NAA

GEOPHYSICAL SURVEY

LAND TO THE NORTH OF SEASHELL TRUST, HEALD GREEN, STOCKPORT

prepared for
Dalcour Maclaren

NAA 20/74
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Northern
Archaeological
Associates

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Client Dalcour Maclaren
Location Land north of Seashell Trust, Stanley Road, Heald Green, Stockport, SK8 3AB
District Stockport Metropolitan Borough Council

Grid Ref SJ 85898 85386
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OASIS Number northern1-402462 (1)
Planning Application DC/060928

LAND TO THE NORTH OF SEASHELL TRUST, HEALD GREEN, STOCKPORT
GEOPHYSICAL SURVEY REPORT

TABLE OF CONTENTS

Disclaimer

The results of geophysical survey may not reveal all potential archaeology and do not provide a comprehensive map of the sub-surface, but only responses relative to the environment. Geological, agricultural and modern responses may mask archaeological features. Short-lived features may not give strong responses. Only clear features have been interpreted and discussed in this report.

LAND TO THE NORTH OF SEASHELL TRUST, HEALD GREEN, STOCKPORT
GEOPHYSICAL SURVEY REPORT

Summary

Northern Archaeological Associates Ltd (NAA) was commissioned by Dalcour Maclaren to undertake a geophysical survey of c.13.5ha of land to the north of Seashell Trust, Heald Green, Stockport, in advance of a residential development (NGR: SJ 85898 85386). The work was required as part of the discharge of a wider hybrid planning application (ref: DC/060928) for the development of c.325 dwellings and erection of a new school with associated infrastructure.

The geophysical survey was carried out between 17th and 19th August 2020 and it aimed to assess the archaeological potential of the site and help inform subsequent archaeological mitigation, if required.

Anomalies identified through the geophysical survey largely relate to modern and agricultural activity. To the south of the site there is a high level of magnetic disturbance which is plausibly caused by modern activity associated with nearby human habitation. Disturbances in the northern part of the site are likely to relate to infilled water courses and ponds. Otherwise, concentrations of magnetic disturbance are considered to be caused by ferrous material in the topsoil. Several isolated and linear bipolar anomalies are present within the site which are likely to relate to ferrous objects and buried utilities. Several isolated linear anomalies correspond with the location of former field boundaries recorded on 19th- and 20th-century historic maps. Other isolated linear anomalies and linear scatters of magnetic disturbance have been identified that possibly also denote former field boundaries, but do not correspond with features recorded on historic maps. There are several orientations of regularly spaced linear anomalies that are likely to relate to cultivation activity. Generally, these anomalies are composed of weak increases in magnetic value, so it is uncertain if these anomalies belong to modern ploughing or denote earlier cultivation techniques such as ridge and furrow. A series of linear anomalies with herring-bone patterning occurs in the east of the survey area that relate to buried land drains. Several trends were also identified, but incomplete patterning coupled with the high level of background magnetic variation within the site has resulted in a tentative interpretation, and consequently their origin is unknown.

1.0 INTRODUCTION

1.1 Northern Archaeological Associates Ltd (NAA) was commissioned by Dalcour Maclaren to undertake a geophysical survey of land to the north of Seashell Trust, Heald Green, Stockport, in advance of a residential development (NGR: SJ 85898 85386). The work was undertaken to assess the archaeological potential of the site and to help inform subsequent archaeological mitigation, if required. The geophysical survey targeted approximately 13.5ha of pasture and was carried out between the 17th and 19th August 2020.

1.2 This report details the setting (location, topography, geology) and archaeological background of the scheme and sets out the methodology used for the geophysical survey. The interpretation of the geophysical survey was achieved through the analysis of identified anomalies and was aided by a rapid examination of supporting information. The results of the geophysical survey are discussed below, and the interpretations are supported by illustrations. Where feasible, a detailed synopsis of anomalies is provided and, if possible, the features that the anomalies are likely to relate to are suggested.

2.0 LOCATION, GEOLOGY AND SOILS, TOPOGRAPHY

Location

2.1 The proposed development area (PDA) comprises five fields totalling 13.5ha of land directly to the north of Seashell Trust, Heald Green, Stockport (Fig. 1). Of these, four fields (totalling c.12ha) containing pasture were targeted by geophysical survey (Fig. 2); the fifth field contained overgrown vegetation so was not accessible for survey.

