	1		Glass	Bottle	green fragment	PM/Mod	3.1	2	BA
EHWF-001	363	5		1	Industrial Waste	MWD	fragments		3.1	2	BA
EHWF-001	363		36	1230	Lithics	Flint, Quartzite and Sandstone	Burnt stone. Three chunks of quartzite, two chunks of sandstone and 31 chunks of flint. All severely burnt. Impossible to tell if flint is artefactual or natural		3.1	2	BA
EHWF-001	363	5	38	474	Lithics	Flint and Quartzite	Burnt stone. Two pieces of quartzite and 36 flint. All severely		3.1	2	BA

Job	Context	Sample	Quantity	Weight (g)	Material	Object	Description	Spot Date	Sub-Group	Group	Phase
							burnt. .Impossible to tell if flint is artefactual or natural				
EHWF-001	365		2	63	Lithics	Quartzite and Sandstone	Burnt stone		2.2	2	BA
EHWF-001	367			815	CBM	Fired Clay	lumps		2.2	2	BA
EHWF-001	367	6		605	CBM	Fired Clay	fragments		2.2	2	BA
EHWF-001	367	6	8		Lithics	Flint	Burnt flakes and indeterminate pieces and a retouched blade		2.2	2	BA
EHWF-001	367		3	36	Lithics	Quartzite	Burnt Stone		2.2	2	BA
EHWF-001	368	4		2	CBM	Fired Clay	fragments		2.1	2	BA
EHWF-001	368	4	5		Iron	Fragments			2.1	2	BA
EHWF-001	368	4	13		Lithics	Flint	Small flakes and chips, three pieces burnt		2.1	2	BA
EHWF-001	368		1	63	Lithics	Flint	Burnt flint with crazing and surface loss. Impossible to tell if it was artefactual or natural		2.1	2	BA
COS06	505		1	337	Stone	Worked?	lump of unusual coarse conglomerate, possibly worn flat on one side, possibly fragment of quern		4.1	3	Medi
COS06	505		1	616	Stone	Quern	16 pieces, large sherd and smaller fragments of probable Neidermendig quern, worn fairly flat on one side, large sherd appears to have rounded outer edge	IA-Medi	4.1	3	Medi
COS06	511		1		Lithics	Flint	Multi-platform core	Neol-EBA	7.1	3	Medi
EHWF-001	556	8		0	CBM	Fired Clay	fragment		10.1	6	Unphased
EHWF-001	556	8	19		Lithics	Flint	Burnt flakes, possibly natural		10.1	6	Unphased
EHWF-001	558	7		32	CBM	Fired Clay	fragments		4.1	3	Medi
EHWF-001	558	7		1	Industrial Waste	MWD	fragments		4.1	3	Medi
EHWF-001	558		2	135	Lithics	Flint	Burnt flint with crazing, surface loss and potlid fractures. Impossible to tell if they were artefactual or natural		4.1	3	Medi
EHWF-001	558	7	4		Lithics	Flint	Two burnt chunks and two fresh chips		4.1	3	Medi

Job	Context	Sample	Quantity	Weight (g)	Material	Object	Description	Spot Date	Sub-Group	Group	Phase
EHWF-001	564		4	277	Lithics	Flint	Burnt flint with crazing, surface loss and potlid fractures. Impossible to tell if they were artefactual or natural		6.1	3	Medi
EHWF-001	566	9		0	Industrial Waste	Mag Res	fragments		5.1	3	Medi
EHWF-001	566	9	1		Lithics	Flint	Primary hard hammer flake		5.1	3	Medi

