INTERIM REPORT

ARCHAEOLOGICAL MONITORING AND RECORDING

RIDGE CROSS
STOCKLAND
DEVON

PLANNING APPLICATION REF. 11/1022/FUL

MARCH 2014

Report prepared by C.P. Clarke BA, FSA, MIFA

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CONTENTS

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East Devon District Council Planning Application No 11/1022/FUL and pending application
Centred on NGR 322336, 101756
DCC HES ref: ARCH/DM/ED/18909
OASIS id: arrowhea1-152036
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SUMMARY
An area measuring approximately 40 x 35 m was stripped over an area in which an agricultural building was to be built. An area of c. 7 ha had been surveyed by gradiometry by Substrata Limited (Fig. 1), indicating the presence of a number of anomalies probably or possibly indicating archaeological features. The footprint of the new building was over one of these anomalies, no. 39.

Anomaly 39 (archaeological features Pit F2 and linear F5) was a large roughly circular pit with clear signs of burning *in situ* on the bottom and sides to the surface. An adjacent small linear slot joining the pit in its northeast corner is interpreted as a vent.

A radiocarbon sample from the main fill of Pit 2 (context 4) produced a calibrated date at 95% confidence rating of AD 80 – 250.

1 BACKGROUND

1.1 Work was conducted in accordance with a Written Scheme of Investigation addressing the requirements stipulated in the above 'Brief for Archaeological Monitoring and Recording' (DCC HES ref, above)

1.2 The approved planning application (11/1022/FUL) is for construction of an agricultural building (B1 on Fig. 1); the WSI includes provision for a second agricultural building (B2 on Fig. 1), for which planning consent may in due course be gained. The specialist advice given by Mr Stephen Reed of Devon County Council Historic Environment Team to planning officers of East Devon District Council is reflected in a requirement for archaeological monitoring and recording as outlined in the brief above;

should planning consent be granted for B2, the DCC Historic Environment Team would advise the LPA that a similar condition should be placed on any consent granted.

This report is an interim report concerning the results of observation and recording in the southern area on (A on Fig. 1); in the event of topsoil stripping, the actual boundary of the stripped area lay 6 m north of that shown on Fig. 1, within the Area labelled B. The WSI formulates that this report will be amended to include results from the northern area (B on Fig. 2) should topsoil removal occur within six months of the issue of this report; this prospective operation is dependent on grant of planning consent for the northern proposed building. If stripping of the northern area occurs within 18 months of issue of this report, this report will be amended to include results of the northern area; otherwise, this report will be re-issued as a final report, and the northern area be dealt with separately if necessary.

1.3 The archaeological work was recommended because the area of proposed development (APD) lies in an area of archaeological potential, particularly with reference its proximity to Stockland Great Castle and the recovery over time of an assemblage of flint artefacts across the field (below). A gradiometry survey was undertaken over a larger area including the positions of B1 and B2 by Substrata Archaeological Geophysical Surveyors in late February and early March 2013 (Dean, R., 2013). Magnetic anomalies detected included a number of weak positive anomalies of possible archaeological origin, one of which (no. 39) lies within the footprint of B1 (Fig. 1).

Monitoring and recording of area B on Fig. 1 will be undertaken should planning consent at some point be obtained for building B2.

1.4 Arrowhead Archaeology was instructed to undertake the necessary work by Mr Ian Firth (Planning Consultant) on behalf of Mr Robin Bright (Landowner).

