

LAND TO THE NORTHEAST OF LINHAY HILL QUARRY, ASHBURTON, DEVON

(NGR SX 77746 71676)

Results of an archaeological trench evaluation

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On behalf of
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archaeology

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SUMMARY

An archaeological trench evaluation was undertaken by AC archaeology during March 2016 on land to the northwest of Linhay Hill Quarry, Ashburton, Devon (SX77746 71676). The work was carried out in advance of a proposed extension to the existing limestone quarry, and was conducted to test for the possibility that the current field boundaries followed a pattern established in the Bronze Age.

The evaluation comprised the machine-excavation of four trenches totalling 29.80m long by 1.5m wide through standing hedgebanks. The archaeological evidence indicates that the pattern of fields at Alston Farm was established no earlier than the medieval period. No evidence was found to indicate that the current field boundary fossilises a Bronze Age field pattern. There were no finds.

1. INTRODUCTION

- 1.1 This document sets out the results of an archaeological trench evaluation carried out by AC archaeology during 17-18 March 2016 on land to the northeast of Linhay Hill Quarry, Ashburton, Devon (centred on SX 77746 71676; Fig. 1). The investigations were commissioned by Atkins on behalf of E.J.W. Glendinning, and requested by the Dartmoor National Park Authority (DNPA) to support a planning application and production of an Environment Impact Assessment for an extension to the quarry. Guidance on the scope of the investigations was provided in a brief prepared by the DNPA archaeologist (Bray 2015). Permission to temporarily remove hedgerows under the 1997 Hedgerow Regulations was given by Dartmoor National Park (Ref: BB/PB/27/15/1(54)).
- 1.2 Proposals for the scheme comprise the extension of the quarry northeast of Alston Lane, with the removal of Alston Lane itself, and the creation of a new replacement lane to the north of the existing quarry. Screening bunds will be created alongside the A38. The overburden tip will be situated to the northeast of the new quarry, between the quarry, Alston Farm and the settlement of Caton.
- 1.3 The quarry extension and associated screening bunds comprises 16 fields occupying 32ha of agricultural land to the northeast of the existing quarry, and north of the A38, 2.8km to the northeast of the centre of Ashburton. The land forms the lower slope of Ashburton Down, with the topography dropping gently down to the south from 150m aOD to 120m aOD; it has a south- and southeast-facing aspect (Plate 1). The underlying geology comprises Devonian limestone of the Chercombe Bridge limestone formation with Devonian slate of the Tavy formation being present within the northwest corner of the site (BGS 2016).

2. ARCHAEOLOGICAL BACKGROUND

- 2.1 An historic environment assessment of the development area was prepared by AC archaeology (Passmore 2015a). This identified that there are three non-designated assets recorded within the area of the proposed quarry extension – a possible findspot of a Bronze Age palstave, the exact location of which is unknown (and which could actually be outside the application area), and two former quarries.
- 2.2 A review of cartographic evidence has established that the application area lies within land which comprises medieval enclosures. Most of the field boundaries are considered to be important under the 1997 Hedgerow Regulations. The archaeological potential was considered to be low, with the greatest possibility of finding below-ground remains associated with historic (medieval) fields. The DNPA Scoping Opinion also states that the "site for the proposed development is a medieval landscape" (Amec Foster Wheeler Environment & Infrastructure UK Limited 2016, 21).

- 2.3** Subsequently, the DNPA archaeologist considered that the fields south of Alston Farm may be of greater antiquity since they display the same co-axial character and orientation as the Bronze Age Rippon Tor reave system, located approximately 4km to the northwest on the open moorland. Consequently this evaluation was commissioned.

3. AIMS OF THE WORK

- 3.1** The two main aims of the evaluation were firstly to assess the nature, extent of survival and date of any features (of potentially pre-medieval date) that may be preserved beneath and/or within the extant hedgebanks, and secondly to identify any buried palaeosols that may survive sealed beneath the extant hedgebanks. The results of the evaluation will be reviewed by the DNPA archaeologist to assess the significance of the hedgebanks, and to determine whether any archaeological mitigation is required should planning permission be granted, and if so, where and to what level.

4. METHODOLOGY

- 4.1** The fieldwork was undertaken in accordance with a Written Scheme of Investigation prepared by AC archaeology (Passmore 2015b).