Pottery

Job	Context	Sherds	Weight	Fabric	RimF	RimD	EVE	BaseF	BaseD	Vessel	Comments	Date	Sub-Group	Group	Phase
COS06	0	1	14	300								11th/12th			
COS06	303	3	10	1								M/LBA-EIA	2.1	2	BA
COS06	305	3	25	1								M/LBA-EIA	1.1	1	BA
EHWF-001	355	12	38	1								M/LBA-EIA	2.1	2	BA
EHWF-001	358	2	11	1								M/LBA-EIA	2.1	2	BA
EHWF-001	363	1	1	1								M/LBA-EIA	3.1	2	BA
EHWF-001	368	2	67	1								M/LBA-EIA	2.1	2	BA
EHWF-001	368	14	65	2								LIA-RB	2.1	2	BA
EHWF-001	376	2	7	10								1st/4thC	11.1	7	Unphased
EHWF-001	376	4	10	300								M11thC	11.1	7	Unphased
COS06	503	4	47	300								M11thC	4.1	3	Medi
COS06	503	1	150	300	14	180	28	1	200	1		M11thC	4.1	3	Medi
EHWF-001	504	3	18	300							joins 505	M12thC	4	3	Medi
EHWF-001	504	2	22	301							joins 505	M12thC	4	3	Medi
COS06	505	1	7	10								M12thC	4.1	3	Medi
COS06	505	3	206	300				1	260		one vessel	M12thC	4.1	3	Medi
COS06	505	4	248	300	14	300	42			1	one vessel	M12thC	4.1	3	Medi
COS06	505	87	216	300							one vessel	M12thC	4.1	3	Medi

Job	Context	Sherds	Weight	Fabric	RimF	RimD	EVE	BaseF	BaseD	Vessel	Comments	Date	Sub-Group	Group	Phase
COS06	505	2	123	301	5	180	22			1		M12thC	4.1	3	Medi
COS06	505	1	10	301								M12thC	4.1	3	Medi
COS06	507	2	20	300								M11thC	5.1	3	Medi
COS06	509	1	2	1								M/LBA-EIA	4.3	3	Medi
COS06	509	1	7	300								M11thC	4.3	3	Medi
COS06	511	1	12	302	5	260	5			1		M12thC	7.1	3	Medi
EHWF-001	556	2	11	300								M11thC	10.1	6	Unphased
EHWF-001	558	1	15	300	14	300	4			2		M12thC	4.1	3	Medi
EHWF-001	558	10	87	300							joins 505	M12thC	4.1	3	Medi
EHWF-001	558	1	30	301	5	160	12			1	joins 505	M12thC	4.1	3	Medi
EHWF-001	558	5	54	301							one vessel	M12thC	4.1	3	Medi
EHWF-001	560	1	6	300								M11thC	5.1	3	Medi

APPENDIX 2: CHARRED PLANT REMAINS ASSESSMENT

(By S.Timpany and A. Mynett)

Introduction

Nine samples were assessed from Earls Hall Wind Farm. The samples were collected from a series of features found during the excavation including the fills of pits and ditches dating to two periods; the Bronze Age and the medieval period. This report provides the findings of an assessment of the charred plant remains (CPR) and other finds from the samples.

Methods

Samples were processed in laboratory conditions using a standard flotation method (cf. Kenward *et al.*, 1980). This was then sorted by eye and any material of archaeological significance removed. 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

The results are presented in Table 11 (retent sample results) and Table 12 (flot sample results). All plant material was preserved by charring.

CPR

Charred cereal grain was recovered in two samples (07 and 09) from G3 pit [565] and linear [557] features (see Table 12). The charred grain assemblage from these two features consists of small quantities of oats (*Avena* sp.), probable oats (cf. *Avena* sp.), hulled barley (*Hordeum vulgare*), wheat sp. (*Triticum* sp.) and club/bread wheat (*Triticum aestivo-compactum*). Preservation of the grain was found to be good with grain able to be identified to at least Family level.

Small quantities of wild taxa were present in two samples (07 and 08), again from G3 pit [555] and linear [557] features. Only a small range of taxa were present with knotgrass (*Persicaria* sp.), mayweeds (*Matricaria* sp.) and grass sp. (Poaceae sp.) recovered (see Table 2).

