ArcHeritage

Cote Lane Thurgoland

Written Scheme of Investigatione

ArcHeritage 2017

Cote Lane Thurgoland, Trial Trenching

Written Scheme of Investigation

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1. SUMMARY

1.1. Cote Lane Developments have received outline planning consent for a residential development on Cote Lane Thurgoland. The scheme will include up to 24 dwellings including means of access and public open space.

1.2. The following archaeological condition has been imposed:

13 No development, including any demolition and groundworks, shall take place until the applicant, or their agent or successor in title, has submitted a Written Scheme of Investigation (WSI) that sets out a strategy for archaeological investigation and this has been approved in writing by the Local Planning Authority. The WSI shall include:

- *The programme and method of site investigation and recording.*
- *The requirement to seek preservation in situ of identified features of importance.*
- *The programme for post-investigation assessment.*
- *The provision to be made for analysis and reporting.*
- *The provision to be made for publication and dissemination of the results.*
- *The provision to be made for deposition of the archive created.*
- *Nomination of a competent person/persons or organisation to undertake the works.*
- *The timetable for completion of all site investigation and post-investigation works.*

Thereafter the development shall only take place in accordance with the approved WSI and the development shall not be brought into use until the Local Planning Authority has confirmed in writing that the requirements of the WSI have been fulfilled or alternative timescales agreed.

Reason: To ensure that any archaeological remains present, whether buried or part of a standing building, are investigated and a proper understanding of their nature, date, extent and significance gained, before those remains are damaged or destroyed and that knowledge gained is then disseminated in accordance with Core Strategy Policy CSP 30.

1.3. This Written Scheme of Investigation (WSI) has been prepared in response to the condition and consultation with the South Yorkshire Archaeological advisory service. The work will be carried out in accordance with this WSI, and according to the principles of the Institute for Archaeology (CIfA) Code of Conduct and all relevant standards and guidance.

2. SITE LOCATION & DESCRIPTION

2.1. The proposal site, currently under agricultural use, is located to the east of Cote Lane and is centred on NGR 429184 400629 (Illustration 1). The underlying geology is mudstone, siltstone and sandstone of the Pennine Lower Coal Measure Formation dating to the Carboniferous Period.

3. DESIGNATIONS & CONSTRAINTS

3.1. There are no designated heritage Assets, Scheduled Monuments, Listed Buildings, Registered Park and Gardens or Conservation areas within the site.

4. ARCHAEOLOGICAL INTEREST

4.1. Pre planning evaluations in the form of a Desk-based Assessment (LS Archaeology 2016) and Geophysical Survey (Geophiz.Biz 2016) have been undertaken on the site.

4.2. The Desk-based Assessment identified that the site had the potential to contain archaeological remains relating to medieval and post-medieval; farming activity.

4.3. The geophysical survey detected a total of 16 anomalies (Figures 1 and 2). Most of these were likely to be of modern or recent origin. However, there were three faint linear anomalies were detected, possibly indicating the presence of an old trackway, and three large signals in the north-western corner of the field could indicate the presence of kilns(Geophizs Biz 2016) .

4.4. The interpretation below is taken from the Geophysics Report (Geophiz Biz 2016)

4.5. Anomalies 1-3 (Figure 2) were interpreted as probably modern or recent representing former boundaries.

4.6. Anomalies 4-10 are a group of discrete features of uncertain nature that could either be a group of pits or geological in origin..

4.7. Anomalies 11-13 are three parallel features, these could represent the line of an old Trackway or the remains of ploughed out Medieval ridge and furrow.

4.8. Anomalies 14-16 are three large discrete features in the north-west corner of the field. Close examination of these show they have a central positive magnetic signal surrounded by a negative magnetic response. There are two possibilities as to the nature of these features. The first is that they are large iron bars buried in the soil, but upright, in effect acting as large bar magnets. The second possibility is that the anomalies could be caused by the presence of buried kilns, or perhaps small furnaces. The dome shape of these features also give a magnetic response similar to that seen in the survey data.

