

Fig. 1. Site location

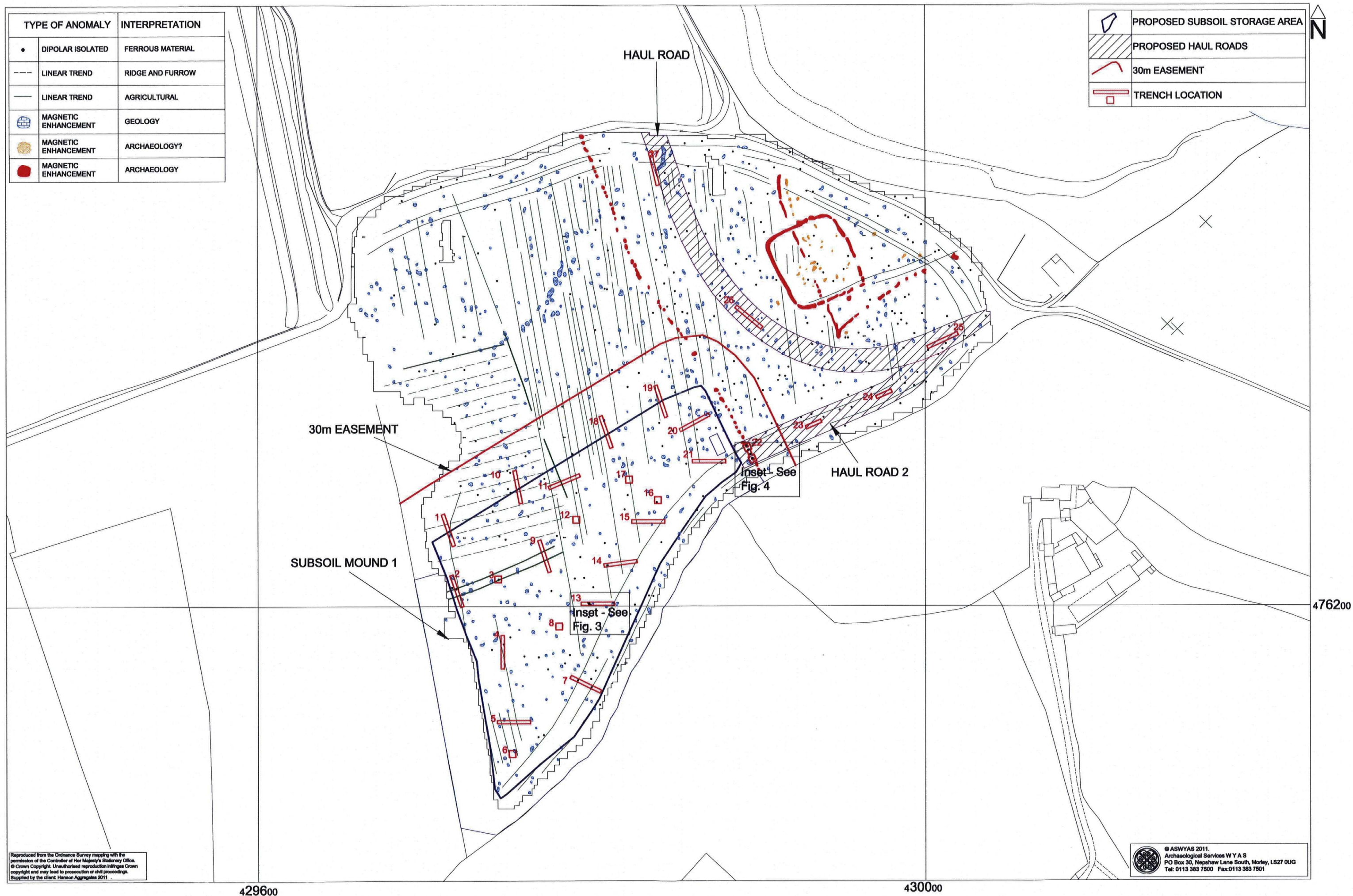


Fig 2. Detailed trial trench location and geophysical survey interpretation, with detailed archaeological features (1:2000 @ A3)