2.2 The site lies within a triangle of green land between Wilmslow Handforth Bypass (A34) A34, Stanley Road and Wilmslow Road. The eastern edge of the site is not defined by a physical boundary. Agricultural land directly borders the site to the north-east, east, and south, and residential areas lie directly to the north-west, west and south-west.

Geology and soils

2.3 The solid geology of the evaluation area consists of Wilmslow Sandstone Formation with superficial deposits of Devensian Till (BGS 2020). The soils are mapped as being of the Salop Association, consisting of stagnogley soils with slowly permeable subsoil (Soil Survey of England and Wales 1983; Jarvis *et al*. 1984, 270).

Topography

2.4 The natural topography of the PDA is relatively flat with levels recorded at lying between 75m above Ordnance Datum (aOD) and 73m aOD.

3.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 This section summarises information provided in the Written Scheme of Investigation for the geophysical survey (Dalcour Maclaren 2020).

3.2 There is no evidence of prehistoric activity within the PDA or its immediate hinterland. The only evidence of Roman activity within the local environs of the PDA comprises a single mid-4th century Roman coin that was found c.100m to the west of the site.

3.3 While no physical evidence of early medieval activity survives within the PDA or its hinterland, the PDA is located between several settlements that are suggested to have early medieval origins. In particular, the names of both Cheadle (located c.3km to the north of the PDA) and Handford (located c.1.5km to the south of the PDA) have Old English origins.

3.4 There is no evidence of medieval activity within the PDA; it is likely that the PDA formed agricultural land in the hinterland of nearby villages. Cheadle and Cheadle Hulme (the latter located c.2km to the north-east of the PDA) are recorded in the *Domesday Book* of 1086 as belonging to a large estate held by the Earl of Chester. In 1326, the Manor of Cheadle was divided following the death of Robert de Cheadle, and the site was then in the Manor of Cheadle Bulkeley. The *Domesday Book* also records a small settlement at Bramale c.3.2km to the east of the PDA; it was superseded by Bramall Hall which comprises a 14th-century hall with later additions that would have been originally set within sizeable parkland including deer park.

3.5 The 1836–1851 Cheshire Tithe Maps (not illustrated in this report) show the site lying within agricultural land used for pasture and a meadow. The tithe maps also note the names of fields c.70m to the north of the PDA, which are indicative of the presence of a kiln. Ordnance Survey (OS) maps from the mid- to late 19th century show the continued agricultural function of the PDA and the area it is located within, as well as the changing fabric of the composition of various fields with the removal and erection of field boundaries. The First Edition 1882 OS map shows Outwood House and Grade II listed 18th century Griffin Farmhouse lying directly to the south of the site, and a Congregational Chapel is located 0.1km to the north-west of the site. Twentieth-century

OS maps show the evolution and growth of residential developments in the direct hinterland of the PDA. During the mid-20th century the Congregational Chapel was replaced by a residential estate, and by the end of the 20th century the rural setting of Griffin Farmhouse and Outwood House had drastically changed with both buildings sitting on the edge of a suburban area.

4.0 AIMS AND OBJECTIVES

4.1 The aim of the geophysical survey was to map and record potential buried features located within the PDA. Through analysis and interpretation of the results of the geophysical survey, NAA aimed to provide a detailed assessment of the archaeological potential of the site which would inform future archaeological mitigation strategies.

4.2 The objectives of the survey were to:

- undertake a geophysical survey across areas deemed suitable for data collection;
- attempt to identify, record and characterise any sub-surface remains within the survey boundary;
- assess the archaeological significance of identified anomalies; and
- identify possible concentrations of past activity in order to inform the requirement for any further archaeological investigation at the site.