4.9. In addition to the archaeological studies a Phase 1 Geoenvironmental Risk Assessment and Phase 2 Ground Investigation has been undertaken of the site (Michael D Joyce Associates LLP 2017). This study included the results of 8 Test pits excavated on the site. The test pits identified that over most of the field a thin topsoil, between 0.1 and 0.3 m thick, overlying light brown and grey silty clay. The clay in turn overlay mudstone, coal or sandstone.

5. AIMS

5.1. The aims are:

- to determine the extent, condition, character, importance and date of any archaeological remains present
- to provide information that will enable the remains to be placed within their local, regional, and national context and for an assessment of the significance of the archaeology of the proposal area to be made
- to provide information to enable the local authority to decide any requirements for further archaeological mitigation for the site
- to investigate the magnetic anomalies identified in the geophysical survey
- undertake preservation by record of any archaeological deposits identified

6. TECHNIQUES

6.1. The recording will comprise the following elements:

- Trial trenching
- Reporting

6.2. Further stages of work or other mitigation measures could be required by the local authority, depending upon the results of the evaluation.

7. TRIAL TRENCHES

7.1. A series of four trenches will be excavated. The location of the trenches is shown on Figure 3. Trenches will be stepped if necessary, to ensure their stated size at the base of the trench.

No.	Size (m)	Rationale
1	30 x 2m	located to investigate large discrete anomalies 14 and 15
2	30 x 2m	located to investigate anomalies group 4 -10
3	30 x 2m	located to investigate the east end of the site
4	30 x 2m	located to investigate linear anomalies 11-13

7.2. The trench locations will be accurately plotted using an EDM Total station, by measurement to local permanent features shown on published Ordnance Survey maps. All measurements will be accurate to +/-10cm, and the trenches locatable on a 1:2500 Ordnance Survey map. This is to ensure that the trenches can be independently relocated in the event of future work.

7.3. Overburden such as turf, topsoil or other superficial fill materials would be removed by a machine fitted with a toothless bucket. Mechanical excavation equipment would be used judiciously, under archaeological supervision down to the top of archaeological deposits, or the natural subsoil, whichever appears first. If archaeology is present machining will cease and excavation will normally proceed by hand. Where deep homogenous deposits, or deposits such as rubble infills, are encountered, these may be carefully removed by machine, after consultation with SYAS.

7.4. The use of mechanical, air-powered, or electrical excavation equipment may also be appropriate for removing deep intrusions (e.g. modern brick and concrete floors or footings) or through deposits to check that they are of natural origin, after consultation with SYAS The machine will not be used to cut arbitrary sondages down to natural deposits.

7.5. All trenches will be sufficiently cleaned by hand to enable potential archaeological features to be identified and recorded; areas without archaeological features will be recorded as sterile and no further work will take place in these areas. The stratigraphy of all trenches will be recorded on trench record sheets even where no archaeological features are identified.

7.6. All archaeological features and deposits revealed will be excavated in an archaeologically controlled and stratigraphic manner in order to establish the aims of the evaluation.

7.7. Discrete features will be half-sectioned in the first instance.

7.8. Linear features will be sample excavated (to a minimum of 20% of their length) with each sample being not less than 1m in length

7.9. Deposits at junctions or interruptions in linear features will be sufficiently excavated to allow relationships to be determined.

7.10. Structures will be sample excavated to a degree whereby their extent nature, form, date, function and relationships to other features and deposits can be established.

8. RECORDING METHODOLOGY

8.1. All archaeological features will be recorded using standardised pro forma record sheets. Plans, sections and elevations will be drawn as appropriate and a comprehensive photographic record will be made where archaeological features are encountered.

8.2. Archaeological deposits will be planned at a basic scale of 1:50, with individual features requiring greater detail being planned at a scale of 1:20. Larger scales will be utilised as appropriate. Cross-section of features will be drawn to a basic scale of 1:10 or 1:20 depending on the size of the feature. All drawings will be related to Ordnance Datum. Where it aids interpretation, structural remains will also be recorded in elevation.

8.3. Each context, where assigned, will be described in full on a pro forma context record sheet in accordance with the accepted context record conventions. Each context will be given a unique number. These field records will be checked and indexes compiled.