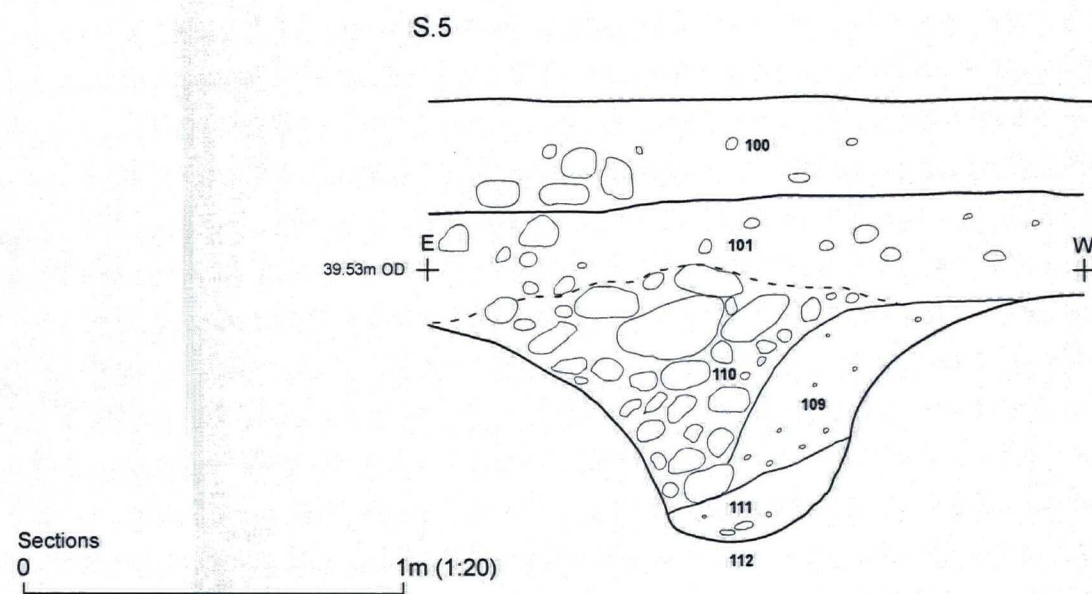
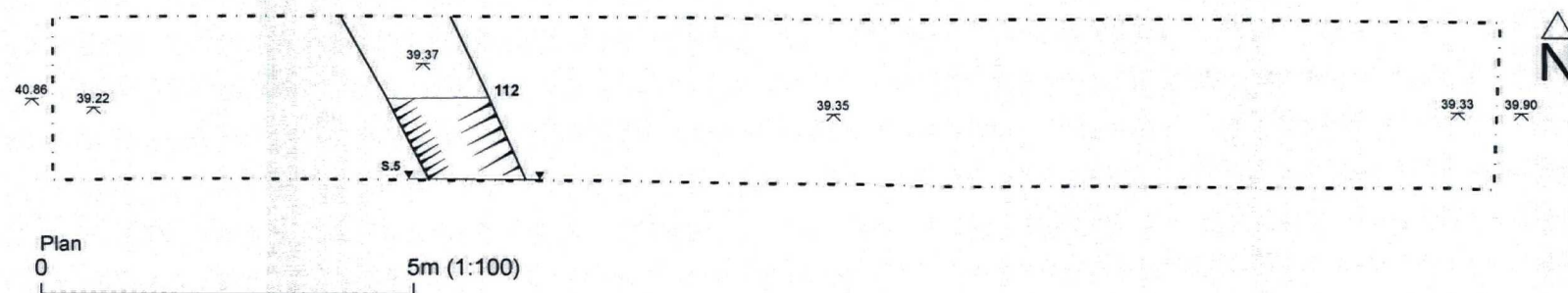