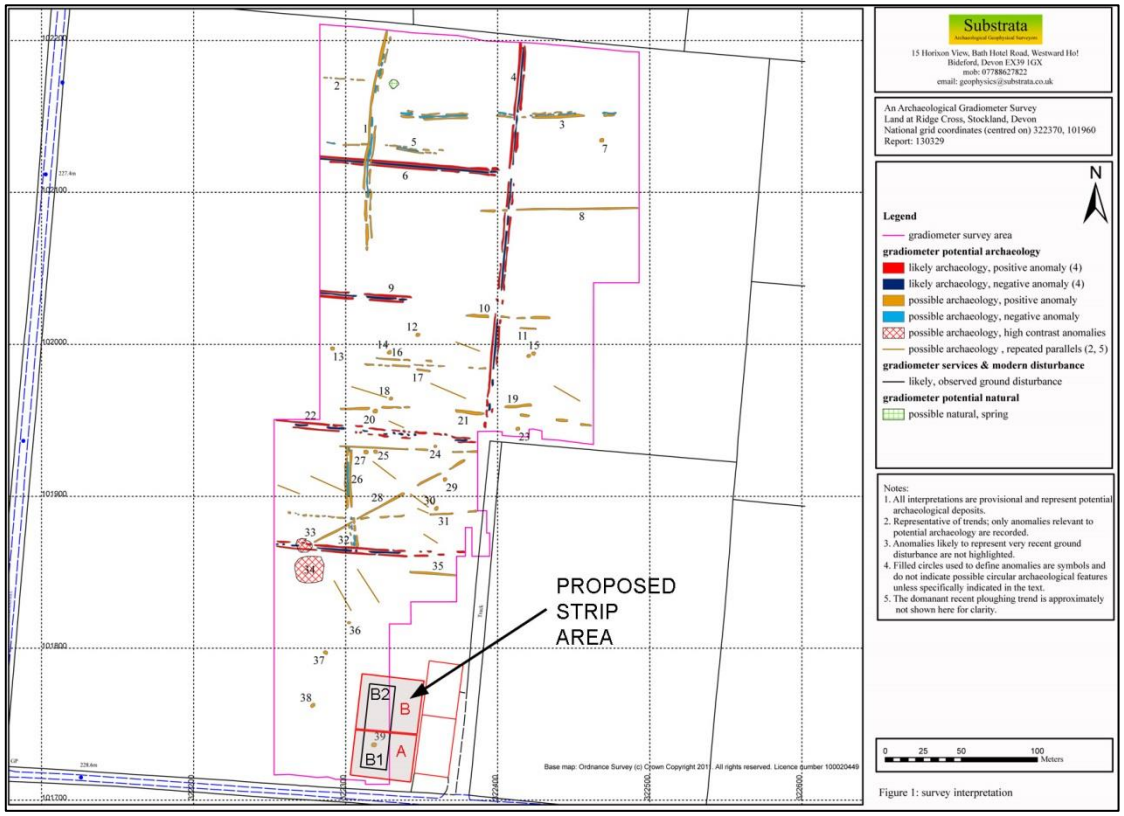

Fig. 1: *Building B1 has planning consent, B2 may be granted planning consent at some future date. Areas A and B are the areas to be graded to create level ground for construction of the buildings. The proposed strip areas A and B are positioned on Substrata's plot of magnetic anomalies (Dean, R., 2013). In the event of stripping of Area A, the stripped area was 6m to the north of that shown on the plan above.*

1.5 The principal objective of the programme was to observe, investigate, excavate and record any surviving below-ground archaeological artefacts and deposits across the area affected by the proposed development. In particular:

1.5.1 To recover lithics and other artefacts in the topsoil
1.5.2 To investigate magnetic anomaly 39 within the footprint of B1
1.5.3 To establish whether archaeological features are present which were not detected by the gradiometric survey, and if present, to record these.

2 Archaeological background

The development area lies some 700 m to the south of the Iron Age hillfort, Great Stockland Castle. Within the development area, the slope of land is gently down to the east, falling from c. 216 to 213 m OD over a distance of c. 40 m.

2.1 *Desk-based assessment*

The DCC HES confirmed to Arrowhead Archaeology that a map regression is not required in this case.

HER records for the field in which B1 and B2 are located are as follows. The following information is taken from prior assessment by Substrata, which is contained in their report (Dean, R., 2013).

2.1.1 Historic Landscape Characterisation

Modern enclosures adapting post-medieval fields: modern enclosures that have been created by adapting earlier fields of probable post-medieval date (Devon County Council, undated)

2.1.2 Known archaeological sites in the survey area

The information from which this summary is constructed was provided by Devon County Council Historic Environment Team on 28th March 2013. Please refer to the DCCHES for the complete record should any further work be undertaken.