5.0 METHODOLOGY

5.1 The geophysical survey was undertaken as a gradiometer survey using the Bartington Grad601-2 dual magnetic gradiometer system with data logger. The readings were recorded at a resolution of 0.01nT, and data was collected with a traverse interval of 1m and a sample interval of 0.25m. All recorded survey data was collected with reference to a site survey grid comprising individual 30m x 30m squares. The grid was established using Real Time Kinematic (RTK) differential GPS equipment and marked out using non-metallic survey markers. All grid nodes were set out with a positional accuracy of at least 0.1m as per guidelines (CIfA 2014; Schmidt *et al.* 2015) and could be relocated on the ground by a third party. The base lines used to create the survey grids are shown on Figure 2 and further details are available in Appendix A.

5.2 The processing was undertaken using Geoplot 3.0 software and consisted of standard processing procedures. Details of processing steps applied to collected data are given in Appendix B.

5.3 On the greyscale plot (Fig. 3 and Fig. 5), positive readings are shown as increasingly darker areas and negative readings are shown as increasingly lighter areas. The XY-trace plot demonstrates the readings as offsets from a central line (Fig. 4).

5.4 Interpretation of identified anomalies is generally achieved through analysis of anomaly patterning and increases in magnetic response, and is often aided by examining supporting information (including, but not limited to, historic maps, LiDAR survey data, aerial photographs, geophysical survey data and excavation results in the direct hinterland of the scheme). The interpreted data uses colour coding to highlight specific readings in the survey area (Fig. 6).

Surface conditions and other mitigating factors

5.5 At the time of the survey, the majority of the PDA contained pasture. A small beck ran through the centre of the site, between Areas A and B, and there was a pond in the north of Area A. There were several small areas of high vegetation along the edges of field boundaries and near the water sources, and ferrous objects were noted on the surface of the site including drain covers and boreholes. Field boundaries comprised trees, hedgerows and metal fencing.

5.6 Field E, in the south-west of the PDA was deemed unsuitable for survey as it contained high vegetation, uneven terrain and a metal fencing.

5.7 Areas affected by above-ground features that were likely to have a high magnetic susceptibility, such as metal fencing, were avoided while surveying, when possible, to minimise the potential for their magnetic responses to impinge on the results and mask potential buried features.

6.0 GEOPHYSICAL SURVEY RESULTS

General anomalies across the whole site (Fig. 6)

6.1 There are several weak and diffuse linear trends. These generally failed to produce the necessary increases in magnetic response or patterning in order to be interpreted fully, therefore their origin is unknown. Given the lack of anomalies conclusively interpreted as relating to buried archaeological features, it was surmised that identified trends are either agricultural, modern or geological in origin.

6.2 There are several possible alignments of regularly spaced linear anomalies considered likely to relate to agricultural activity. Anomalies are generally composed of weak

increases in magnetic value and so it is not possible to conclusively identify their origin. It is plausible that those with a broader spacing are indicative of earlier agricultural features, such as ridge and furrow, while those with a narrow spacing are likely to denote modern plough activity.

6.3 Linear bipolar anomalies are likely to be caused by buried ferrous objects. It should be noted that the strength and size of the anomaly reflects the highly magnetic responses of the ferrous material of the buried object rather than actual feature dimensions.

6.4 Isolated dipolar and bipolar anomalies are likely to relate to ferrous or modern objects buried in the topsoil, so only those with broad responses have been depicted within the interpretation.

6.5 Areas of magnetic disturbance are composed of concentrations of dipolar and bipolar anomalies. As mentioned above, these are likely to be caused by modern magnetic debris in the topsoil or near the surface of the site.

6.6 Concentrations of isolated amorphous bipolar anomalies on the periphery of the survey area are considered to be caused by external interference and correspond with the location of areas containing, or are near to above-ground modern features including metal fences and gates that have a high magnetic susceptibility.

Area A (Fig. 6)

6.7 Several isolated linear anomalies (A1 and A2) have been identified in Area A that correspond with the location of field boundaries on historic maps: A1 and A2 are both recorded on the 1846 tithe map. Further isolated linear anomalies and linear concentrations of dipolar anomalies have been identified (A3) that also plausibly denote former field boundaries. Although tentative, it is possible that some of A3 also in part relate to field boundaries present on the 1846 Tithe map.