Fig. 3. Plan and sections of Trench 13

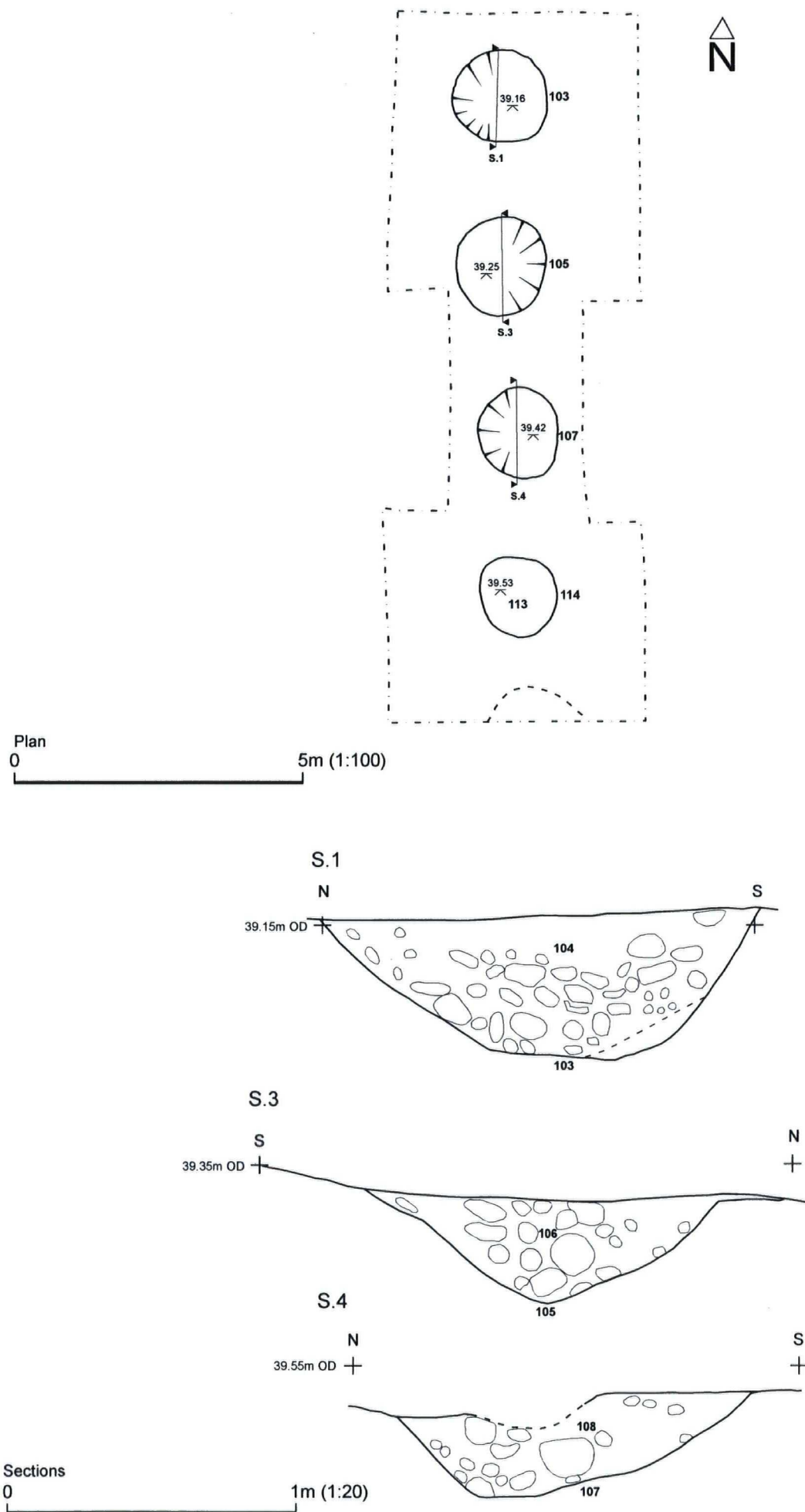


Fig. 4. Plan and sections of Trench 22

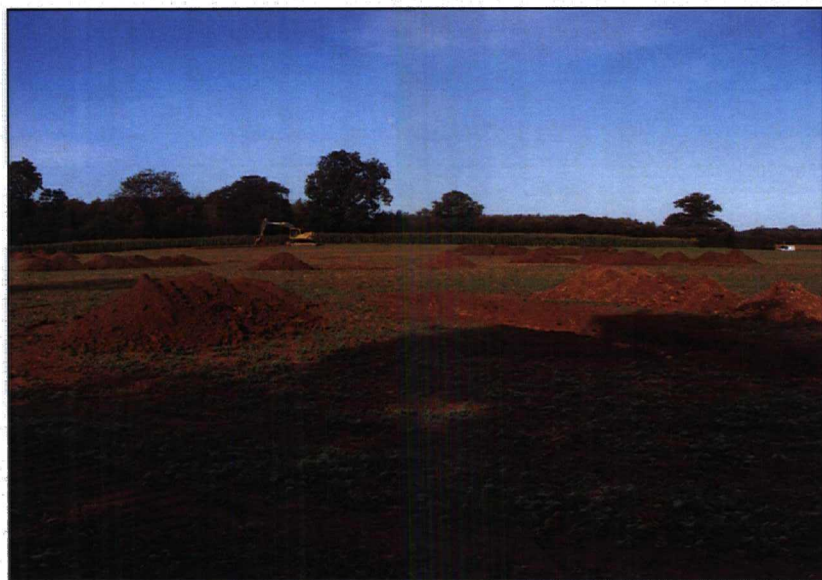


Plate 1. General view of evaluation in progress, looking north-west.



Plate 2. Pit 105, facing west.



Plate 3. Pit 103, facing west.



Plate 4. Ditch 112, facing south-east.



Plate 5. Plan of Trench 22 showing Pits 103, 105 and 107, facing north-west.



Plate 6. Trench 25, facing north-east.



Plate 7. Trench 27, facing south.



Plate 8. Trench 18, facing north-west.

Appendix 1: Inventory of primary archive

Phase	Description	Quantity
Evaluation	Context register sheets	1
	Drawing register sheets	1
	Levels book	1
	Sample register sheets	1
	Finds register sheets	1
	Photo register sheets	3
	Trench record sheet	27
	Context sheets (nos. 100-114)	15

Appendix 2: Concordance of contexts

Context	Trench	Description	Artefacts and environmental samples
100	ALL	Topsoil	
101	ALL	Subsoil	
102	ALL	Natural	
103	T.22	Cut of pit; filled by 104	
104	T.22	Fill of pit 103	Environmental Sample No. 1
105	T.22	Cut of pit; filled by 106	
106	T.22	Fill of pit 105	Environmental Sample No. 2
107	T.22	Cut of pit; filled by 108	
108	T.22	Fill of pit 107	Environmental Sample No. 3; Animal Bone (2)
109	T.13	Upper fill of ditch 112	
110	T.13	Stony deposit in ditch 112	
111	T.13	Primary fill of ditch 112	Environmental Sample No. 4
112	T.13	Cut of ditch; filled by 109, 110 and 111	
113	T.22	Fill of pit 114	
114	T.22	Cut of pit; filled by 113	

Appendix 3: Written Scheme of Investigation

Ripon Quarry Southern Extension Phase 3 North Yorkshire

Written Scheme of Investigation for a Programme of Trial Trenching

1. Introduction

- 1.1 A programme of archaeological evaluation comprising trial trenching is proposed in an area within which soil and overburden storage is required as part of the proposed future southern extension of Ripon Quarry. The footprint of the mounds will be determined following this evaluation to avoid wherever possible archaeological deposits. The quarry is operated by Hanson Aggregates and this document is produced by Archaeological Services WYAS at the request of Andrew Josephs Ltd on behalf of his clients Hanson.

2. Site location

- 2.1 The new evaluation area, centred at SE 298 764, comprises a single triangular shaped field, currently under arable cultivation, approximately 9 hectares in area which is located immediately south of the main quarry facility. The quarry is situated 4km north of Ripon on the river Ure. Topographically the site overlooks the floodplain of the Ure on higher ground gently rising from between 37m aOD on the eastern side of the field to 40m aOD in the west. The floodplain below is separated from the site by a steep river bluff, and lies at about 28m aOD.

