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**Wykeham Quarry Proposed Lagoon
Hutton Buscel
North Yorkshire
SE 9845 8222**

Archaeological Evaluation By Trial Trenching

Authorised by

Date:.....

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Non Technical Summary

Archaeological Trial Trenching was carried out by MAP Archaeological Consultancy Ltd during October 2010 at the site of a proposed silt lagoon that is associated with the proposed extension to Wykeham Quarry, Hutton Buscel Parish, North Yorkshire. The work was undertaken in advance of the submission of a forthcoming application for the extension to the quarry, and followed four previous stages of field evaluation comprising an augur survey, geophysics, fieldwalking and excavation, that were carried out in 2009 on two proposed extraction areas to the east of the existing quarry.

A total of 11 trial trenches were excavated (415²), representing approximately 3% of the total area of the proposed silt lagoon, which lies immediately south of the Plant Site and north of the boating lake (a previous extraction area).

No archaeological features were present and no finds were recovered.

1. Introduction

- 1.1 This report sets out the results of a scheme of archaeological trial trenching carried out by MAP Archaeological Consultancy Ltd. on land immediately south of the Plant Site of Wykeham Quarry, Hutton Buscel parish, North Yorkshire (Figs. 1 - 3: SE 9845 8222 centre). The site forms the area of a proposed silt lagoon associated with the proposed extension of the extraction areas of the quarry. The trial trenching took place in October 2010.

- 1.2 The trial trenching was carried out on behalf of Hanson Aggregates prior to the forthcoming application for the quarry's extension. The work was

carried out according to an agreed Written Scheme of Investigation (Appendix 1).

1.3 The trial trenching was designed to establish the nature, location, extent and state of preservation of any archaeological remains within the proposed silt lagoon. The information provided from the trial trenching is intended to allow an assessment to be made of the impact of the proposed quarry extensions upon the archaeological deposits at the site. This assessment will form part of the information to allow an informed planning decision as to whether this element of the quarry extension should be permitted. Upon the granting of permission, this information will assist in identifying options for minimising, avoiding damage to, and/or recording any archaeological remains. This strategy follows the archaeology policy issued by the Secretary of State for the Environment contained in *Planning Policy Statement (PPS 5)*.

1.4 The MAP site code for the project was 08-10-10.

1.5 MAP Archaeological Consultancy Ltd would like to acknowledge the help and cooperation of Andrew Josephs, Hanson Aggregates (who funded the project) and Keith Emerick (English Heritage).

1.6 All maps within this report have been produced from the Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright, licence No. AL 50453A.

2. Site Description (centred at NGR SE 9845 8222)

2.1 The area of the proposed silt lagoon is 1.35 ha in extent (Figs. 1 and 2). It is situated c. 1.1 km south of the village of West Ayton, between the quarry's plant site to the north and a boating lake (a former extraction area) to the south. At the time of the trial trenching, the area was covered with birch scrub.

- 2.2 The site stands at an elevation of between c. 26m and 24.5m AOD, the southern part consisting of a higher (and drier) area compared to the more low-lying (and boggy) northern part.

3. **Geology and Soils**

- 3.1 The site lies at the boundary of Wick 1 Association soils (coarse sandy over glaciofluvial and river terrace drift) to the north and Altcar 1 soils (deep peat soils over fen peat) to the south (Mackney *et al*).

4. **Historical and Archaeological Background**

- 4.1 Excavation and fieldwork have demonstrated that at other locations in the Vale of Pickering, namely Star Carr, Flixton Carr and Seamer Carr, a Later Upper Palaeolithic and an extensive Mesolithic landscape survives partially buried beneath accumulated peat deposits. All of these sites were located along the former shoreline of the lake close to the 24m to 25m OD subsurface contour where dry land provided an excellent base from which to exploit the rich wetland resource of the swamps, carrs and open water.
- 4.2 Records of stray Palaeolithic, Neolithic and Bronze Age finds within the Vale (Scoping Document - Sites 18 to 24) indicate that the area supported a population throughout earlier prehistory and that occupation and settlement was not just confined to the Mesolithic period. The nomadic nature of this population, however, makes it difficult to identify their settlement or occupation sites although it is considered that camp-sites may have favoured the slightly elevated sand hills around the margins of the lakes.
- 4.3 Within 1km of the proposed silt lagoon, cropmark evidence from aerial photography record several enclosure, field system and trackway complexes (Sites 2 - 7). These complexes appear to be concentrated on the higher ground associated with the Wykeham moraine and the higher glacial ridges extending into the Vale. They probably have their origins in the Iron Age and Roman period, but as excavations at Wykeham (Site 11) and Crossgates (Site 12) have demonstrated these sites could also incorporate Anglo-Saxon remains. Site 6 lies 250m north-east of the northern extension area and this may be part of a