- 4.2** The evaluation comprised of the machine excavation of four 1.5m wide trenches, each measuring up to 10m long. A trench plan was provided by the DNPA archaeologist (Bray 2015), and the trenches were positioned to target the field boundaries that could represent principal parts of the potential prehistoric field system. Due to on site conditions, such as an overhead cable, vegetation cover and grazing young livestock, exact trench positions were slightly modified from the original plan. The evaluation was carried out by a machine fitted with a toothless bucket, and was undertaken under the control and direction of the site archaeologist. All works were also undertaken under the supervision of the client's ecologist, Woodfield Ecology, specifically to monitor for the presence of dormice. The following excavation methodology was used:

- Prior to machine excavation commencing vegetation from the areas of the hedgebank excavation was carefully removed and stored. Any wire fences were also removed from the areas of excavation.
- Any topsoil forming the outer layer of the hedgebanks was removed in spits no greater than 20cm in depth and stored beside the trench.
- The main bulk of the hedgebanks was removed, again in spits no greater than 20cm in depth, and stored separately alongside the trench. Any stone revetment material was also separated.
- The trenches ceased at the level at which archaeological deposits (e.g. palaeosols) or natural deposits are exposed. They were extended either side of the hedgebanks into the fields to locate any associated infilled drainage ditches or any earlier features (ditches, postholes, etc.).
- The trenches were then recorded as per the methodology set out in section 3.3 of the written scheme of investigation.
- The trenches were then reinstated. Any features (such as ditches) were backfilled and topsoil/subsoils within the field replaced. The hedgebanks were reinstated to their original profile, and using the removed material, replaced in the correct stratigraphic sequence. No backfilling was carried out until approved by the DNPA archaeologist.

- 4.3** All archaeological deposits revealed were recorded using the standard AC archaeology *pro forma* recording system, comprising written, graphic and photographic records; and in

accordance with AC archaeology's *General Site Recording Manual, Version 2* and the approved WSI. Detailed sections and plans were produced at 1:10 and 1:50 respectively.

5. RESULTS

5.1 Introduction (Fig. 2)

The trenches examined the construction of four hedgebanks which are discussed in detail below.

5.2 Trench 1 (Plan Fig. 3a and section Fig. 3b; Plate 2)

Trench 1 was aligned northeast-southwest and measured 9m long and was excavated on to natural subsoil (context 112) consisting of a yellow clay containing angular pebbles. The hedgebank consisted of a large bank and associated shallow flanking ditch (F110) to the southwest. Topsoil was located either side of the hedgebank; to the southwest topsoil 102 consisted of dark brown silt clay loam above a subsoil (111) consisting dark yellowish brown clay loam, and to the northeast of the bank topsoil 101 consisted of a dark yellowish brown silt clay loam which was topped by a layer of turf (100). The hedgebank comprised three deposits (107-9) and covered earlier deposits (103-4) and an earlier ditch (F105) which are described in detail below.

5.3 Hedgebank deposits

The core of the hedgebank (107) measured 2.3m wide by approximately 1.1m high and consisted of dark brown silty clay loam with rare angular cobbles. There was a stone revetment (108) on the northeast side of the bank consisting of randomly coursed limestone blocks within a dark brown silty clay loam matrix with no bonding material. There was an organic deposit (109) on the top and southwest side of the bank consisting of a dark greyish brown humic silty clay loam, which also partly filled the extant flanking ditch F110.

5.4 Earlier deposits

Two deposits (103-4) pre-dated the hedgebank. Deposit (103) consisted of a dark brown silty clay loam and had the appearance of a low bank associated with a flanking ditch (F105) in the southwest (see below). Deposit 104 was situated exposed deposit 103 and was cut by ditch F105; it consisted of a dark yellowish brown silty clay loam containing common sub-angular pebbles and cobbles. This deposit continued to the northeast and formed a subsoil beneath topsoil 101.

5.5 Ditch F105

The earlier flanking ditch F105 measured 1.7m wide by 0.22m deep with moderately steep sides and a slightly concave base. It contained a single fill (106) comprised of a yellowish brown clay loam containing common angular gravels. Ditch F105 cut deposit 104 and natural subsoil 112.

5.6 Trench 2 (Plan Fig. 3c and section Fig. 3d; Plate 3)

This trench was aligned northeast-southwest and measured 7.3m long, and was excavated on to natural subsoil (209) consisting of yellow clay containing angular pebbles. The hedgebank was covered by a turf layer (200) which continued into the fields on either side of the boundary and constituted the topsoil on the southwest side while on the northeast side the topsoil (201) consisted of a dark brown silty clay loam below the turf. A subsoil layer was located on either side of the bank; to southwest the subsoil (203) consisted of a dark brown silty clay loam and to the northeast the subsoil (204) consisted of dark reddish brown silty clay loam. The hedgebank illustrated two phases of construction; an earlier smaller bank (208) with two flanking ditches (F205 and F206) was covered by a later larger bank (202) which has slumped and widened over time; these are described in detail below.