3. Archaeological Background

- 3.1 A scoping report undertaken on behalf of Hanson by Andrew Josephs Ltd. as part of the southern extension EIA noted that the extension area lies in the valley of the river Ure, a rich prehistoric landscape. However, it was also noted that the proposed extension area had only a moderate to low archaeological potential due primarily to the fact that the land is low lying adjacent to the river and therefore likely to have been periodically flooded from the prehistoric period until post-medieval times. The current area of interest was not initially considered within the EIA, and has been added as a result of the EIA process and design requirements.
- 3.2 A comprehensive geophysical evaluation covering the proposed southern extension comprising magnetic scanning followed by targeted detailed magnetometer survey (Archaeological Services 2009) did not identify any anomalies of archaeological potential, although anomalies due to ploughing, drainage features and palaeochannels were identified. A programme of trial trenching subsequently confirmed the low potential of the southern extension area as suggested by the scoping report and geophysical survey.

- 3.3 However, the new evaluation area is on much higher ground thereby increasing the likelihood of archaeological activity. This increased potential is reflected by the presence of a square cropmark, interpreted as a probable enclosure of late Iron Age or Romano-British date, located towards the eastern edge of the proposed soil bund storage areas, with other linear cropmark features noted towards the centre and western sides of the same field.
- 3.4 A geophysical survey (ASWYAS 2011) was undertaken over the whole of the field within which the proposed soil storage is required and this confirmed and enhanced the cropmark evidence locating the presence of a square enclosure as well as a pit alignment and other probable archaeological features, predominantly in the eastern half of the field.

4. Evaluation – Aims and Methodology

- 4.1 The overall aim of the evaluation is to provide detailed information on the presence or absence and the extent, character, date, depth of burial and degree of survival of any archaeological features or deposits which may be present within the area that may be affected by the creation of the soil storage areas. This will enable a decision to be made finalising the location of the soil bunds and to minimise any impact on the archaeological resource.

Geophysical Survey

- 4.2 To achieve this aim Phase 1 of the evaluation comprised a magnetometer survey extending across the whole of the field likely to be impacted by the storage of the topsoil, an area of approximately 9 hectares.
- 4.3 The general objectives of the non-intrusive survey were to identify areas/features of possible archaeological potential, establish the extent and possible character of any such archaeological interest and thereby provide information to guide the positioning of trial trenches in Phase 2 of the evaluation. Following the results of the geophysical survey the design of the soil storage scheme was altered so that the areas of high archaeological potential were avoided.

Trial Trenching

- 4.4 Phase 2 of the evaluation comprises trial trenching to cover 3% of the footprint of the soil bunds and temporary haul road (see fig). Should archaeology be found, further trenching will be undertaken in order to identify a footprint sufficient to accommodate the overburden mounds without affecting significant archaeological deposits.
- 4.5 As stated above the scheme was redesigned to avoid the perceived areas of highest potential so the trench locations were primarily targeted on 'blank' areas and to give an even distribution across the site within the constraints

of the sample. The trenching programme has been designed to identify areas of minimal archaeological impact.

- 4.6 The dimensions and rationale for the location of each trench is given in the table below.

Methodology

- 4.7 The controlled stripping of ploughsoil, to the archaeologically required level, shall be carried out using a 360° tracked excavator equipped with a toothless ditching bucket under archaeological supervision. Stripping will take place in level spits to the top of the first archaeological horizon or undisturbed natural. The resulting surface will be inspected for archaeological remains. Where archaeological remains require clarification, the relevant area will be cleaned by hand. Under no circumstances will the machine be used to cut arbitrary trenches down to natural deposits, nor shall plant run upon the stripped area unless it is agreed with the supervising archaeologist.
- 4.8 Archaeological Services WYAS will first plan and then manually excavate a sample of all archaeological features in an archaeologically controlled and stratigraphic manner in order to meet the aims and objectives outlined above. If it is immediately apparent that significant concentrations of archaeology are apparent, the decision may be undertaken in conjunction with Andrew Josephs Ltd and NYCC that no excavation takes place and further trenching is carried out to identify less significant areas.
- 4.9 Features, where excavated, will be investigated employing the following sampling strategies:
- Linear features: sufficient excavation will be carried out to investigate the depth, profile and fills of a ditch or gully and to recover dating and environmental evidence from its fills. Normally this will involve a minimum of 10% sample dispersed along the length of the feature (each sample section to be not less than 1m), or a minimum of a 1m sample section if the feature is less than 10m long or if only a small part of it is exposed. With respect to trial trenches, one 1m section will be located and recorded adjacent to the trench edge. Feature intersections will always be excavated in such a way to determine a stratigraphic relationship.
 - Discrete features: pits, post-holes and other discrete features will normally be half-sectioned to determine and record their form with a minimum sample of 50% of discrete features in each area. The complete excavation of such features may be appropriate, but only following consultation with the North Yorkshire Heritage Unit.