8.4. Photographs of work in progress and post-excavation of individual and groups of features will be taken. This will include general views of entire features and of details such as sections as considered necessary. The photographic record will comprise 35mm black and white film. Digital photography may be used in addition, but will not form any part of the formal site archive. All site photography will adhere to accepted photographic record guidelines.

8.5. Areas which do not contain any archaeological deposits will be photographed and recorded as being archaeologically sterile. The natural stratigraphic sequence within these areas will be recorded.

8.6. All finds will be collected and handled following the guidance set out in the CIfA guidance for archaeological materials. Unstratified material will not be kept unless it is of exceptional intrinsic interest. Material discarded as a consequence of this policy will be described and quantified in the field. Finds of particular interest or fragility will be retrieved as Small Finds, and located on plans. Other finds, finds within the topsoil, and dense/discrete deposits of finds will be collected as Bulk Finds, from discrete contexts, bagged by material type. Any dense/discrete deposits will have their limits defined on the appropriate plan.

8.7. All artefacts and ecofacts will be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication *First Aid for Finds,* and recording systems must be compatible with the recipient museum. All finds that fall within the purview of the Treasure Act (1996) will be reported to HM Coroner according to the procedures outlined in the Act, after discussion with the client and the local authority.

8.8. An environmental sampling programme will be undertaken for the recovery and identification of charred and waterlogged remains where suitable deposits are identified. The collection and processing of environmental samples will be undertaken in accordance with English Heritage guidelines (English Heritage 2011). Environmental and soil specialists will be consulted during the course of the excavation with regard to the implementation of this sampling programme. The sampling regime will include samples of the four types of deposit sample as appropriate. These are described below:

- **Bulk-sieved Sample** (BS). Sample size will depend upon the context/feature size, but should be up to 40-60 litres in size (if the context size allows). They are taken for the recovery of charcoal, burnt seeds, bone and artefacts. The samples will be processed (flotation) on site where possible with 1mm and 500micron sieves on a rack to collect the carbonised washover. The retents and flots will then be dried, sorted and assessed to advise the potential for further analysis.
- **General Biological Sample** (GBA): These are only taken if a deposit is waterlogged. A 10 litre sample size will be used (if the context size allows). These samples will be processed in the laboratory, to recover macrofossils and microscopic remains such as pollen and insects.

- **Column monolith**: Kubiena tin samples may be taken for soils and pollen analysis and to determine soil accumulation processes.
- **Spot samples**: these samples are taken as required. they may be contexts or material not suited to sieving, such as caches of seeds, pieces of eggshell or any specific finds of organic material. They may also be specialist samples (e.g. charcoal for radiocarbon dating).

8.9. Other samples will be taken, as appropriate, in consultation with ArcHeritage specialists and the Historic England Regional Science Advisor, as appropriate (e.g. dendrochronology, soil micromorphology, monolith samples, C14, etc.). Samples will be taken for scientific dating where necessary for the development of subsequent mitigation strategies. Material removed from site will be stored in appropriate controlled environments.

8.10. In the event of human remains being discovered during the evaluation these will be left *in-situ*, covered and protected, in the first instance. The removal of human remains will only take place in compliance with environmental health regulations and following discussions with, and with the approval of, the Ministry of Justice.

8.11. Where a licence is issued, all human skeletal remains must be properly removed in accordance with the terms of that licence. Where a licence is not issued, the treatment of human remains will be in accordance with the requirements of Civil Law, CIfA Technical Paper 13 (1993) and Historic England guidance.

9. SPECIALIST ASSESSMENT

9.1. The stratigraphic information, artefacts, soil samples, and residues will be assessed as to their potential and significance for further analysis and study. The material will be quantified by weight. Specialists will undertake a rapid scan of all excavated material. Ceramic spot dates will be given. Appropriately detailed specialist reports will be included in the report.

9.2. Materials considered vulnerable should be selected for stabilisation after specialist recording. Where intervention is necessary, consideration must be given to possible investigative procedures (e.g. glass composition studies, residues on or in pottery, and mineral-preserved organic material). Allowance will be made for preliminary conservation and stabilization of all objects and a written assessment of long-term conservation and storage needs will be produced. Once assessed, all material will be packed and stored in optimum conditions, in accordance with Watkinson and Neal (1998), CIfA (2007) and Museums and Galleries (1992).