6.8 Several regularly spaced linear anomalies with weak increases in magnetic value have been identified that relate to cultivation techniques. Although they are composed of a fairly broad patterning that is generally suggestive of ridge and furrow, they run in the same direction as that of modern ploughing identified on Google Earth imagery (not reproduced here). Consequently, their origin is unknown.

6.9 A linear bipolar anomaly (A4) that runs on an east-west orientation through the centre of Area A denotes a buried pipeline. A sub-rectangular area of bipolar anomalies (A5)

is in the north of Area A – although it is likely to relate to ferrous material, its exact origin is unknown. Several bipolar anomalies (A6) correspond with the location of borehole covers.

6.10 Google Earth imagery shows there was a second pond to the east of the one extant in the north of Area A, as well as cropmarks of a gully running between the ponds. It is likely that the magnetic disturbance (A7) relates to infilled material associated with these former water sources.

6.11 Bipolar anomalies run along the western edge of Area A. Although the anomalies are modern in origin, it is unclear if they denote a buried utility or relate to ferrous material above the ground such as metal fencing.

Area B (Fig. 6)

6.12 There are several linear anomalies with herring-bone patterning in the south of Area B that denote buried land drains.

6.13 Two orientations of regularly spaced linear anomalies have been identified. It is likely that these denote agricultural activity, but weak increases in magnetic value meant it was not possible to identify if they relate to modern ploughing or ridge and furrow.

6.14 At the time of the survey it was noted that several borehole covers were present within the survey area, bipolar anomalies (B2) correspond with the location of these boreholes.

Areas C and D (Fig. 6)

6.15 Regularly spaced linear anomalies run on a north-south orientation in Area D. Although these anomalies are composed of weak increases in magnetic value, their broad patterning may suggest that they denote ridge and furrow.

6.16 There is a vast area of magnetic disturbance in Area C that is of a modern origin. Since the 18th century, Grade II listed Griffin Farmstead has been located directly to the west of the Area C, and during the second half of the 20th century a temporary camp was located to the east of Area B, and Dockray House (Royal Residential School for the Deaf) was erected to the south of Areas C and D. Although a speculative assessment, it is plausible that the magnetic disturbance is caused by modern activity associated with one of these three areas of occupation.

6.17 Two linear bipolar anomalies (C1) run through the north-east of Area C and along the north of Area D. It is likely that these anomalies denote a modern utility.

CONCLUSIONS

6.18 NAA undertook a geophysical survey of c.12ha of land to the north of the Seashell Trust, in advance of a proposed residential development.

6.19 The results of the survey have not conclusively identified any buried archaeological features. Instead, the observed anomalies largely relate to modern and agricultural activity.

6.20 Several trends were identified but are composed of weak increases in magnetic values and incomplete patterning, which means their origin is unknown. Given the lack of evidence for buried features of an archaeological origin it plausible that these trends are either of a modern, agricultural, or geological origin.

6.21 Former field boundaries have been identified within the north-east of the survey area, possible ridge and furrow occurs in the south-east, and land drains are present in the east of the site. Other regularly spaced linear anomalies are also considered to be of an agricultural nature, but their exact origin is unknown due to their weak increases in magnetic value.

6.22 Various bipolar anomalies have been identified across the site that relate to modern activity such as buried utilities and of ferrous objects, including borehole covers. There are also several areas of magnetic disturbance within the site that are caused by material with a high magnetic susceptibility in the topsoil. The most notable area of disturbance spans much of the south-west of the PDA. Given its size and strong magnetic responses, it is assumed that the material relates to modern activity associated to nearby settlements (including the 18th-century Grade II listed Griffin Farmhouse, a 20th-century temporary camp, and Dockray House). Although very tentative it is plausible that the disturbance relates to activity associated with one of these centres of modern land use. A second notable area of magnetic disturbance occurs in the north of the survey area and corresponds with cropmarks on Google Earth imagery of former water courses and ponds. Other concentrations of magnetic disturbance are likely to be caused by ferrous material in the topsoil.

7.0 STORAGE AND CURATION

7.1 At the time of writing this report, the records of the geophysical survey are held by NAA. All material will be appropriately packaged for long-term storage in accordance with national guidelines (CIfA 2014; Schmidt *et al*. 2015). An online OASIS form will be completed within three months of the completion of the project. This will include submission of a PDF version of the final report to the Archaeology Data Service via the OASIS form.