Charcoal fragments were present in all of the samples with fragment size ranging from <0.5 to 2.2cm (see Tables 11 and 12). The majority of fragments were found to be less than 1cm in size. Abundance of charcoal fragments ranged from rare to common. Only two samples (05 and 06) from G2 pits [362] and [366] contained common abundances of charcoal. Charcoal fragments were observed by eye to represent mainly both oak and non-oak taxa used for wood fuel from both phases of activity (see Tables 11 and 12).

Other finds

Together with the CPR a range of other materials were also recovered from the processed samples (see Table 11). Pottery sherds were recovered from six samples (01, 03, 04, 05, 06 and 08) with other ceramics also recovered from six samples (02, 03, 04, 06, 07 and 08). Lithics were present in all samples processed. Glass sherds were found in one sample (05) as was a metal object (04). Industrial waste in the form of slag was present in G3 within sample (07), and magnetic residue (Mag res) was retrieved from sample (09), also within G3. Further magnetic material likely to be iron panning or magnetic stone was present in five samples (01, 02, 03, and 05) within G2. Burnt mammal bone was recovered from two samples (04 and 06).

Discussion

The discussion is divided into the two main occupation phases of the site.

Bronze Age features

Six samples (01-06) were taken from three pit features thought to be of Bronze Age date (G2). Pottery and lithics of Bronze Age date were recovered from the pits with later finds of possible iron-working waste, an iron object and a glass fragment being recovered from the final fill deposits. These later finds were thought to be intrusive through ploughing.

The only CPR recovered from the G2 samples were charcoal fragments. For the most part charcoal fragments were present in small quantities (rare to occasional) with only two pits

[362] and [366] containing larger (common) quantities of charcoal. Small quantities of burnt bone fragments were also recovered from one of these pits [366] together with the upper fill (368) of pit [356], which may be indicative of food waste.

The charcoal fragments in these pits may be associated with the high-temperature activity that seemed to be taking place adjacent to these pits. Charcoal was observed to be a mix of oak and non-oak fragments within these pits (see Table 1) indicating the potential for a range of tree types may have been utilized for wood fuel.

Medieval features

Three samples (07-09) were taken from two pits [555] and [565] and a linear ditch [557] feature in G3. The samples provided some limited evidence for cultivation activity with the presence of small quantities of cereal grain from within linear ditch [557] and pit [565]. Despite the small numbers of grain present the samples were fairly diverse, showing evidence for the growing of oats, hulled barley and wheats, including club/bread wheat (see Table 2). The grain assemblage is typical for the medieval period and based on the small numbers of grains recovered would suggest that oat and wheat were the main cultivars with barley the least present. Arable weeds of knotgrasses, mayweed and grasses were also present in the samples.

Only small quantities of charcoal were present in the samples with only linear ditch [557] containing more than a rare quantity of charcoal. Observation by eye indicates that non-oak charcoal is present in the assemblages, again suggesting a number of tree -types were utilized for fuel. Overall the samples are suggestive of domestic waste debris having accumulated in these features, likely as a result of deliberate discard.

Statement of Potential

Bronze Age

The presence of only charcoal in the samples provides a limited scope for further analysis to be able to inform on the Bronze Age pit activities. The presence of fired clay in association with charcoal fragments in pits [354], [356] and [362] suggests charcoal from these features may be related to a high-temperature activity taking place.

Charcoal found with burnt bone fragments in pits [356] and [366] is likely to relate to domestic rather than industrial activity and is characteristic of the Bronze Age. Pits [366] and [362] contain charcoal fragments of a suitable size and quantity to be able to analyse. Analysis of the charcoal fragments from these deposits, which were observed to be mainly oak, would provide information on the tree types being used for fuel, together with timber size and gathering methods (e.g. coppicing, deliberate selection). Human impact on the environment during this period, particularly on woodland management, was identified as research themes for the East of England (Brown and Murphy, 2000) and thus this type of analysis ties in with the research framework for this area. This data can then be compared with pollen record for the area in order to comment on woodland types being resourced and former woodland composition. Charcoal can provide complementary

data to pollen diagrams as often insect-pollinated taxa (e.g. willow, ash) that are under-represented in pollen studies appear more frequently in charcoal records and thus add valuable information to the palaeoenvironmental reconstruction of areas.