9.3. All finds will be cleaned, marked and labelled as appropriate, prior to assessment. For ceramic assemblages, any recognised local pottery reference collections and relevant fabric Codes will be used.

9.4. Allowance will be made for the recovery of material suitable for scientific dating and contingency sums will be made available to undertake such dating, if necessary. This will be decided in consultation with SYAS.

10. REPORT & ARCHIVE PREPARATION

10.1. Upon completion of the site work, a report will be prepared to include the following:

- A non-technical summary of the results of the work.
- An introduction which will include the planning reference number, grid reference and dates when the fieldwork took place.

- An account of the methodology and detailed results of the operation, describing structural data, archaeological features, associated finds and environmental data, and a conclusion and discussion.
- A selection of photographs and drawings, including a detailed plan of the site accurately identifying the areas monitored, trench locations, selected feature drawings, and selected artefacts, and phased feature plans where appropriate.
- Specialist artefact and environmental reports where undertaken, and a context list/index.
- Details of archive location and destination (with accession number, where known), together with a context list and catalogue of what is contained in that archive.
- A copy of the key OASIS form details
- Copies of the Brief and WSI
- Additional photographic images may be supplied on a CDROM appended to the report.

10.2. A digital copy of the report will be submitted to the commissioning body. A bound and digital copy of the report will be submitted direct to SYAS for planning purposes, and subsequently for inclusion into the SMR.

10.3. A field archive will be compiled consisting of all primary written documents, plans, sections and photographs. Catalogues of contexts, finds, soil samples, plans, sections and photographs will be produced. ArcHeritage have sent the project Initiation form to Barnsley Museum to establish the detailed curatorial requirements of the museum and discuss archive transfer.

10.4. The owner of the Intellectual Property Rights (IPR) in the information and documentation arising from the work, would grant a licence to the Local Authority and the museum accepting the archive to use such documentation for their statutory functions and provide copies to third parties as an incidental to such functions. Under the Environmental Information Regulations (EIR), such documentation is required to be made available to enquirers if it meets the test of public interest. Any information disclosure issues would be resolved between the client and the archaeological contractor before completion of the work. EIR requirements do not affect IPR.

10.5. Upon completion of the project an OASIS form will be completed at http://ads.ahds.ac.uk/project/oasis/.

11. POST EXCAVATION ANALYSIS & PUBLICATION

11.1. The information contained in the evaluation report will enable decisions to be taken regarding the future treatment of the archaeology of the development site and any material recovered during the evaluation.

11.2. If further archaeological investigations (mitigation) take place, any further analyses (as recommended by the specialists, and following agreement with SYAS) may be incorporated into the post-excavation stage of the mitigation programme unless such analysis are required to provide information to enable a suitable mitigation strategy to be devised. **Such analysis will form a new piece of work to be commissioned.**

11.3. In the event that no further fieldwork takes place on the site, a full programme of post excavation analysis and publication of artefactual and scientific material from the evaluation may be required by SYAS. **Where this is required, this work will be a new piece of work to be commissioned.**

11.4. If further site works do not take place, allowance will be made for the preparation and publication in a local and/or national journal of a short summary on the results of the evaluation and of the location and material held within the site archive.

11.5. The results of the work will be publicised locally e.g. by presenting a paper at the South Yorkshire Archaeology Day and talking to local societies, as appropriate.

11.6. A summary report accompanied by illustrations will be presented in digital format for publication in the appropriate volume of *Archaeology in South Yorkshire*.

12. HEALTH AND SAFETY

12.1. Health and safety issues will take priority over archaeological matters and all archaeologists will comply with relevant Health and Safety Legislation.

12.2. A Risk Assessment will be prepared prior to the start of site works.

13. PRE-START REQUIREMENTS

13.1. The client will be responsible for ensuring site access has been secured prior to the commencement of site works, and that the perimeter of the site is secure.