There is one Historical Environment Record (HER) entry within the survey area:

- MDV59986 Artefact Scatter, Prehistoric; 7 flints including 1 scraper. NGR ST 223 021 (point).

- Three other entries relate to the field in which the survey took place, all lie just to the west of the survey area:

- MDV50513 Artefact Scatter, Prehistoric; 33 worked flints, 15 flint and 18 chert including flint: 2 scrapers, 2 serrated blades, 1 serrated flake; chert: 3 scrapers. NGR ST 2224 0208 (point).

- MDV50514 Findspot, Prehistoric; two worked flints and 1 chert scraper. NGR ST2222 0180 (point).

- MDV25657 Artefact Scatter, Prehistoric; 40 to 50 worked flints including 3 or 4 cores, 2 scrapers, 3 backed blades and 13 blades. NGR ST 2220 0191 (point).

- Of the many other entries relating to places within 1000m of the survey area, two close to the survey suggest that the area may be of particular archaeological interest:

- MDV1913 Hill Fort Stockland Great Castle; Iron Age Hillfort with extant earthworks on the northern side. NGR (centred on) ST 2259 0256 (285m by 297m)

- MDV20328 Linear Earthworks; unknown date; a stone causeway running east-west, 2m wide and c.130m long with spatially associated parallel tracks and a mound. NGR ST 229 019 (point)

3 Results

3.1.1 The area was stripped by Hymac type machine with a six foot toothless ditching bucket to a depth of 400 mm. All topsoil stripping was closely observed by the writer and his assistant on site, Chris Tripp.

3.1.2 The quality of stripping was variable, partly because the limiting mechanism on the machine was faulty causing a drop of the bucket towards the end of each pull, and partly because the presence of large pieces of chert within the subsoil were unavoidably dragged. However apart from pit F2 and linear F5, it is certain that no archaeological features were present.

3.2 Topsoil was thoroughly examined for finds during stripping, and when the topsoil heaps were moved; no finds of any description were located, including a complete absence of struck flint.

3.3 Pit F2 and linear F5 (Fig. 2) lay in the position of magnetic anomaly 39 (Fig. 1). They were clearly defined on surface. Anomaly 39 was one of a group of positive magnetic anomalies described as possibly representing 'large pits or similar archaeological deposits although it is likely that some of these will prove to be natural deposits' (Dean, 2013, 7).