- 4.10 A full written, drawn and photographic record of all material revealed during the course of the work shall be made. The excavation limits will be surveyed using electronic survey equipment with larger scale hand drawn plans of features at 1:20 or 1:50, as appropriate. Sections of linear and discrete features will be drawn at 1:10. All sections, plans and elevations will include spot-heights related to Ordnance Datum in metres as correct to two decimal places and survey. Tie-in information will be undertaken during the course of the evaluation and will be fixed in relation to nearby permanent structures and roads and to the National Grid.
- 4.11 All artefacts recovered will be retained and removed from the site for assessment and analysis, and where it is appropriate finds shall be recorded three dimensionally. Non-modern artefacts will be collected from the excavated topsoil and subsoil. Finds material will be stored in controlled environments, where appropriate. All artefacts recovered will be retained, cleaned, labelled and stored as detailed in the guidelines laid out in the IfA Guidelines for Finds Work. Any conservation work will be undertaken by approved conservators working to UKIC guidelines.
- 4.12 Archaeological Services WYAS shall fully record all excavated archaeological contexts by detailed written records giving details of location, composition, shape, dimensions, relationships, finds, samples, and cross-references to other elements of the record and other relevant contexts, in accordance with best practice and in accordance with methods previously approved by the North Yorkshire Heritage Unit. All contexts, and any small finds and samples from them will be given unique numbers. Bulk finds will be collected by context. Colour digital and monochrome negative photographs at a minimum format of 35mm will be taken.
- 4.13 A soil-sampling programme shall be undertaken during the course of the investigation for the identification and recovery of carbonised and waterlogged remains, vertebrate remains, molluscs and small artefactual material. English Heritage's Regional Science Advisor, environmental and soil specialists will be consulted during the course of the excavation with regard to the implementation of this sampling programme. Provision should be made for the removal of soil samples of a minimum 30 litres from deposits with clear potential, and larger samples (40 – 60 litres) from any rich carbonised deposits. Samples may also be taken from seemingly sterile deposits. Particular attention will be paid to the sampling of primary ditch fills and any surviving buried soils beneath banks or other positive features. Environmental material removed from site will be stored in appropriate controlled environments. The collection and processing of environmental samples will be undertaken in accordance with guidelines set out in the Association for Environmental Archaeology's (1995) Working Paper No. 2, *"Environmental Archaeology and Archaeological Evaluations - Recommendations concerning the environmental archaeology component of archaeological evaluations in England"*. In addition, the processing of environmental samples will only take place within facilities approved for such purposes by English Heritage's Regional Science Advisor.

- 4.14 In the event of human remains being discovered they will be left *in situ* and covered and protected in the first instance. The removal of human remains will only take place in compliance with the Burial Act 1857 and with an exhumation licence obtained from the Ministry of Justice (MoJ) prior to the removal of the remains. Provision will be made for the specialist reporting of the remains by a recognised osteoarchaeologist.
- 4.15 Provision will be made for the recovery of samples suitable for scientific dating (e.g. radiocarbon / AMS dating, archaeomagnetic and dendrochronological dating).
- 4.16 All finds of gold and silver and associated objects shall be reported to HM Coroner according to the procedures relating to the Treasure Act 1997, after discussion with the Environment Agency and the North Yorkshire Heritage Unit.