Medieval

A limited amount of material was recovered from the medieval features with only small quantities of charcoal and charred grain present. Further analysis of this material is unlikely to provide any additional information than the assessment data presented here. The material present provides some evidence for the cultivation of cereals but in small numbers little can be inferred about the dominant cereal types being cultivated. Similarly the limited number of wild taxa has little potential to be able to inform on harvesting techniques, field conditions and farming strategies (e.g. manuring). The small quantity of charcoal recovered from these samples also has limited potential to inform on fuel gathering techniques and the tree types used.

Conclusions

- Only limited CPR assemblages were recovered from the processed samples
- Some evidence for food consumption is present from burnt bone and charcoal fragments present in pit samples from the Bronze Age.
- The charcoal fragments in pits [362] and [366] have potential to inform on the timbers being used for fuel.
- Metal working evidence is present in the form of possible iron slag and magnetic residue in medieval pits.
- A small quantity of charred cereal grains shows the cultivation of oats, hulled barley and club/bread wheat in the medieval period.

References

Brown N. and Murphy P. 2000 'Neolithic and Bronze Age' in J.N. Brown and J. Glazebrook (eds) *Research and Archaeology: a Framework for the Eastern Counties*, 2. *research agenda and strategy* East Anglian Archaeology Occasional Paper No. 8 9-13.

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.