5.7 Later hedgebank (202)

Later hedgebank (202) measured 3.2m wide by 0.6m high and consisted of a dark reddish brown silty clay loam containing rare sub-angular pebbles. It completely sealed the earlier bank (208) and the ditches F205 and F206, although it also comprised the fill for ditch F205 indicating that the ditch was open when the later hedgebank was constructed.

5.8 Earlier hedgebank (208)

The earlier bank (208) measured 0.95m wide by 0.16m high and consisted of a reddish brown silty clay containing rare angular pebbles and cobbles and was flanked by two ditches (F205 and F206).

5.9 Ditch F205

Flanking ditch F205 to the southwest of the earlier bank (208) measured 0.80m wide by 0.12m deep with a moderately steep side to the southwest, a shallow side to the northeast and a concave base. It was filled by slumped later bank material (202). Ditch F205 cut subsoil 203 and natural subsoil 209.

5.10 Ditch F206

Flanking ditch F206 to the northeast of the earlier bank (208) measured 1.22m wide by 0.24m deep with shallow sides and a concave base. It contained a single fill (207) consisting of a dark yellowish brown silty clay loam which abutted bank 208.

5.11 **Trench 3** (Plan Fig. 4a and section Fig. 4b; Plate 4)

This trench was aligned northeast-southwest and measured 4.2m long and was excavated on to natural subsoil (309) consisting of yellow clay containing angular pebbles. Due to a stock fence which had to remain in place it was not possible to gain a full profile of the hedgebank. Overlying the hedgebank were organic-rich deposits (300 and 301) consisting of a dark greyish brown silty clay loam which continued to the northeast as topsoil above a subsoil (304) consisting of dark brown silty clay loam. The hedgebank consisted of a series of deposits forming a large stone revetted bank which overlay a ditch (F307) and are described in detail below.

5.12 Hedgebank

The core bank material (303) consisted of a dark reddish brown silty clay loam containing rare angular cobbles and gravels. On the northeast side of the bank was a revetment (302) consisting of randomly coursed limestone blocks. Two deposits (305 and 306) were sealed by the hedgebank and both consisted of yellowish brown silty clay loam containing angular gravels and were cut by ditch F307.

5.13 Ditch F307

Buried ditch F307 measured 0.72m wide by 0.34m deep with steep sides and a concave base. It contained a single fill (308) consisting of a dark reddish brown silty clay loam. Ditch F307 cut deposits 305 and 306.

5.14 **Trench 4** (Plan Fig. 4c and section Fig. 4d; Plate 5)

This trench was aligned northeast-southwest and measured 9.3m long, and was excavated on to natural subsoil (412) consisting of yellow clay containing angular pebbles. Several overlying deposits were recorded with a topsoil (400) consisting of dark greyish brown silty clay loam and a turf layer (402) on the southwest side of the bank. A subsoil (401) on the northeast side of the bank consisted of dark brown silty clay loam and two subsoils (405-6) were present on the southwest side of the bank, with subsoil 405 consisting of a dark yellowish brown silty clay loam and subsoil 406 consisting of dark brown silty clay loam. A deposit (403) overlying the northeast flanking ditch consisted of dark reddish brown silty clay loam containing common shell fragments and rare mortar flecks. The hedgebank had a large bank (404) with flanking ditches (F407 and F409) which are described in detail below.

5.15 Hedgebank

The core bank material (404) consisted of a dark reddish brown silty clay loam containing rare angular cobbles. It overlay buried bank deposit 411 consisting of dark yellowish brown silty clay loam which was cut by ditches F407 and F409.

5.16 Ditch F407

Flanking ditch F407 to the southwest of the bank measured 0.90m wide by 0.24m deep with shallow sides and a concave base. It contained a single fill (408) consisting of a greyish brown silty clay loam. Ditch F407 cut deposit 411.

5.17 Ditch F409

Flanking ditch F409 to the northeast of the bank measured 1.28m wide by 0.16m deep with moderately steep sides and a flat base. It contained slumped bank material (404) on the southwest side and to the northeast a later fill (410) consisting of dark brown silty clay loam. Ditch F409 cut deposit 411.