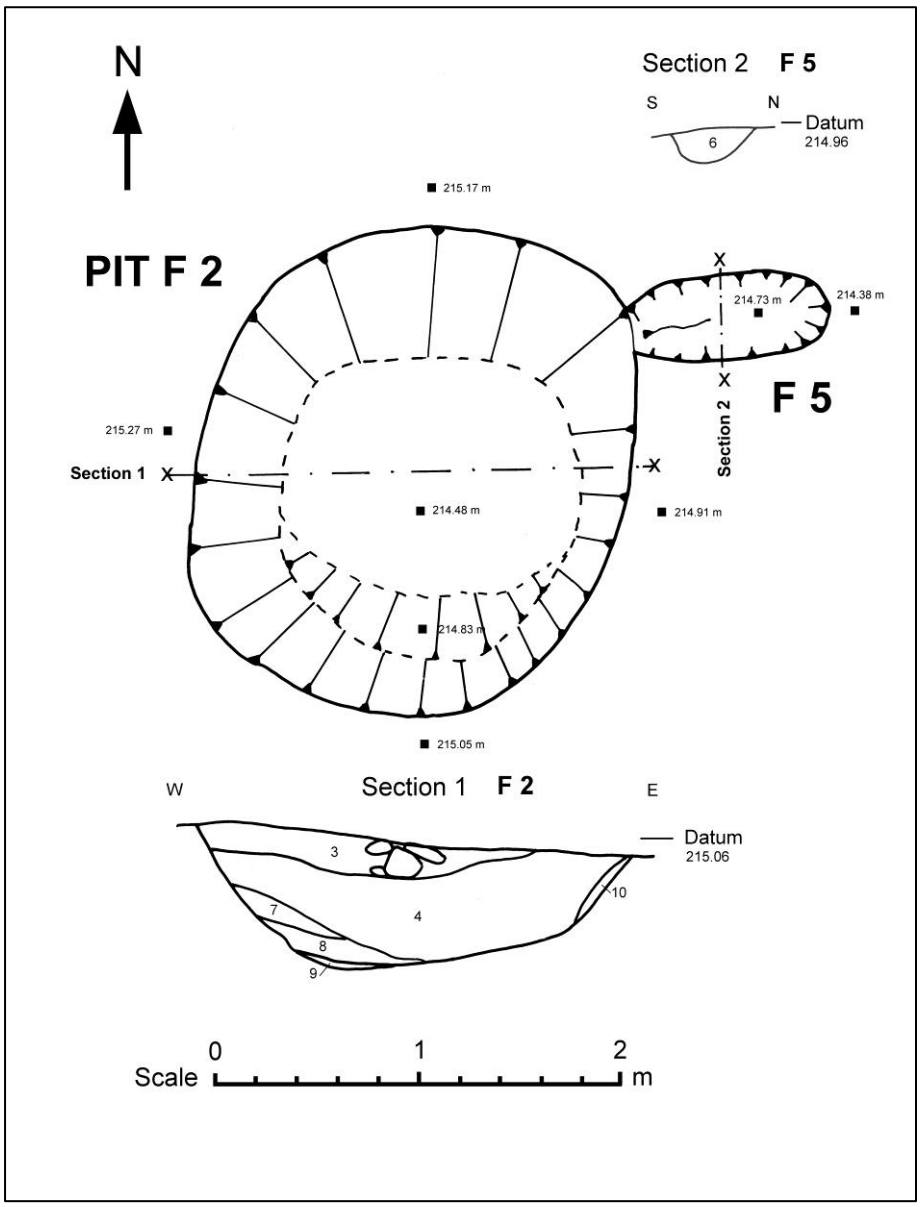

Fig. 2. Plan and section of Pit F2 and linear F5

3.4 *Pit F2 and linear F5* (Fig. 3)
Pit F2 was a clearly defined sub-circular feature, measuring c. 2.5 x 2.23 m on surface. It was conjoined by a linear feature, F5, which joined the pit at its northeast corner. There was no visual distinction on surface between the fill of the gully (context 6) and fill in the pit (context 3).

On excavation, pit F2 was fairly irregularly sided and about 650 mm deep, with a slight shelf in the south at about 1/3 of its depth. It was fairly flat bottomed. The sides and bottom of the pit showed clear signs of scorching throughput the sides of the pit and parts of its bottom; the pit sides were subsequently investigated further, and sampled (context 11); the burnt layer was c. 3 cm thick, a brick red soil of the same composition as the natural subsoil in this part of the site, predominantly a very fine sand with silt.

Gully F5 was a fairly regular slot, the bottom of which sloped gradually up from east to west (the pit side); Its bottom joined the side of the pit at a depth of c. 10 cm. There was no distinction between the fill of the gully (context 6) and the fill of the pit at the point of intersection (context 3). There was no sign of scorching of the sides of linear F5.

On advice from the project's environmental consultant, Dr Mike Allen, the main fill of the pit, context 4, was sampled as an uncontaminated 40 l unit during excavation of the northern side of the pit (section 4 below).

3.4.1 *Fills of pit F2*
All fills showed clear visual boundaries. There were no finds.

Context 3: Dark brown sandy clay loam with rare small pebbles and large nodules of chert to 20 cm diameter in the upper central fill of the pit and its eastern side.

Context 4: Main fill of pit, a very dark grey to black sandy silt clay loam with high proportion of charcoal flecks and occasional fragments of burnt wood; ashy, probably giving rise to the silt description. Rare small pebbles, none of which are burnt. Sampled as ES1.