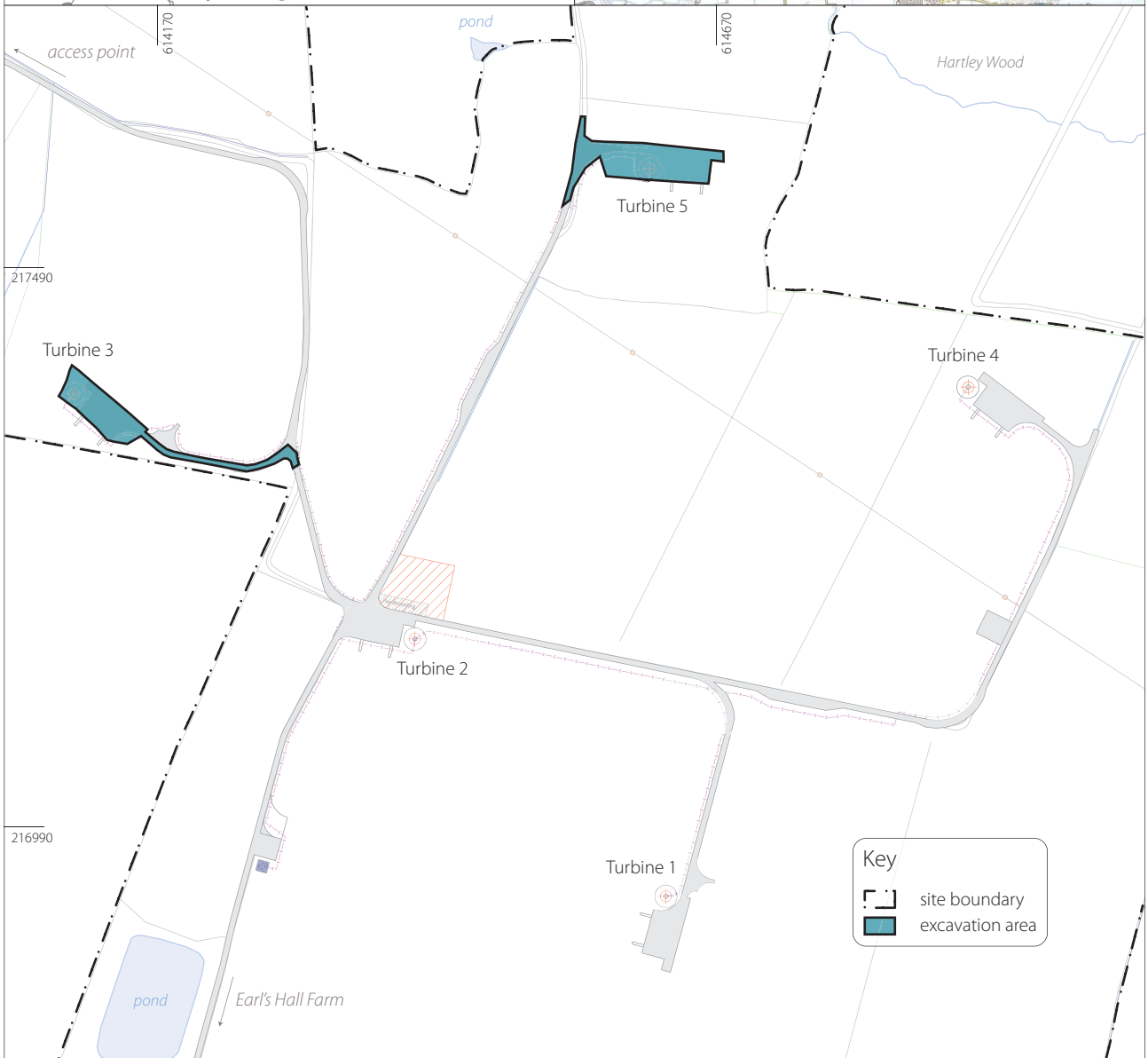
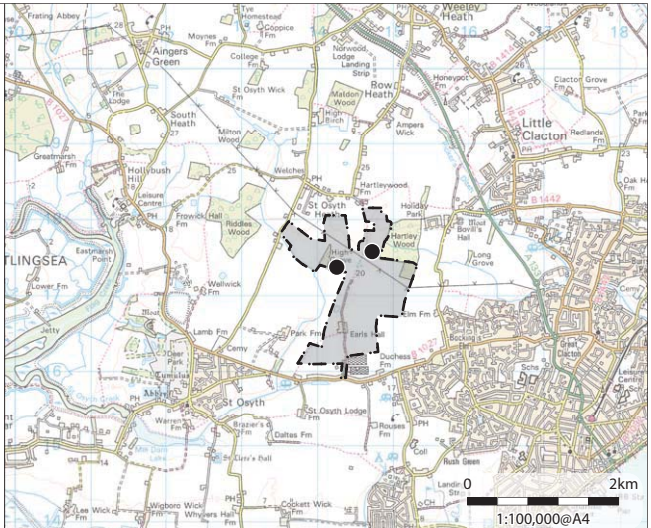
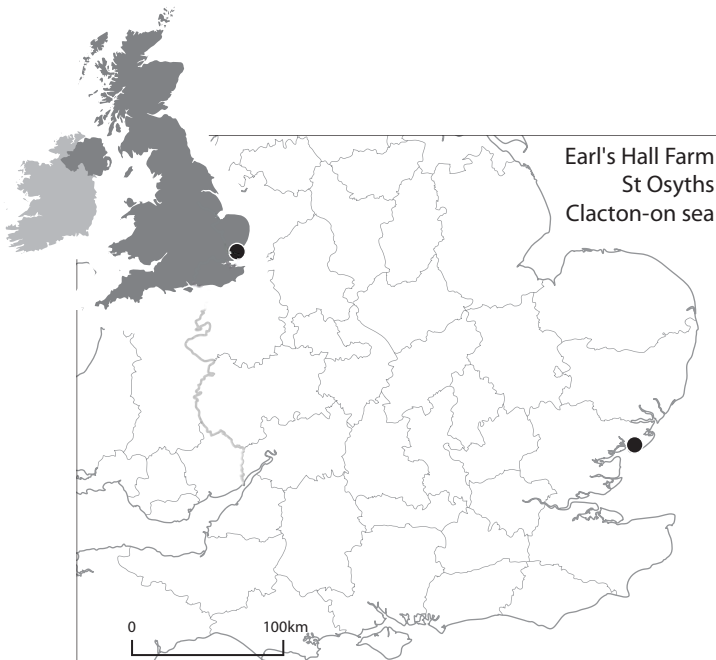
Kenward, H. K, Hall A. R. and Jones A. K. G. 1980 'A tested set of techniques for the extraction of plant and animal macrofossils from archaeological deposits', *Science and Archaeology* 22.