6. DISCUSSION

- 6.1 The archaeological trench evaluation was conducted in order to test the proposition that the extant field boundaries may preserve a pattern of land division established during the Bronze Age. In particular, comparison had been made with the closest moorland 'reave system' around Rippon Tor which extends for distances of around 6km northwest-southeast by 6km northeast-southwest. The reaves are low stone banks constructed of piled stone or upright orthostats. At Rippon Tor the chief orientation of the principal reaves is northwest-southeast, with these boundaries connected by smaller northeast-southwest aligned banks. Within the overall system there are clusters of small, narrow rectangular or sub-square fields and associated hut circles. (These are mapped in detail by Butler 1991, maps 4-6 and 9-10; see also Newman forthcoming.)
- 6.2 The extent of the potential fossilisation within the enclosed land beyond the open moorland appears not to have been studied in detail. Commenting on the Rippon Tor system in his *The Dartmoor Reaves* Fleming (1988, 49), whilst acknowledging he has not investigated the area, "suggests that [on the "configuration of the present-day hedges"] it could well have extended as far as the area of the modern A38, just north-east of Ashburton."
- 6.3 The hedgebanks selected for investigation were chosen on the basis that they matched the northwest-southeast orientation of the Rippon Tor field system and that they were continuous (except where crossed by tracks/roads or broken by gateways) over a long distance. Thus, they appeared to be the primary boundaries within the local pattern of fields providing the axis from which the remainder of fields were laid out and could be regarded as the best contenders to have fossilised the lines of prehistoric reaves. Trenches 1 and 2 tested a hedgebank that was continuous for 650m and Trenches 3 and 4 a hedgebank 850m long which continued up the opposite valley side. Although axial boundaries within reave systems do not usually continue for the full length of the system, they can be extremely long with one of the Rippon Tor axial reaves being continuous over a distance of 2.3km (Newman forthcoming). Both investigated hedgebanks are present on the Ashburton tithe map dated 1840.
- 6.4 The potential for reaves to be fossilised within the later enclosed off-moorland landscape was considered as part of the archaeological investigations on the route of the South-West Reinforcement Gas Pipeline (Mudd and Joyce 2014, 185-186). In the areas excavated closest to Dartmoor (west of Ugborough), where Fleming (1988) had identified the Bittaford field system, none of the investigated hedgebanks contained evidence for having a Bronze Age precursor. There is however a difficulty in knowing how to identify 'reaves' in off-moor locations. Fleming (1988, 33 and 2008, 44) notes that as medieval hedgebanks were largely made of earth, Bronze Age boundaries fossilised within these may be identified by upright stones within

its base. However, this is less likely to be the case in lowland areas where surface stone is less prevalent than on the moor. In addition, excavations by Fleming on Holne Moor and others on Shaugh Moor have shown that a precursor to the stone reave can be an earthen bank and this may have a flanking ditch (Fleming 2008, 97; Smith *et al.* 1981, 207-14).

- 6.5** As with the application area itself, the fields in the wider area have been described in the Devon Historic Landscape Characterisation Project as a variety of types. Woodland excepted, the most predominant are *medieval enclosures based on strip fields*, *modern enclosures adapting medieval fields*, and *post-medieval enclosures*. Additional research carried out prior to the evaluation (Passmore 2015c) has confirmed this characterisation and identified a number of patterns or trends that are characteristic of medieval and later field systems and enclosure rather than of a Bronze Age reave system.
- 6.6** The evidence from the archaeological trench evaluation does not contradict the conclusions of the Devon Historic Landscape Characterisation Project. No obvious indications that the hedgebanks are fossilising the line of prehistoric field boundaries has been uncovered and no palaeosols sealed by the hedgebanks were observed. Despite earthen banks and ditches having the potential to represent prehistoric boundaries, the buried banks and ditches within the evaluation trenches can be shown to be much more recent as the associated ditches either cut agricultural subsoil or the boundaries are characteristic of medieval and later construction. Even where the current boundaries replace earlier boundaries, the earlier features have the same characteristics of historic hedgebanks. Without dating evidence provided by finds or radiometric means, this interpretation of the evidence cannot be conclusive, but it is most probable that the extant field pattern within the application area was established no earlier than the medieval period.

7. CONCLUSION

- 7.1** Based on present evidence the archaeological and landscape evidence indicates that the pattern of fields at Alston Farm was established no earlier than the medieval period, which is also what was concluded by the Devon Historic Landscape Characterisation Project. No evidence was found to indicate that the current field boundary fossilises a Bronze Age field pattern.