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APPENDIX A
TECHNICAL INFORMATION

GRADIOMETER SURVEY

Magnetic surveys measure distortions in the earth's magnetic field caused by small magnetic fields associated with buried features (Gaffney and Gater 2003, 36) that have either remanant or induced magnetic properties (Aspinal *et al*. 2008, 21–26). Human activity and inhabitation often alter the magnetic properties of materials (*ibid*., 21) resulting in the ability for numerous archaeological features to be detected through magnetic surveys. Intensive burning or heating can result in materials attaining a thermoremanent magnetisation; examples of which include kilns, ovens, hearths and brick structures (*ibid*., 27; Gaffney and Gater 2003, 37). When topsoil that is rich with iron oxides fills a man-made depression in the subsoil, it creates an infilled feature, such as a pit or ditch, with a higher magnetic susceptibility compared to the surrounding soil (Aspinal *et al*. 2008, 37–41; Gaffney and Gater 2003, 22–26). Magnetic surveys can also detect features with a lower magnetically susceptibility than the surrounding soil, an example of which is a stone wall.

LIMITATIONS

Poor results can be due to several factors including short-lived archaeological occupation/use or sites with minimal cut or built features. Results can also be limited in areas with soils that are naturally deficient in iron compounds, or in areas with soils overlying naturally magnetic geology, which will produce strong responses masking archaeological features.

Overlying layers, such as demolition rubble or layers of made ground, can hide any earlier archaeological features. The presence of above-ground structures and underground services containing ferrous material can distort or mask nearby features.

Particularly uneven or steep ground can increase the processing required, or distort results beyond the capabilities of processing. It is also possible in areas containing dramatic topographical changes that natural weathering, such as hillwash, often in combination with intensive modern ploughing, will reduce the topsoil on slopes and towards the peaks of hills, and possibly destroy or truncate potential archaeological features. Conversely, features at the bottom of slopes may be covered by a greater layer of topsoil and so, if buried features are present, they appear faint within the results, if at all.

Over processing of data can also obscure or remove features, especially if they are on the same orientation as the direction of data collection. Consequently, where possible, attempts are made to ensure that data is not collected on the same orientation as known potential features and that data quality is sufficient to minimise the required data processing.

INSTRUMENTATION

The data was collected using handheld Bartington Grad 601-2 fluxgate gradiometers. The Bartington 601-2 is a single-axis, vertical component fluxgate gradiometer comprising a data logger battery cassette and two sensors. The sensors are Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying frame; each sensor contains two fluxgate magnetometers with 1m vertical separation.

The difference in the magnetic field between the two fluxgates in each sensor is measured in nanoTesla (nT). NAA gradiometer data is recorded with a range of ±100nT, which equates to a resolution of 0.01nT. It should be noted that the actual resolution is limited to 0.03nT as a consequence of internal instrumental noise (Bartington Instruments Ltd n.d., 23).

The gradiometer records two lines of data on each traverse, the grids are walked in a zig-zag pattern amounting to 15 traverses. The gradiometers are calibrated at the start of every day and recalibrated whenever necessary.

SURVEY DETAILS

Table A1: survey summary.

Item	Survey
Grid size	30m x 30m
Traverse interval	1m
Reading interval	0.25m
Direction of first traverse	N
Number of grids	186
Area covered	12ha

Table A2: baseline coordinates.

Item	Survey
gpA	385909.2812 385511.6047
gpB	385939.2812 385511.6047

Table A3: site information and conditions.

Item	Detail
Geology	Wilmslow Sandstone Member
Superficial deposits	Devensian Till
Soils	Salop Association
Topography	Highest: 75m aOD Lowest: 73m aOD
Land use	Agricultural – pasture
Weather conditions prior to and during survey	Rain/Overcast

APPENDIX B

DATA PROCESSING INFORMATION

Gradiometer survey data is downloaded using the Bartington Grad 601 software and the processing was undertaken using Geoplot 3.0 software.

Table B1: commonly applied techniques.