5. Analysis and Reporting

- 5.1 The site archive will contain all the data collected during the excavation, including records, finds and environmental samples. It will be quantified, ordered, indexed and internally consistent. Adequate resources will be provided during fieldwork to ensure that all records are checked and internally consistent. Archive consolidation will be undertaken immediately following the conclusion of fieldwork:
- the site record will be checked, cross-referenced and indexed as necessary;
 - all retained finds will be cleaned, conserved, marked and packaged in accordance with the requirements of the recipient museum;
 - all retained finds will be assessed and recorded using pro forma recording sheets, by suitably qualified and experienced staff. Initial artefact dating will be integrated within the site matrix;
 - all retained environmental samples will be processed by suitably experienced and qualified staff and recorded using pro forma recording sheets.
- 5.2 The archive will be assembled in accordance with the specification set out in English Heritage's *Management of Archaeological Projects* (English Heritage 1991; Appendix 3). In addition to the site records, artefacts, ecofacts and other sample residues, the archive shall contain:
- site matrices where appropriate;
 - a summary report synthesising the context record;
 - a summary of the artefact record;

- a summary of the environment record.
- 5.3 The integrity of the primary field record will be preserved. Security copies will be maintained where appropriate.
- 5.4 Provision will be made for the deposition of the archive, artefacts and environmental material, subject to the permission of the relevant landowner (and if no further archaeological work is to be initiated), in the appropriate recipient museum, in this instance Malton Museum, Old Town Hall, Market Place, Malton. The museum will be advised of the timetable of the proposed investigation prior to excavation commencing. The archive will be prepared in accordance with the guidelines published in "*Guidelines for the preparation of Excavation Archives for long-term storage*" (United Kingdom Institute for Conservation, 1990) and *Standards in the Museum care of archaeological collections* (Museums and Galleries Commission 1994). Provision will be made for the stable storage of paper records and their long-term storage.
- 5.5 Upon completion of the investigations, the artefacts, ecofacts and stratigraphic information shall be assessed as to their potential and significance for further analysis.
- 5.6 An assessment report will be prepared within an agreed timescale following the completion of on-site archaeological investigations and include the following:
- a non-technical summary of the results of the work;
 - a summary of the project's background;
 - the site location;
 - an account of the method;
 - the results of the excavation, including phasing and interpretation of the site sequence and spot-dating of artefacts, if recovered;
 - an assessment of the stratigraphic and other written, drawn and photographic records;
 - a catalogue of the archaeological material recovered during the excavation
 - a summary of the contents of the project archive and its location
 - recommendations for any further work.

- 5.7 The report will be produced within an agreed timetable. It will be supported by an overall plan of the site, accurately identifying the location of the trial excavations.
- 5.8 Finally, the report will outline the archaeological significance of the deposits identified, and provide an interpretation of the results in relation to other sites in the vicinity.
- 5.9 Copies of the report will be supplied to the Hanson Aggregates, Andrew Josephs Ltd., English Heritage and to the NYCC, who shall also receive a digital copy.
- 5.10 A final report, including all finds analysis and scientific dating results, shall be produced in accordance with English Heritage's *Management of Archaeological Projects* (English Heritage 1991).
- 5.11 Upon completion of the work, the archaeological contractor will make their work accessible to the wider research community by submitting digital data and copies of reports online to OASIS (<http://ads.ahds.ac.uk/project/oasis/>). Submission of data to OASIS does not discharge the planning requirements for the archaeological contractor to notify the Historic Environment Team, NYCC of the details of the work and to provide the Historic Environment Record (HER) with a report on the work.
- 5.12 It is possible that the excavation findings will warrant wider publication. This shall be effected either through one of Archaeological Service WYAS's in-house series of publications or through publication with an appropriate archaeological journal.

6. Copyright, Confidentiality and Publicity

- 6.1 Copyright in the documentation prepared by the archaeological contractor and specialist sub-contractors should be the subject of additional licences in favour of the repository accepting the archive and North Yorkshire County Council to use such documentation for their statutory educational and museum service functions, and to provide copies to third parties as an incidental to such functions.
- 6.2 Under the Environmental Information Regulations 2005 (EIR), information submitted to the HER becomes publicly accessible, except where disclosure might lead to environmental damage, and reports cannot be embargoed as 'confidential' or 'commercially sensitive'.
- 6.3 Requests for sensitive information are subject to a public interest test, and if this is met, then the information has to be disclosed. The archaeological contractor should inform the client of EIR requirements, and ensure that any information disclosure issues are resolved before completion of the work. Intellectual property rights are not affected by the EIR.