13.2. The client will provide ArcHeritage with up to date service plans and will be responsible for ensuring services have been disconnected, where appropriate.

13.3. The client will be responsible for ensuring that any existing reports (e.g. ground investigation, borehole logs, contamination reports) are made available to ArcHeritage prior to the commencement of work on site.

13.4. Prior to commencement of fieldwork, the contractor will complete and submit a Project Initiation Form. This and other templates relating to the joint deposition policy documentation are available to download from the SYAS website at: https://www.sheffield.gov.uk/planning-and-city-development/urban-design--conservation/archaeology/tech.html

14. REINSTATEMENT

14.1. Following excavation and recording the spoil from the trenches will be backfilled unless requested otherwise. The backfill material will be levelled and compressed as far as possible with the mechanical excavator bucket, but will not be compressed to a specification. ArcHeritage are not responsible for reinstating any surfaces, including reseeding, unless specifically commissioned by the client who will provide a suitable specification for the work.

15. STAFFING

15.1. Specialist staff available for this project are:

- Human remains - Malin Holst (York Osteoarchaeology Ltd) & Rebecca Storm (University of Bradford)
- Palaeoenvironmental remains - Sheffield Archaeobotanical Consultancy
- Head of Curatorial Services - Christine McDonnell
- Lithics - George Loffman
- Roman Pottery - Ruth Leary, Gladys Monteil, David Gregory
- Medieval and post-medieval pottery - Anne Jenner

- Post-medieval pottery - David Barker
- Post-medieval glass - Karen Weston
- Finds Officers - Nienke Van Doorn
- Archaeometallurgy & industrial residues - Rod Mackenzie
- Conservation - Ian Panter
- Worked wood - Steve Allen

15.2. Other specialist staff may be commissioned as necessary.

16. MONITORING OF ARCHAEOLOGICAL FIELDWORK

16.1. As a minimum requirement, the curator will be given a minimum of one week's notice of work commencing on site, and will be afforded the opportunity to visit the site during and prior to completion of the on-site works so that the general stratigraphy of the site can be assessed and to discuss the requirement any further phases of archaeological work. ArcHeritage will notify the curator of any discoveries of archaeological significance so that site visits can be made, as necessary. Any changes to this agreed WSI will only be made in consultation with the curator.

16.2. With the client's agreement illustrated notices will be displayed on site to explain the nature of the works.

17. COPYRIGHT

17.1. ArcHeritage retain the copyright on this document. It has been prepared expressly for the named client, and may not be passed to third parties for use or for the purpose of gathering quotations.

18. KEY REFERENCES

ADS and Digital Antiquity. 2013. Caring for Digital Data in Archaeology: A guide to Good Practice.

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Geophiz Biz. 2016. Report on a fluxgate gradiometer survey carried out over land to the east of Cote Lane, Thurgoland, South Yorkshire.

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Michael D Joyce Associates LLP. 2017. Phase 1 Geoenvironmental Risk Assessment and Phase 2 Ground Investigation: Cote Lane, Thurgoland, Barnsley. Report Number 3733

Museum and Galleries Commission. 1992. Standards in the museum care of archaeological collections.

Standing Conference of Archaeological Unit Managers (SCAUM). 2007. *Health and Safety in Field Archaeology*

Neal, V., and D. Watkinson (eds). 1998. *First Aid for Finds: practical guide for archaeologists.* United Kingdom Institute for Conservation of Historic & Artistic Works, Archaeology Section; 3rd Revised Edition.

See also the website of the CIfA for all Guidance and Standards documentation. http://www.archaeologists.net/codes/ifa

See also the Historic England website for a full list of guidance documents. http://historicengland.org.uk/advice/technical-advice/recording-heritage/