Process	Effect
Zero mean traverse	Removes stripping that can occur as a consequence of using multi-sensor arrays or a zig-zag data collection method by setting the mean reading for each traverse to zero.
Destagger	Removes stagger in the data introduced through inconsistent data collection pace and often exacerbated through the zig-zag methodology.
Clip	Clips data above or below a set value to enhance potential weaker anomalies.
Despike	Removes random spikes or high readings to reduce the appearance of dominant readings, often created by modern ferrous objects that can distort the results.
Low pass filter	Removes low-frequency waves or broad anomalies such as those caused by strong or large gradual variations in the soil's magnetic susceptibility often caused by geological or natural changes in the substrata.
Interpolation	Used to smooth or reduce the blocky appearance of data by improving the spatial density and increase the quantity of data points in the Y direction.

Table B2: processing steps.

Minimal processing	Increased processing
• Zero mean traverse +5/-5 • Destagger:	• Low pass filter • Interpolate Y, expand – linear, x2

APPENDIX C

DATA VISUALISATION INFORMATION

FIGURES

The data was used to produce a series of images to demonstrate the results of surveys, which are detailed below:

- Greyscale/colourscale plot – this visualised the results as a shaded drawing with highest readings showing as black, running through different shades to lowest showing as white.
- XY-trace plot – this creates a line drawing showing the peaks and troughs of the readings as vertical offset from a centreline.
- Interpreted plot – through detailed analysis, anomalies have been interpreted and possible features identified. Interpretation drawings are used to show potential features and in particular to reinforce and clarify the written interpretation of the data. Anomalies have been characterised using the terminology detailed in the following section, and have been assigned colour coding outlined in keys found on the relevant figures associated with this report.

MAGNETIC ANOMALIES AND TERMINOLOGY

Table C1: lexicon of terminology.

Terminology	Detail
Anomaly	Any outstanding high or low readings forming a particular shape or covering a specific area within the survey results.
Feature	A man-made or naturally created object or material that has been detected through investigation works and has sufficient characteristics or supporting evidence for positive identification.
Magnetic susceptibility	The ability of a buried feature to be magnetically induced when a magnetic field is applied.
Magnetic response	The strength of the changes in magnetic values caused by a buried feature with either a greater or lesser ability to be magnetised compared with the soil around it. Anomalies are considered to have either strong/weak or positive/negative responses. The strength of magnetic response (along with patterning) can be essential in determining the nature of an anomaly, but it should be noted that the size or strength of the magnetic response does not correlate with the size of the buried feature.
Patterning of an anomaly	The shape or form of an individual anomaly.
Thermoremanence	The affect caused when a material has been magnetically altered through a process of heating. Thermoremanent magnetisation occurs when an object or material is heated passed the Curie Point and acquires a permanent magnetisation that is associated with the magnetic field that they cooled within (Gaffney and Gater 2003, 37).

Anomalies can represent different features created by human, agricultural or modern activity, or natural pedological or geological changes in the substrata.

Anomalies interpreted with a 'greater' categorisation are considered more likely to be of the interpreted characterisation; whereas a more tentative interpretation is applied to those with a 'lesser' categorisation as a consequence of weaker increases in magnetic response or the anomaly's incomplete patterning or irregular form.

The strength and size of anomalies can vary depending on the magnetic properties of the feature, the magnetic susceptibility of the soil, the depth to which the feature is buried, and the state of preservation.

Table C2: characterisation of anomalies.