- 6.4 Unless the Client commissioning the project wishes to state otherwise, the copyright of any written, graphic or photographic record and reports will rest with the originating body (Archaeological Services WYAS).

7. Health and Safety

- 7.1 Archaeological Services WYAS has its own Health and Safety policy which has been compiled using national guidelines such as SCAUM. These guidelines conform to all relevant Health and Safety legislation.
- 7.2 In addition each project undergoes a 'Risk Assessment' which sets project specific Health and Safety requirements to which all members of staff are made aware of prior to on-site work commencing. Health and safety will take priority over archaeological matters. Necessary precautions will be taken over underground services and overhead lines at the outset of the project.

8. Insurance

- 8.1 Archaeological Services WYAS is covered by the insurance and indemnities of the City of Wakefield Metropolitan District Council. Insurance has been effected with: Zurich Municipal Insurance, Park House, 57-59 Well Street, Bradford, BD1 5SN (policy number RMP 03GO39-0143). Any further enquiries should be directed to: The Chief Financial Officer, Insurance Section, Wakefield MDC, PO Box 55, Newton Bar, Wakefield WF1 2TT.

9. Monitoring

- 9.1 Access to the site should be arranged through the commissioning body.
- 9.2 It is the archaeological contractor's responsibility to ensure that Health and Safety requirements are fulfilled.
- 9.3 The project will be monitored by the Historic Environment Team, North Yorkshire County Council to whom written documentation should be sent before the start of the work confirming:
- the date of commencement,
 - the names of all finds and archaeological science specialists likely to be used in the evaluation, and
 - notification to the proposed archive repository of the nature of the works and opportunity to monitor the works.
- 9.4 Where appropriate, the advice of the Regional Advisor for Archaeological Science (Yorkshire and the Humber Region) at English Heritage will be called upon.
- 9.5 It is the responsibility of the archaeological contractor to ensure that any significant results are brought to the attention of the Historic Environment Team, North Yorkshire County Council and the commissioning body as soon

as is practically possible. This is particularly important where there is any likelihood of contingency arrangements being required.

9.6 It is the archaeological contractor's responsibility to ensure that monitoring takes place by arranging monitoring points as follows:

- a meeting or discussion prior to the commencement of the work to agree in writing the locations of the proposed works.
- progress meeting(s) during the fieldwork phase at appropriate points in the work schedule, to be agreed.
- a meeting during the post-fieldwork phase to discuss the draft report and archive before completion.

10. Resources and Programming

10.1 Project personnel :

Project Management:	Alistair Webb BA MifA
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Project Supervisor:	Dave Williams BA PifA
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10.2 Post-excavation specialists :

Prehistoric pottery specialists:	Dr Chris Cumberpatch
Roman pottery specialist:	Dr Ruth Leary
Medieval pottery specialist:	Dr Chris Cumberpatch
Flint specialist:	Dr Ian P Brooks
Environmental specialist:	Dr Jane Richardson
Faunal analyst:	Dr Jane Richardson
Human bone specialist:	Malin Holst MA
Metalwork specialist:	Dr Hilary Cool
Artefact conservationist:	Karen Barker

10.3 The list of Archaeological Services WYAS project personnel may be subject to change.

Bibliography

- ASWYAS, 2003. *Site Recording Manual*, Archaeological Services West Yorkshire Archaeological Service
- BGS, 2001. Solid Geology Map UK South Sheet 1:625 000 4th Edition
- English Heritage. 1991. *Management of Archaeological Projects*. English Heritage, London
- IfA, 2008. *Standards and Guidance for Archaeological Field Evaluation*. Institute for Archaeologists
- SSEW, 1981. Soil Survey of England and Wales Sheet 1 Soils of Northern England.
- Webb, A., 2011. *Ripon Quarry Southern Extension, Area of Proposed Soil Storage, North Yorkshire; Geophysical Survey*. ASWYAS Client report No. 2240. Unpubl.