8. ARCHIVE AND OASIS

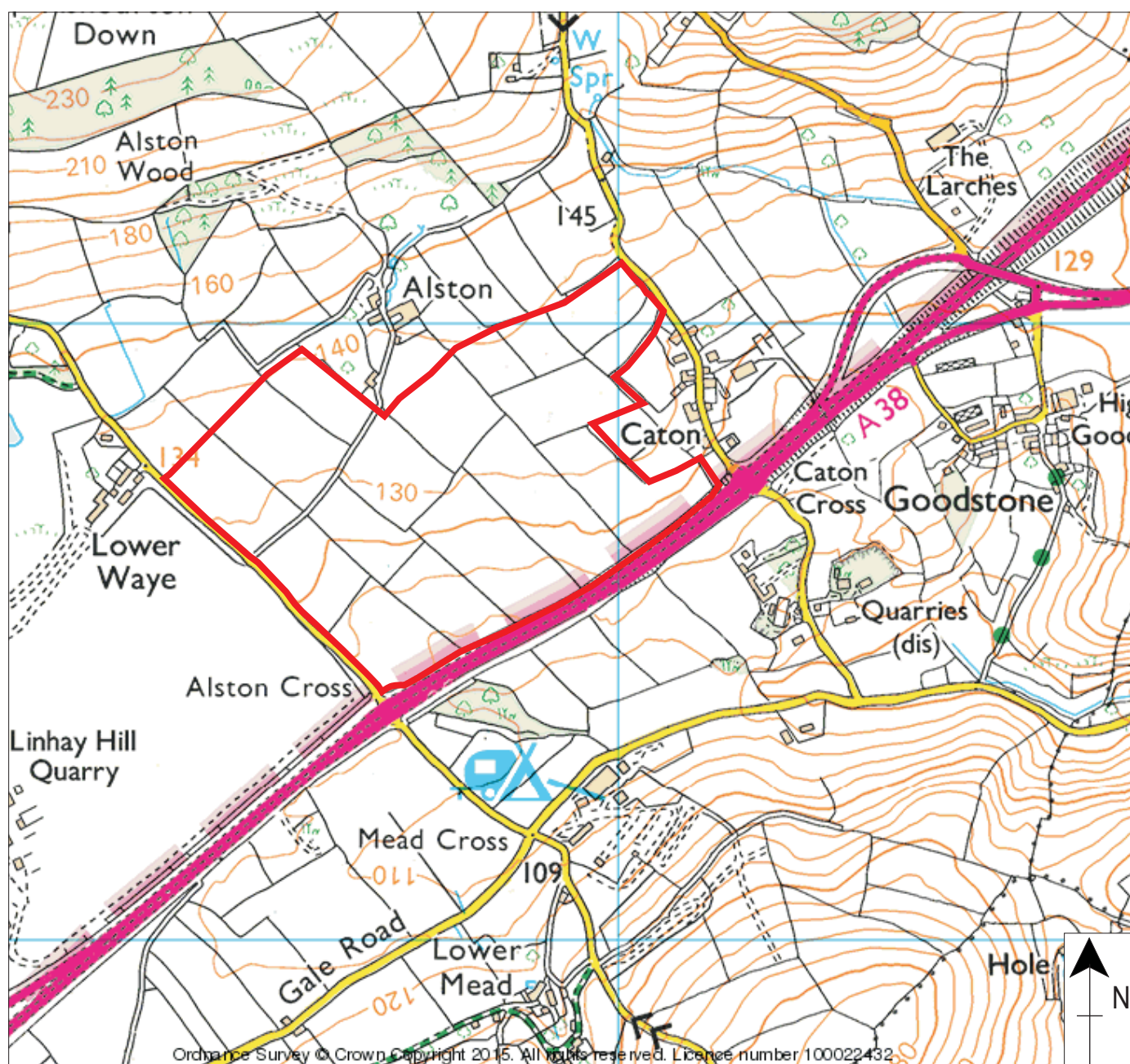
- 8.1** The paper and digital archive is currently held at the offices of AC archaeology Ltd, at 4 Halthaies Workshops, Bradninch, near Exeter, Devon, EX5 4LQ, under the unique project code of ACD1116.
- 8.2** An online OASIS entry has been completed, using the unique identifier 247069, which will include a digital copy of this report.

9. ACKNOWLEDGEMENTS

- 9.1** The work was commissioned by Atkins on behalf of E.J.W. Glendinning, and managed for AC archaeology by Andrew Passmore, for Atkins by Anthea Hoey, and for E.J.W. Glendinning by Barry Wilson. The fieldwork was undertaken by Alex Farnell and Elisabeth Pataki. The illustrations were prepared by Stella De-Villiers. The collaborative role of Dr Lee Bray, DNPA Archaeologist, is duly acknowledged.