FIGURES

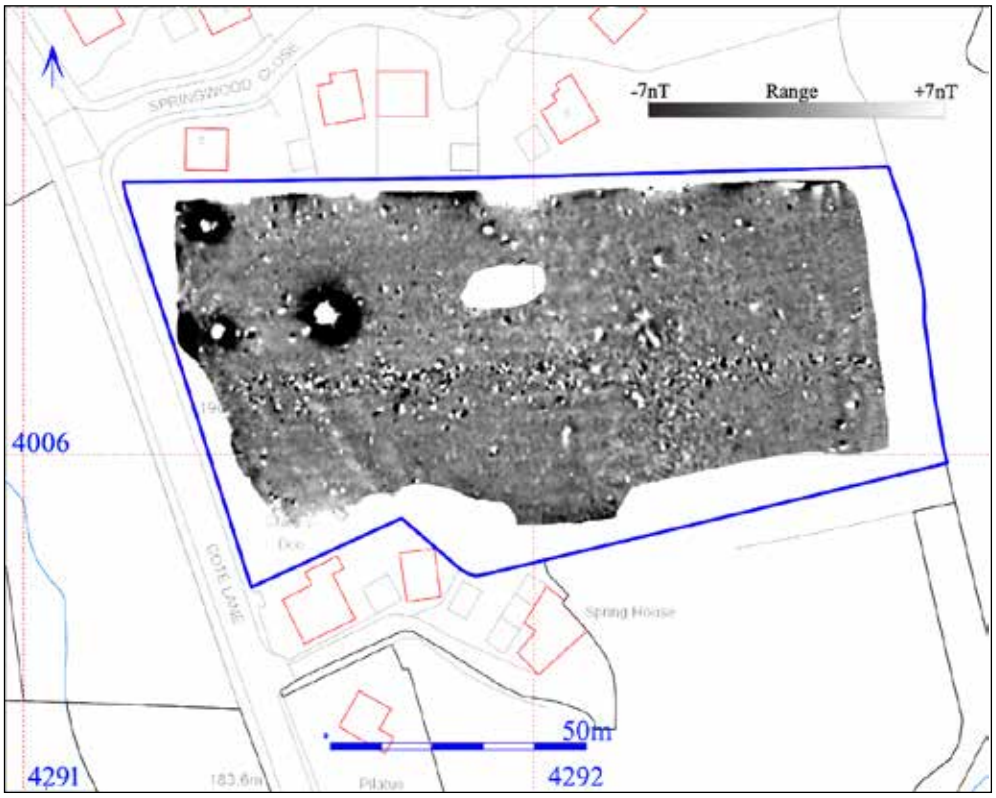


Figure 1 Results of Geophysical survey (Geophizs Biz 2016)