Table 11: EHWF11: Retent Sample Results

Context Number	Sample Number	Feature	Sample Vol (l)	Ceramic		Stone	Glass	Metal	Industrial Waste		Burnt bone	Charred cereal grain	Charcoal		Material available for AMS Dating	Cinders	Comments	
				Pottery					Other ceramic	Lithics			Glass	Fe object				Fe (?)
				PH	Medi-PM													
Bronze Age																		
355	1	Fill of pit [354]	10	++			++			++			++	1.1	Charcoal +		Charcoal is mainly non-oak	
360	2	Fill of pit [356]	10			+	++			+			++	1.1	Charcoal +		Charcoal is mainly non-oak	
358	3	Fill of pit [356]	20	+		+	+++			+			++	1.0	Charcoal +		Charcoal is mix of oak and non-oak	
368	4	Fill of pit [356]	10	++		+	++++		+				+	0.8	Burnt Bone +		Charcoal is mainly oak	
363	5	Fill of pit [362]	10	+			++++		+				+++	2.0	Charcoal ++		Charcoal is mainly oak	
367	6	Fill of pit [366]	20				++++						+++	2.2	Burnt Bone +, Charcoal ++	+	Charcoal is mainly oak	
Medieval																		
558	7	Fill of linear ditch [557]	20				++++			+			+	++	1.0	Charcoal +		Charcoal is mix of oak and non-oak, charred grain is cf. <i>Hordeum vulgare</i>
556	8	Fill of pit [555]	20		+	+	++++						+	1.0	Charcoal +		Charcoal is mix of oak and non-oak	
566	9	Fill of pit [565]	10				+++				++		+	<0.5			Charcoal not retained.	
Key: + = rare (0-5), ++ = occasional (6-15), +++ = common (15-50) and ++++ = abundant (>50) NB charcoal over 1cm is suitable for identification and AMS dating																		

Table 12: EHWF11: Retent Sample Results

Context Number	Sample Number	Feature	Flot Size	<i>Hordeum vulgare</i>	<i>Avena sp.</i>	<i>cf. Avena</i>	<i>Triticum sp.</i>	<i>Triticum aestivum compactum</i>	Other Plant Remains	Charcoal		Material available for AMS Dating	Comments
										Quantity	Max Size (cm)		
Bronze Age													
355	1	Fill of pit [354]	10							+	<0.5		Charcoal flecks
360	2	Fill of pit [356]	5							+	<0.5		
358	3	Fill of pit [356]	10										Archaeologically Sterile
368	4	Fill of pit [356]	15										Archaeologically Sterile
363	5	Fill of pit [362]	10							+	<0.5		Charcoal flecks, modern root material
367	6	Fill of pit [366]	15						<i>Fungal sclerotia</i> +	+	0.8		Non-oak charcoal
Medieval													
558	7	Fill of linear ditch [557]	30	+	+	++	++	++	<i>Matricaria sp.</i> +, <i>Persicaria sp</i> + <i>Fungal sclerotia</i>	+	1	++ Grains, + Charcoal	Non-oak charcoal, poor grain preservation
556	8	Fill of pit [555]	40						<i>Fungal sclerotia</i> +, <i>Poaceae sp.</i> +				
566	9	Fill of pit [565]	20		+	+	+	++				++ Grains	
<p>Key: + = rare (0-5), ++ = occasional (6-15), +++ = common (16-50) and ++++ = abundant (>50) NB charcoal over 1cm is suitable for identification and AMS dating</p>													