10. REFERENCES

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0 250m

Scale 1:10,000@A4



Boundary of indicative extension area

PROJECT

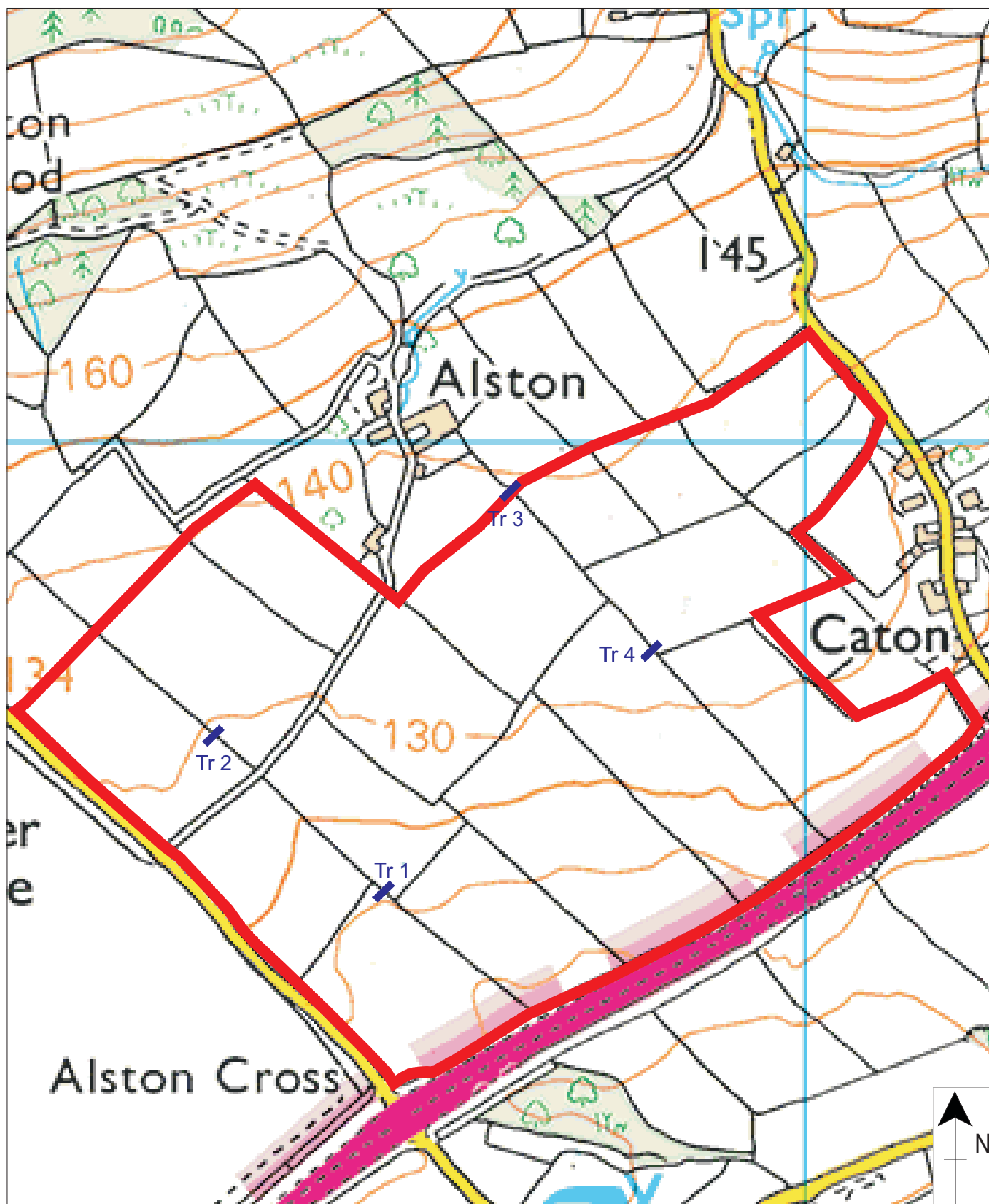
Land to the northeast of Linhay Hill Quarry, Ashburton, Devon