Context 7: Brown sandy clay loam with rare small pebbles.

Context 8: Orangey brown burnt sandy clay with occasional charcoal flecks and rare flecks of orange burnt clay.

Context 9: Lens of very dark grey to black charcoally sandy clay loam at bottom of pit on its western side. Overlies burnt pit sides.

Context 10: Mid grey sandy clay loam lining upper eastern side of pit. Similar to 3. Overlies burnt pit sides.

3.4.2 *Fill of linear F5*
Context 6: Mid to dark brown slightly clay sandy loam with occasional pebbles to 3 cm. No visual or tactile differentiation with fill 3 in Pit F2.

4 Charcoal report

Alan Clapham and Michael J. Allen

A single sample from undated subcircular pit 2 was presented for flotation, assessment and selection of suitable material for radiocarbon dating. The pit was reported to be artefact-free and the sides showed signs of extensive burning, and the 'impression' is that there was burning inside the pit which was then cleaned out and backfilled with burnt material' (Clarke pers. comm. 20/6/13). A sample from context 4, described as very dark grey to black sandy silty clay with a high proportion of charcoal, mainly as ash', was presented as 50 litre bulk sample.

Following bulk washover floatation, the >4mm charcoal was removed by sieving and was examined, identified and reported.

The charcoal >4mm comprises several hundred fragments of charcoal. A selection of 100 were selected for identification (Table 1).

The sample was sorted using a low power MEIJI stereo light microscope the cell structure of all the non-oak identification samples was examined in three planes under a high power microscope and identifications were carried out using reference texts (Hather 2000) and reference slides housed at the Worcestershire Historic Environment and Archaeology Service.

	Pit 2
Species	***Context 4***
Quercus (Oak)	79 + 3 rw
Salicacaea	7 + 3 rw
Unid	8
	100

Table 1. Charcoal identifications (rw = roundwood)

The majority of the wood charcoal is heartwood *Quercus* (oak) which will burn at high temperatures and is suitable for furnaces, pyres and kilns as well as domestic fires. Most of the assemblage is large wood fragments, i.e. large branches and trunks rather than smaller roundwood elements. This suggests selected large oak wood for high-temperature fires, kilns or ovens.

Very little other identifiable wood was present, some Salicacaea was present. Salicacaea: willow family including *Salix* (willow) and *Populus* (poplar).Two elements were more suitable for radiocarbon dating, and one of which was submitted.

Reference

Hather, J, 2000. *The identification of the North European Woods: a guide for archaeologists and conservator.* Archetype: London

5 Radiocarbon dating result

Michael J. Allen, PhD, MIFA, FLS, FSA

A single sample from undated subcircular pit 2 was processed by flotation, and charred plant remains assessed (Allen 2013), and charcoal identified and selected for AMS radiocarbon dating.

The pit was reported to be artefact-free and the sides showed signs of extensive burning, and the 'impression' is that there was burning inside the pit which was then cleaned out and backfilled with burnt material' (Clarke pers. comm. 20/6/13). A sample from context 4, described as very dark grey to black sandy silty clay with a high proportion of charcoal, mainly as ash', on examination it was a brown (7.5YR 4/4) firm, partially cemented silty clay loam matrix with common to abundant charcoal and some small and medium stones. The quality of charcoal (with no other charred plant remains), indicates the disposal of fire-waste, or even burning within the pit (though no reddened soil was noted in the samples). The majority of this is large woody fragments, rather than twigs and smaller branchwood indicating fire of selected larger timbers for the fuel. However, although the majority is oak (*Quercus*) heartwood, a few of shorter-lived fragment (including oak *c*. 12+ rings) and Salicacaea branchwood (probably >15 rings) were present (ident Dr. A.J. Clapham) and the Salicacaea was selected for AMS radiocarbon dating.

The sample was submitted for AMS radiocarbon dating at the Scottish Universities Environmental Research Centre. The aim of dating was to determine overall date of this burning event and thus the use of the feature and its associated activity.