ladder settlement extending southwards along defined ridges of glacial deposits from more extensive ladder settlement running east to west along the northern edge of the Vale (Sites 3, 4, 5 and 9). The ridge on which Site 6 is situated is at 30.25m AOD.

- 4.4 The proposed silt lagoon lies within the Manor of Hutton Buscel. There is no cartographic or documentary evidence to suggest any settlement at the site during either the Medieval or post-Medieval periods. The First Edition Ordnance Survey map (published in 1856) shows the site to lie at the north-western corner of a large rectangular field, immediately south of Pitts Plantation. The northern boundary of the site was formed by an un-named water-course or drain. Both the 1926 and 1958 1:10560 Ordnance Survey maps depict the area of the proposed silt lagoon as rough grassland with an amorphous clump of deciduous trees occupying the south/central part.
- 4.5 Desk-based assessment, geophysical survey, fieldwalking and auger surveys were undertaken during 2003 as part of an EIA for the currently permitted working area (which extends to 19ha). The geophysical survey did not identify any definitive archaeological targets, but anomalies indicative of palaeochannels indicate that the technique was effective when using a 1m gradiometer. Fieldwalking recovered two flint artefacts at about 26.60m AOD: an end scraper and a serrated edge blade. Both implements could be found in later Mesolithic assemblages but an early to middle Neolithic date was considered most probable. The results of the auger survey showed that the deposits at Wykeham are very different from those at the eastern end of the Vale, and that the site was periodically covered by deep water associated with a former lake. No areas of outcropping gravels were identified and there were no thick deposits of post-glacial peat. The assessment showed that the deposit was laid down in varying depths of open water between about 10,000 BC and 8,000 BC and that although the lake water level fluctuated, there were periods when it exceeded 26m OD, considerably higher than that recorded to the east around Seamer.
- 4.6 The results of the above evaluation techniques accurately predicted the findings of post-consent investigations. No archaeological features have yet

been discovered within the current consent area, but the palaeoenvironmental work funded by Hanson has already made a significant contribution to the palaeoenvironmental reconstruction of the Vale providing a high-resolution record of environmental change, as summarised below.

- 4.7 Since consent Northern Archaeological Associates have been co-ordinating the recording of quarry sections as part of each phase of development in fulfilment of the planning conditions. This has involved a multi-disciplinary approach to sampling using a combination of sediment physical properties, assessment for pollen, plant and insect remains and C14 dating.
- 4.8 The depositional sequence reflects a complex sequence of palaeoenvironmental change during the later late glacial into the early Holocene. The work done to date clearly demonstrates that this is an important palaeoenvironmental site both regionally and nationally.
- 4.9 It commences with diamict/gravel deposition in association with deglaciation and meltwater discharge through the Forge Valley. This material could have been deposited in a lake or outwash fan.
- 4.10 The lower organic clays/peat above this layer indicates wetland conditions dating to the Windermere Interstadial (Zone II). In some parts of the quarry the preservation of these deposits has been excellent and is showing two bands of shallow organic sediments separated by a shallow layer of silts. They indicate marginal lake deposits with the presence of fresh straps of *Phragmites* and plenty of seeds indicating that hydrosereal development was occurring in Zone II. The pollen, plant and insect remains indicate warm climatic conditions much like today. This is probably the earliest hydrosereal development sequence found in the Vale.
- 4.11 The overlying thick laminated clays date to the Loch Lomond Stadial (Zone III). They indicate deposition in standing water conditions, most likely a lake with a considerable extent and depth. These deposits were laid down in a periglacial environment over a period of about 1,000 years.
- 4.12 As the Loch Lomond Stadial came to an end, the deposits indicate that climatic warming led to the re-establishment of vegetation across the

catchment with the formation of peat across the wetland. During this period lake levels fell and by the Mesolithic period this was an area of active river channel activity as the Derwent established itself across the floodplain. The river appears to have crossed the current quarry several times, some of the ancient channels also being visible in both aerial photographs and the geophysical survey results.