TITLE

Fig. 1: Site location



AC archaeology



0 250m

Scale 1:5000@A4



Boundary of indicative extension area



Trenches

PROJECT

Land to the northeast of Linhay Hill Quarry,
Ashburton, Devon

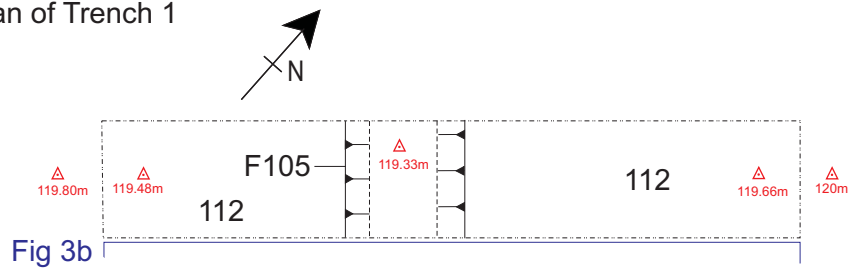
TITLE

Fig. 2: Location of trenches

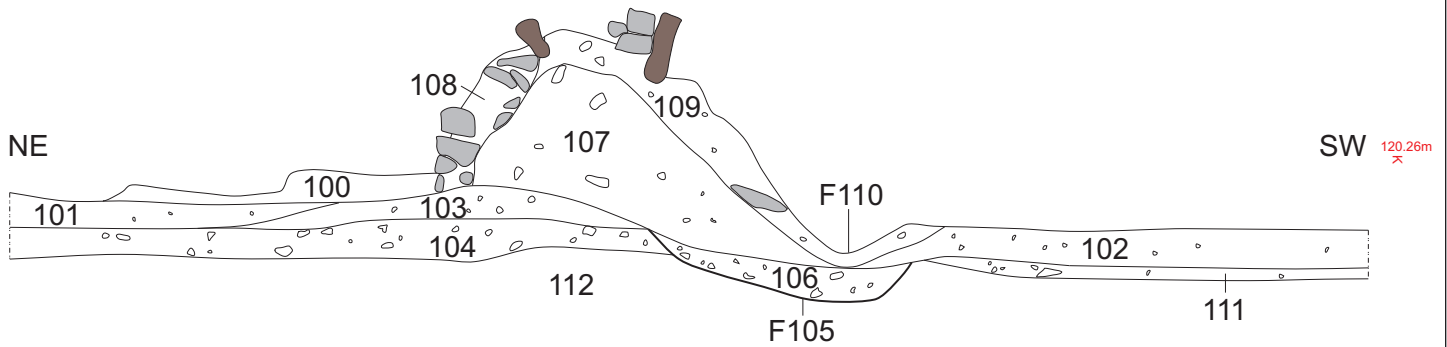


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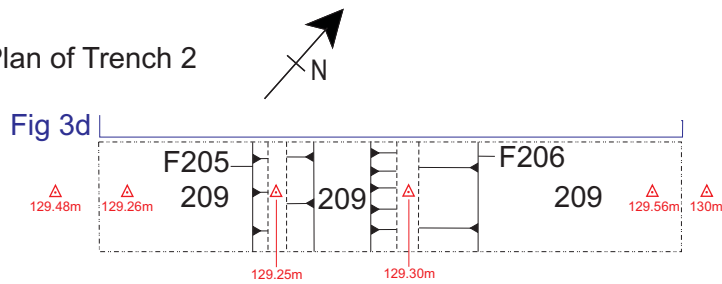
a) Plan of Trench 1



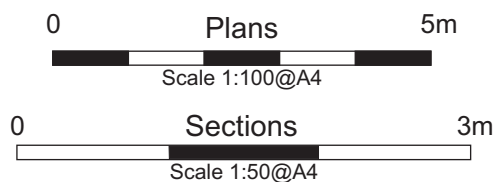
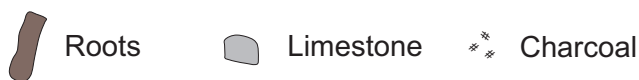
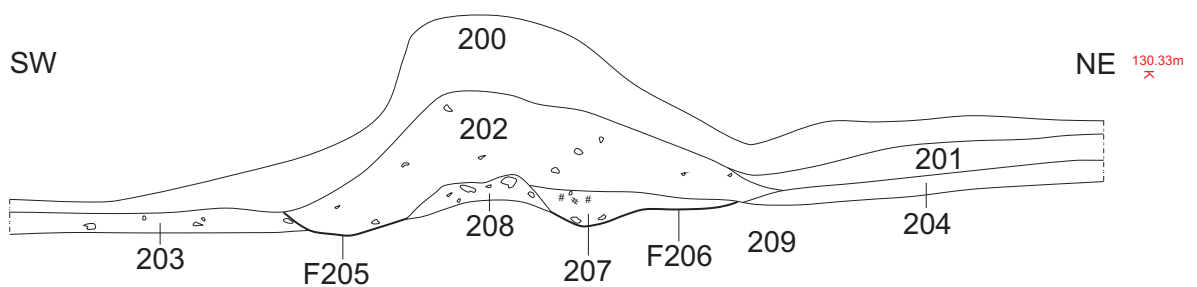
b) Section of Trench 1