The samples were processed at SUERC following a modified version of the pre-treatment method outlined by Longin (1971), graphitisation as described in Slota *et al.* (1987), and measurement by AMS as described by Xu *et al.* (2004).

The identified sample was dated by AMS radiocarbon dating and the result is given in table 1 and quoted in accordance with the international standard known as the Trodheim convention (Stuiver & Kra 1986). They are conventional radiocarbon ages (Stuiver & Polach 1977). Calibration of the results has been performed using the data set published by Riemer *et al.* (2004) and performed using the programme OxCal v4.2.3 (www.flaha.ox.ac.uk/). Details of the algorithms employed by this program are available from the on-line manual or in Bronk Ramsey (1995; 1998; 2001). The calibrated date ranges in text are cited are those with 95% confidence and have been rounded out to the nearest 10 years (Mook 1986). The radiocarbon probability distribution is given in figure 1, and the certificate and data presented in the Appendix.

Result

The result (table 1) indicates the burning activity represented by the discarded short-live charcoal sample in pit 2 occurs in the Romano-British period at cal AD 80-240 (95%), but probably between cal AD 130 and 220 (68%)

Feature	Context	Material	***Lab no***	***Result BP***	***δ‰***	***Cal***
Pit 2	4	Salicacaea charcoal	SUERC-48710	1838±26	-27.0	AD 80-250

