

ARCHAEOLOGICAL
SERVICES
DURHAM UNIVERSITY

on behalf of
Swaledale and Arkengarthdale
Archaeology Group

Hagg Farm
Swaledale
North Yorkshire

palaeoenvironmental assessment

report 5752
April 2022

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1. Summary

The project

- 1.1 This report presents a palaeoenvironmental assessment of three bulk samples taken during archaeological excavations of a Romano-British settlement at Hagg Farm, Swaledale, North Yorkshire.
- 1.2 The works were commissioned by Swaledale and Arkengarthdale Archaeology Group (SWAAG) and conducted by Archaeological Services Durham University.

Results

- 1.3 Palaeoenvironmental evidence is consistent with the provisional Roman date, particularly given the presence of cf. spelt wheat, 6-row barley and probable charred remnants of heathland turves. The results are comparable to previous palaeoenvironmental data from Hagg Farm.

Recommendations

- 1.4 No further analysis is required for the samples.
- 1.5 The flots should be retained as part of the physical archive of the site. The residues were discarded following examination.
- 1.6 The following plant remains are recommended as the best options for radiocarbon dating and are ranked by their likelihood to provide a reliable date; other options are available if required (see Appendix 1):-

[159] <47> pit/linear ditch – Charred barley grain

[157] <46> burnt spread – Charred false oat-grass tuber

2. Project background

Location and background

- 2.1 Archaeological works were conducted by SWAAG at Hagg Farm, Swaledale, North Yorkshire. This report presents a palaeoenvironmental assessment of three bulk samples comprising a posthole fill [154], a burnt spread [157] and the fill [159] of a stone-lined pit or possible linear ditch, all probably Roman in date.

Objective

- 2.2 The objective of the scheme of works was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material, and provide the client with appropriate recommendations.

Dates

- 2.3 The samples were received by Archaeological Services on 21st February 2022. Assessment and report preparation was conducted between 1st and 30th April 2022.

Personnel

- 2.4 Assessment and report preparation was conducted by Dr Charlotte O'Brien. Sample processing was by Cyrus Edgcombe.

Archive

- 2.5 The site code is **HFS21**, for **Hagg Farm Swaledale 2021**. The finds, flots and charred plant remains are currently held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University awaiting collection.

3. Methods

- 3.1 The bulk samples were manually floated and sieved through a 500µm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery, flint, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ7.5 stereomicroscope. Identifications were aided by comparison with modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University, and by reference to relevant literature (Cappers *et al.* 2006; Jacomet 2006). Habitat classification follows Preston *et al.* (2002). Plant nomenclature follows Stace (2010).
- 3.2 Selected charcoal fragments were identified, in order to provide material suitable for radiocarbon dating and to determine the nature and condition of the assemblages. The transverse, radial and tangential sections were examined at up to x500 magnification using a Nikon Eclipse microscope. Identifications were assisted by the descriptions of Schweingruber (1990), Gale & Cutler (2000) and Hather (2000), and modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University.
- 3.3 The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in the regional archaeological research framework and resource agendas (Roskams & Whyman 2007; Hall & Huntley 2007; Huntley 2010).

4. Results

- 4.1 The samples produced small flots comprising a few charcoal fragments and small to moderate quantities of charred plant remains. These include cereal grains, heather twigs, rhizome/tubers (including false oat-grass) and weed seeds (sheep's sorrel, bedstraws, grass). Pit/ditch fill [159] has the largest quantity of cereal grains which are predominantly barley. Poor condition prevents further identification of most of the grains, although the twisted shape of some of them points to 6-row barley (*Hordeum vulgare*). The few wheat grains have the parallel sided-form typical of spelt wheat (*Triticum spelta*). Animal bone/tooth fragments are present in [159]. There are no finds in the other samples.
- 4.2 Detailed palaeoenvironmental results and a provisional date for each context are presented in Appendix 1. Material for radiocarbon dating is listed in the recommendations section.

5. Discussion

- 5.1 The palaeoenvironmental evidence is consistent with the provisional Roman date, particularly given the presence of probable spelt wheat and 6-row barley which were the principal crops for this period (Hall & Huntley 2007; Greig 1991). Furthermore, the charred remains of heather twigs, rhizomes and propagules of acid grassland plants such as sheep's sorrel, are all listed as characterising the remnants of burnt turves in the archaeological record (Hall 2003), which is another characteristic of late prehistoric and Roman sites within the region. The results are comparable to previous palaeoenvironmental data from Hagg Farm (Archaeological Services 2014; 2017; 2019; 2020).

6. Recommendations

- 6.1 No further analysis is required for the samples. If further work is undertaken at the site, the results of this assessment should be added to any additional palaeoenvironmental data produced.
- 6.2 The flots should be retained as part of the physical archive of the site. The residues were discarded following examination.
- 6.3 The following plant remains are recommended as the best options for radiocarbon dating and are ranked by their likelihood to provide a reliable date; other options are available if required (see Appendix 1):-

[159] <47> pit/linear ditch – Charred barley grain
[157] <46> burnt spread – Charred false oat-grass tuber

7. Sources

Archaeological Services 2014 *West Hagg Site 103 Swaledale, North Yorkshire: archaeological excavation*. Unpublished report **3360**, Archaeological Services Durham University

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Appendix 1: Palaeoenvironmental data

Sample	Context	Feature	Volume processed (l)	Flot volume (ml)	C14 available	Rank	Notes
45	154	F153 - posthole	6	20	?	*	Small flot comprising a trace of charcoal, a small charred heather twig and a charred wheat grain (cf. spelt) – probably too small for C14. The charcoal is Maloideae (apple, hawthorn, whitebeams). Two uncharred achenes of marsh cinquefoil (<i>Potentilla palustris</i>) are probably modern intrusions and reflect an area of damp ground. No finds. Iron Age / Romano-British?
46	157	Burnt spread	6	40	Y	*	Small flot comprising modern roots (some woody), a trace of charred rhizomes and a charred false oat-grass (<i>Arrhenatherum elatius</i>) tuber. Little evidence of fuel waste. A single uncharred nutlet of bugle (<i>Ajuga reptans</i>) is probably a modern intrusion and reflects an area of damp ground. No finds. Iron Age / Romano-British?
47	159	Stone lined pit or linear ditch	11	50	Y	**	Small quantity of charcoal in good condition (Hazel and Maloideae stemwood). Moderate assemblage (n=93) of charred cereal grains in poor condition (pitted). These are predominantly barley (some twisted), with a few wheat grains (one is spelt type). Low numbers of charred seeds from sheep's sorrel (<i>Rumex acetosella</i>), cleavers (<i>Galium aparine</i>) and grass. Finds: animal bone and a tooth. Iron Age / Romano-British

[Rank: *: low; **: medium; ***: high; ****: very high potential to provide further palaeoenvironmental information.

? = material may be unsuitable for AMS dating due to poor condition or long-lived species]