Characterisation	Detail
Archaeology	
Trends	Weak and diffuse anomalies with an uncertain origin are denoted by trends. It is possible that these belong to archaeological features, but given their weak signatures or incomplete patterning it is equally plausible that they relate to agricultural features or natural soil formations.
Agriculture	
Ridge and furrow?	Broadly spaced linear anomalies that are likely to be indicative of earlier forms of agriculture, such as ridge and furrow. These often correspond with the location of earthworks visible on the ground or identified on aerial photos or LiDAR survey coverage.
Agriculture (land drain)	The response and distribution of land drains varies depending on the composition of the land drain and associated ditch or channel. Consequently, land drains can be composed of weak/strong positive/negative magnetic responses and are identified as a product of either their variance in magnetic values or positioning compared with regularly spaced linear anomalies considered to relate to modern ploughing.
Agriculture	Regularly spaced linear anomalies that are likely to be of an agricultural nature. However, the lack of supporting information, weak responses, or non-uniform distribution means that it is unclear as to the nature or origin of the agricultural process they are caused by.
Modern	
Bipolar response (modern)	Positive anomalies with associated negative 'halo' (bipolar) denote features with a strong magnetic response that are likely to be of a modern origin. Isolated bipolar responses of a modern nature are likely to relate to buried ferrous material or objects, such as metallic agricultural debris. If a trend is noted in the alignment or spacing of isolated bipolar responses, it is possible that they are indicative of ferrous fittings or connectors used on non-magnetic buried utilities. Linear bipolar anomalies are likely to be indicative of modern services.
Magnetic disturbance	Areas of increased magnetic response denote areas of disturbance containing a high concentration of dipolar and/or bipolar responses, or above-ground features external to the development area. These are generally considered to be caused by modern debris in the topsoil, although it is possible that the disturbance is in part caused by isolated archaeological material or geological or pedological changes in the substrata.

APPENDIX D

OASIS FORM

OASIS DATA COLLECTION FORM: England

OASIS ID: northern1-402462

Project details

Project name	Seashell Trust
Short description of the project	Geophysical Survey
Project dates	Start: 17-08-2020 End: 19-08-2020
Previous/future work	Not known / Not known
Type of project	Field evaluation
Site status	None
Current Land use	Grassland Heathland 4 - Regularly improved
Monument type	NONE None
Significant Finds	NONE None
Methods & techniques	"Geophysical Survey"
Development type	Rural residential
Prompt	Planning condition
Position in the planning process	Not known / Not recorded
Solid geology (other)	Wilmslow Sandstone Member
Drift geology (other)	Devensian Till
Techniques	Magnetometry

Project location

Country	England
Site location	GREATER MANCHESTER STOCKPORT CHEADLE AND BRAMHALL Land north of Seashell Trust, Stanley Road, Heald Green, Stockport, SK8 3AB
Postcode	SK8 3AB
Study area	12 Hectares
Site coordinates	SJ 85898 85386 53.36489029941 -2.211943015215 53 21 53 N 002 12 42 W Point
Height OD / Depth	Min: 73m Max: 75m

Project creators

Name of Organisation	Northern Archaeological Associates
Project brief originator	Consultant
Project design originator	Northern Archaeological Associates
Project director/manager	Alice James
Project supervisor	Oskar Sveinbjarnarson
Type of sponsor/funding body	Developer