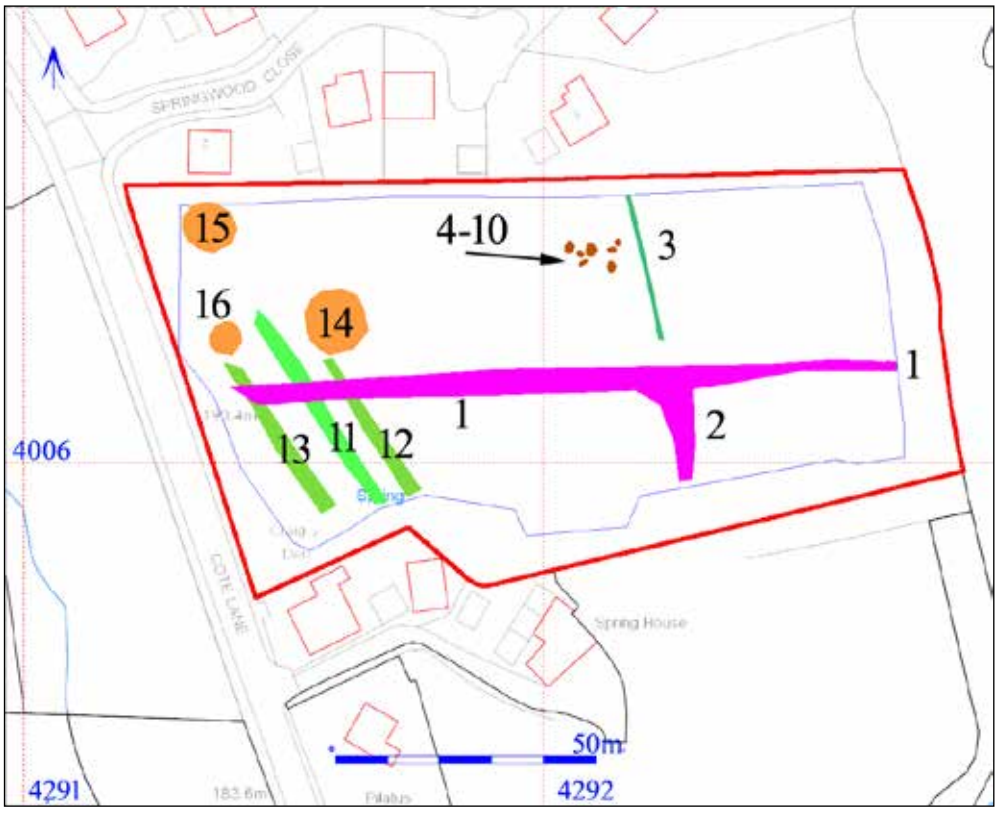


Figure 2 Geophysical survey interpretation (Geophizs Biz 2016)

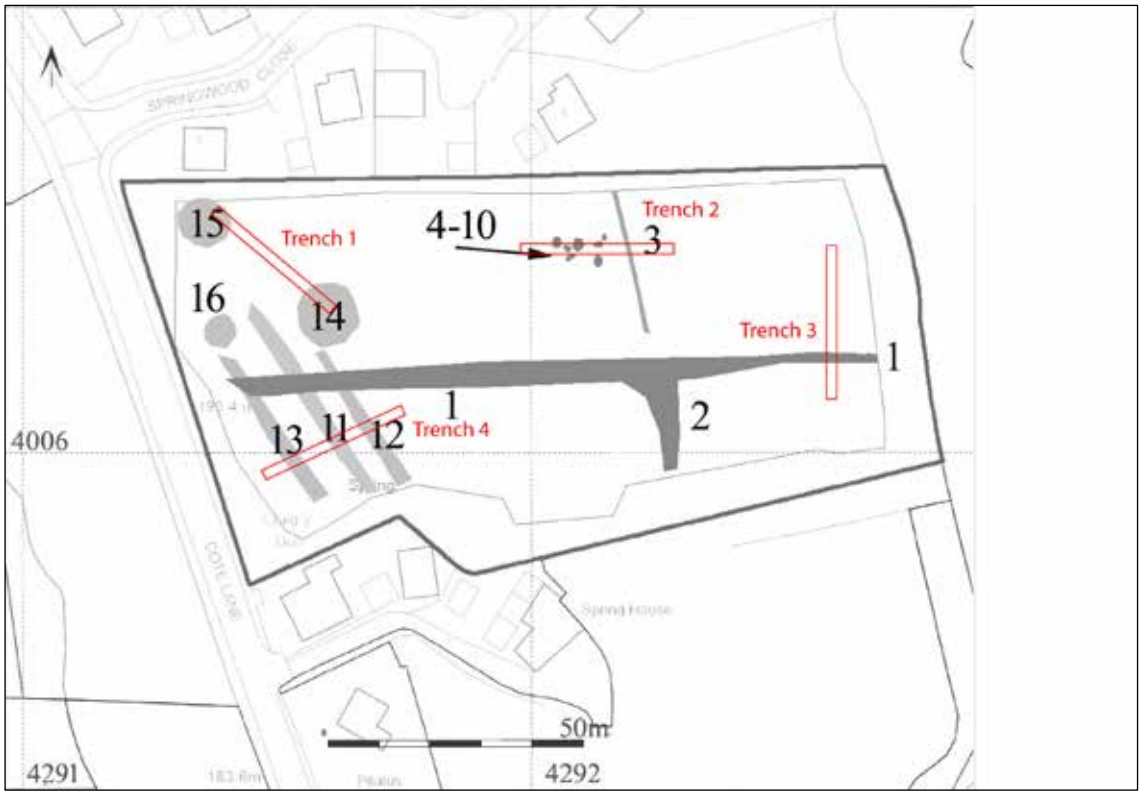


Figure 3 Proposed trench locations (basemap after Geophiz Biz 2016)

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