Table 1. Radiocarbon result

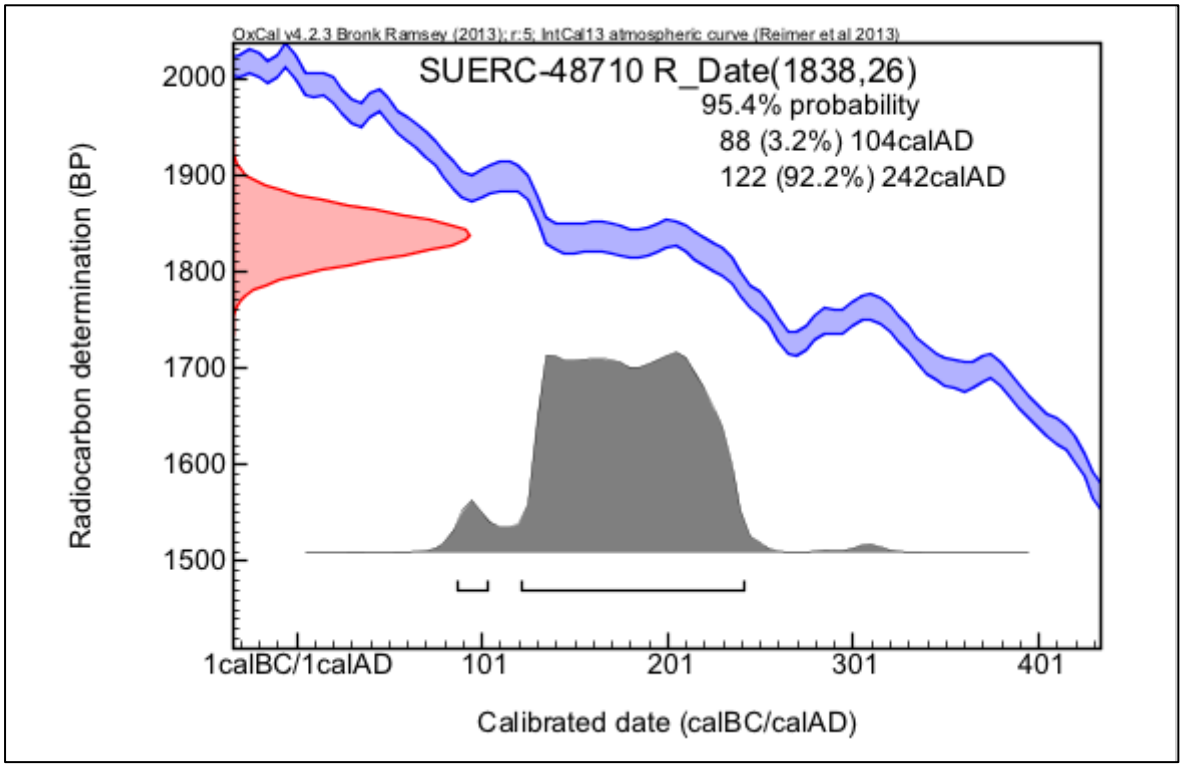

Figure 1. Radiocarbon probability distribution

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Allen, M.J. 2013. Ridge Cross, Stockland, Palaeo-environmental (charred plants and charcoal remains) assessment and radiocarbon assessment**.** Unpubl. Report AEA 213.01 dated 28 July 2013

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Stuiver, M. & Kra, R.S. 1986 Editorial comment, *Radiocarbon* 28(2B), ii

Stuiver, M. & Polach, H.A. 1977 Reporting of ^{14}C data, *Radiocarbon* 19, 355–63

Xu, S., Anderson, R., Bryant, C., Cook, G.T., Dougans, A., Freeman, S., Naysmith, P., Schnabel, C. and Scott, E.M. 2004. Capabilities of the new SUERC 5MV AMS facility for 14C dating. *Radiocarbon* 46, 59–64

6 Interpretation

The only archaeological features present within the stripped area were Fs 2 and 5, lying in the position of the geophysical anomaly 39 from the gradiometer survey.

Pit F2 and linear F5 must be associated. Fill context 3 in pit 2 and fill context 6 in linear F5 appeared to be the same. Pit F2 was showed very clear and obvious signs of scorching of the pit sides, indicating *in situ* burning. The position of the gully and its clear association with the pit suggest that it may have functioned as a vent, however there was no scorching of its sides. The pit fills suggest that they were deposited in the pit after the pit had been cleaned out, and it is tempting to see the main fill, charcoally context 4, as redeposited ashy material which had originally been formed as part of the burning process. If gully F5 functioned as a vent, then this indicates that the pit must have sealed during the burning process, possibly by turf.

While there is evidence of burning *in situ* within a relatively large pit, which may have been vented, there is no evidence for the nature of this burning except that the oak heartwood is probably selected to produce a high temperature. F2 represents one of some 16 similar magnetic anomalies dispersed mainly across the southern and central parts of the survey area. Magnetic anomalies 33 and 34 to the northwest of the stripped area are high contrast anomalies 'typical of areas with archaeological deposits relating to former craft or industrial activities' (Dean, 2013, 7).

The relative dates of Pit F2 and anomalies 33 and 34 cannot be established without sampling by excavation of the latter, and their association is unknown.

The dispersed nature of the similar anomalies within a magnetic landscape which does not show clear signs of settlement activity seems most likely to suggest that these have some kind of agricultural function.

The complete absence of observed struck flint in the topsoil is remarkable and may indicate that the artefacts scatters listed in section 2.1.2 are localised rather than randomly recorded samples of a lithics scatter characterising the wider area.

7 Archive

Context sheets, site drawings and the charcoal residue are to be deposited in the RAMM. The digital archive will be deposited with the Archaeology Data Service.

8 Acknowledgments

Instruction to undertake the watching brief was given by Mr Robin Bright. Mr Ian Firth was instrumental in this.

Mr Chris Tripp assisted the writer during all stages of site work.

Michael Allen is thanked for his work, including arranging the charcoal analysis and radiocarbon dating.

9 References

Dean, R., 2013, 'An Archaeological Gradiometer Survey of Land at Ridge Cross, Stockland, Devon', Substrata Archaeological Geophysical Surveyors report no. 130329, grey literature.

Plate 1: Pit F2 facing NNW. Scales 2 m and 1 m.

Plate 2: Pit F2 half-sectioned, facing NW. Scales 2 m and 1 m.

Plate 3: Pit F2 fully excavated with linear F5 partly excavated, facing N. Scales 2,m and 1m.

Plate 4: Pit F2 facing SW.