- 4.13 Unfortunately, the post-glacial deposits within the current quarry have been heavily eroded through the effects of drainage and agriculture and only survive as a fragmentary, very thin layer overlying the Late-glacial deposit.
- 4.14 Archaeological Trial Trenching was carried out by MAP Archaeological Consultancy Ltd during October, November and December 2009 on the two blocks of land that form the proposed extension to Wykeham Quarry. The work followed three previous stages of field evaluation that comprised an augur survey, geophysics and fieldwalking. A total of 108 trial trenches were excavated (c. 10,700m²): 51 in the northern area, and 57 in the southern. Trenches 1-51 were excavated in the northern area and recorded two post-medieval linear features and two possible prehistoric pits. In the southern area (Trenches 52-108) a complex of Late Iron Age/Romano-British linear features and pits representing a settlement were identified on a low sand-hill, along with further post-medieval linear features. A significant assemblage of pottery was recovered, along with two fragments of rotary quern, a copper-alloy fibula-type brooch and animal bone fragments.

5. Objectives

5.1 The objectives of the trial trenching were:

1. To determine by means of trial trenching, the nature, depth, extent and state of preservation of any archaeological deposits and to identify the presence of palaeochannels that may cross the area.
2. To prepare a report summarising the results of the work and assessing the archaeological implications of proposed development.

3. To prepare and submit a suitable archive to the appropriate museum.

6. Methodology

6.1 Evaluation

6.1.1 Eleven trial trenches were excavated, at locations designed to give a good geographical spread of the site. Four trenches (Trenches 4, 6, 10 and 11) were 30m x 2m in size, the remaining seven trenches (Trenches 1-3, 5 and 7-9) measured 5m x 5m. The total area evaluated was 415m², c. 3% of the site.

6.1.2 The evaluation trenches were stripped of topsoil by a 15 tonne 360° tracked mechanical excavator, fitted with a toothless blade, operating under close archaeological supervision. Machining ceased at the top of naturally-formed deposits. The exposed surfaces were cleaned by hoe or trowel as appropriate.

6.1.3 All work was carried out in line with the Institute of Field Archaeologists Code of Conduct (IFA 1998).

6.2 On-site Recording

6.2.1 Given the archaeological sterility of the excavated areas, recording was confined to a simple record of the nature of the topsoil and natural deposits.

6.3 Plans and Sections

6.3.1 The trench locations, and elevations of the exposed natural surfaces and sections were recorded digitally using a Leica TC 600 Total Station EDM, and tied in to heights above Ordnance datum.

6.4 Photographic Record

6.4.1 The photographic record comprised high-resolution digital images at six million pixels, recording all the exposed layers in the trenches. There were thirty two digital images.

6.5 Finds

6.5.1 No finds were encountered during the trial trenching.

7. Results

7.1.1 No archaeological deposits, features or finds were present within the trial trenches, neither were any palaeochannels located in the examined areas. Trenches 1 – 4 and 9 were covered by a uniform topsoil deposit between 0.20m and 0.45m deep down onto natural sand. These trenches were located on the highest points in the area and could be described as a possible sand island. Trenches 5 – 8 and 10 – 11 consisted of peaty soils varying in depth from 0.45m to 0.75 onto natural clay and rapidly filled with water and were located in the lower lying areas of the site.

8. Discussion

8.1 The Trial Trenching at the site of the proposed silt lagoon had entirely negative results, with no archaeological evidence in the form of either deposits, features or finds being present. To an extent, this reflects the results of the trial trenching on the northern proposed extension area (situated c. 700m to the north-east) where only a very thin scatter of features and finds was identified.

8.2 In conclusion, the results of the trial trenching at the site of the proposed silt lagoon suggests that this is an area of low archaeological significance.

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