c) Plan of Trench 2



d) Section of Trench 2



Levels are arbitrary

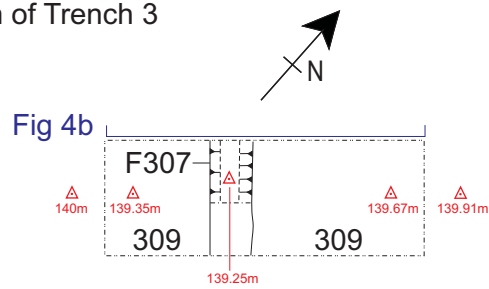
PROJECT

Land to the northeast of Linhay Hill Quarry,
Ashburton, Devon

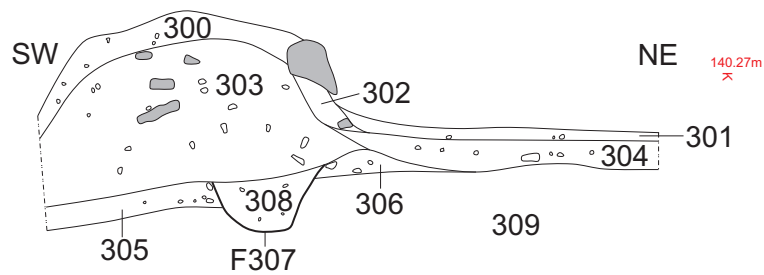
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Fig. 3: Trenches 1 and 2,
plans and sections

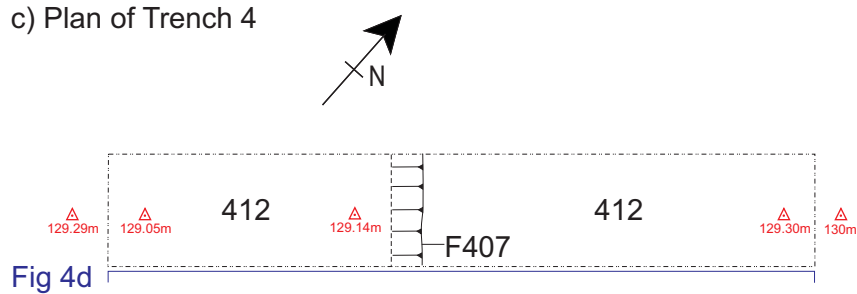
a) Plan of Trench 3



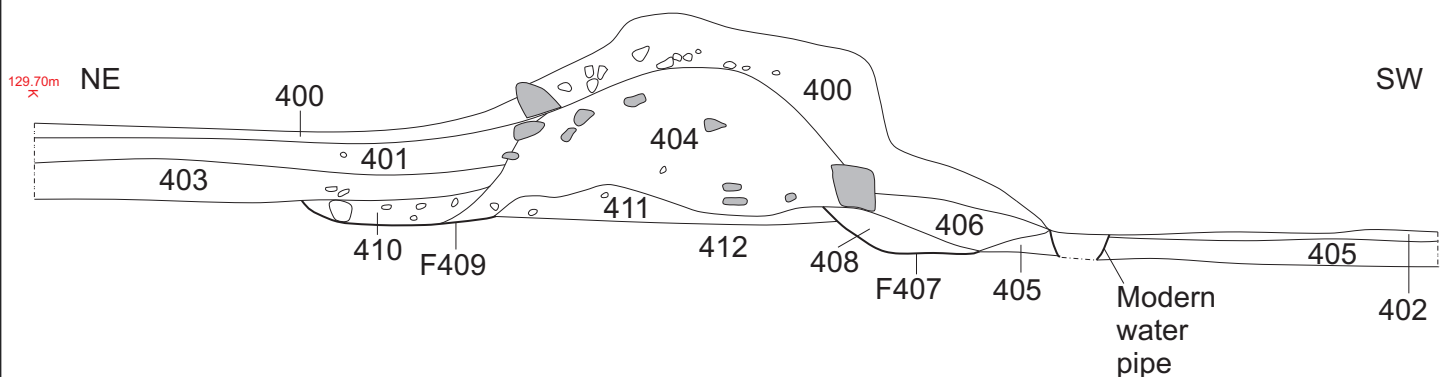
b) Section of Trench 3



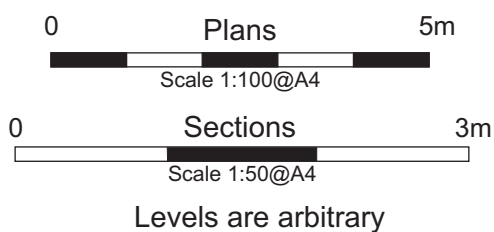
c) Plan of Trench 4



d) Section of Trench 4



Limestone



PROJECT

Land to the northeast of Linhay Hill Quarry,
Ashburton, Devon

TITLE

Fig. 4: Trenches 3 and 4,
plans and sections



Plate 1: General view of the site from the opposite valley side, looking north



Plate 2: Trench 1, looking south (scale 1m)



Plate 3: Trench 2, looking north (scale 1m)



Plate 4: Trench 3, southeast-facing section (scale 1m)



Plate 5: Trench 4, looking south (scale 1m)

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