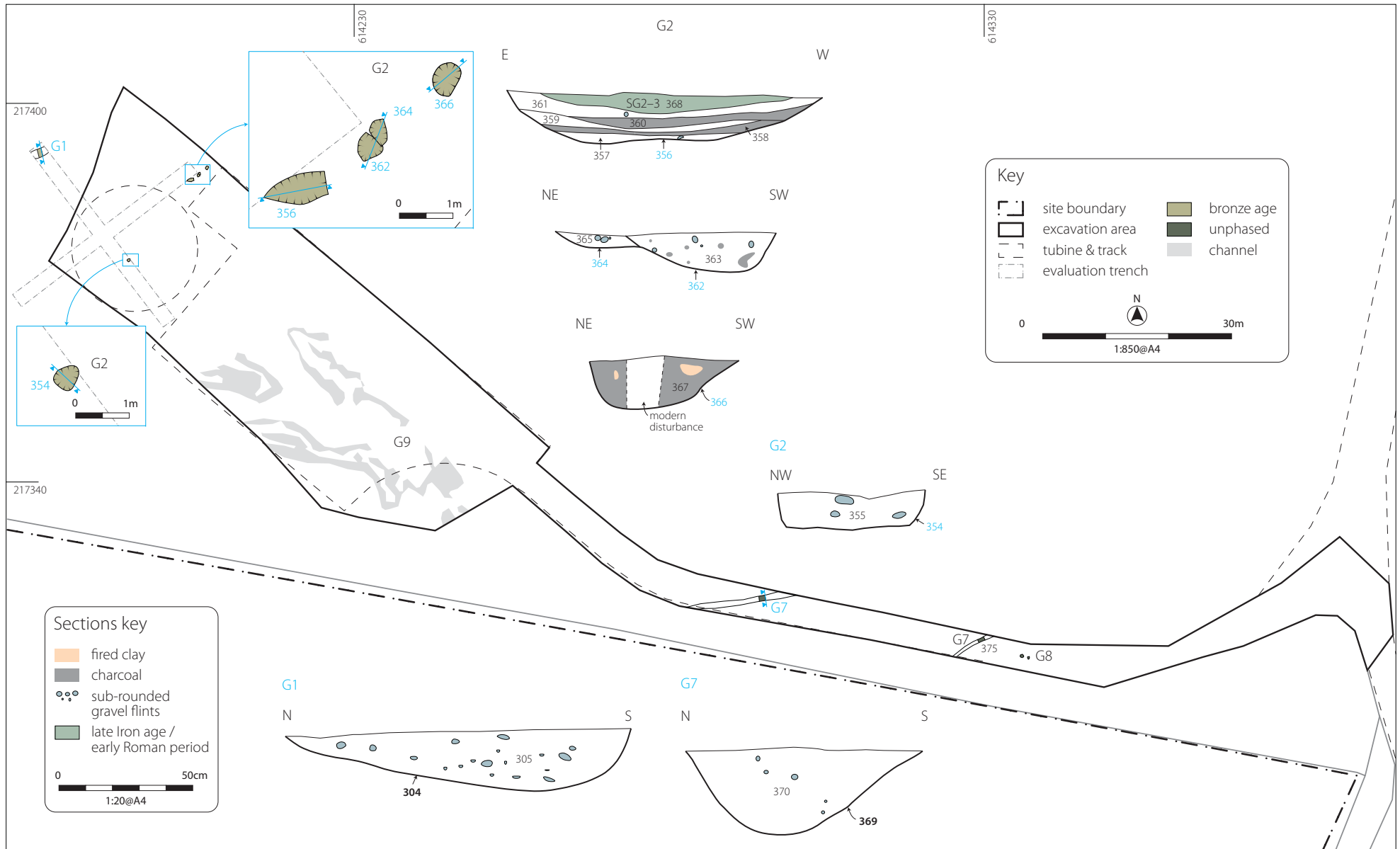
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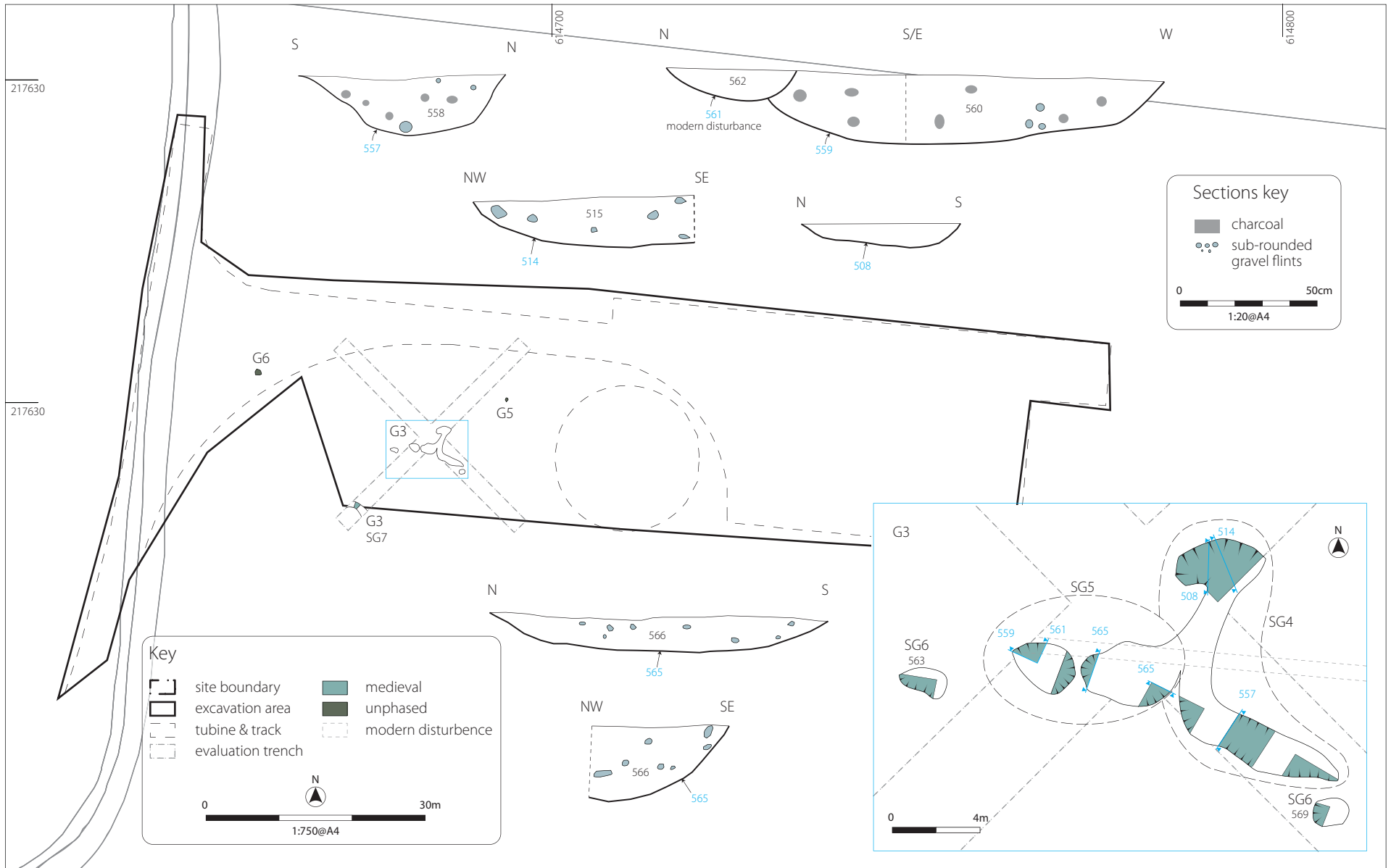
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Illus 1
Site location





Illus 3
Excavation at area of Turbine 5