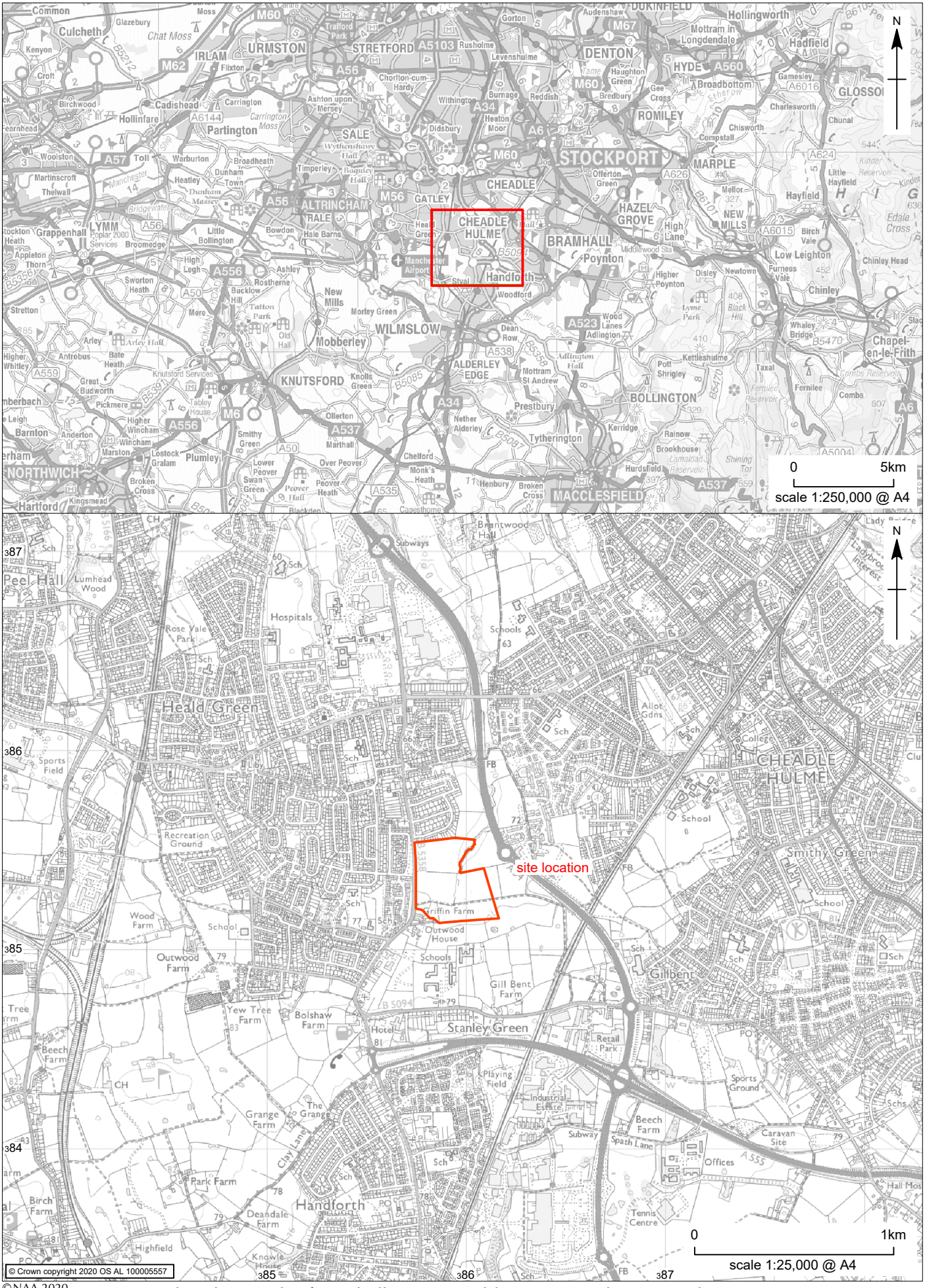
Project archives

Physical Archive Exists?	No
Digital Archive recipient	Northern Archaeological Associates
Digital Contents	"none"
Digital Media available	"Geophysics"
Paper Archive Exists?	No

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land to the North of Seashell Trust, Heald Green, Stockport: Geophysical Survey
Author(s)/Editor(s)	James, A
Other bibliographic details	20-74
Date	2020
Issuer or publisher	NAA
Place of issue or publication	Barnard Castle
Description	Blue Spine

Entered by	Alice (aj@naaheritage.com)
Entered on	31 August 2020



Land to the North of Seashell Trust, Heald Green, Stockport: site location *Figure 1*

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KEY
geophysical survey baseline
geophysical survey grid
geophysical survey area
Proposed development area

N

0 100 m
scale 1:2000 @ A3

gpA
gpB
Area A
Area B
Area C
Area D
Area E

Land to the North of Seashell Trust, Heald Green, Stockport: geophysical survey area

Figure 2

NAA
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0 100 m
scale 1:2000 @ A3

N

5nT
-4nT
Pallette:grey55.ptt

Area A
Area B
Area C
Area D
Area E

Land to the North of Seashell Trust, Heald Green, Stockport: unprocessed greyscale plots of geophysical survey results

Figure 3

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0 100 m
scale 1:2000 @ A3

N

XY scale
40 nT

Area A

Area B

Area C

Area D

Area E

Land to the North of Seashell Trust, Heald Green, Stockport: XY-trace plots of geophysical survey results

Figure 4

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0 100 m
scale 1:2000 @ A3

N

3nT
-2nT
Pallette:grey55.ptt

Area A
Area B
Area C
Area D
Area E

Land to the North of Seashell Trust, Heald Green, Stockport: processed greyscale plots of geophysical survey results

Figure 5

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KEY
- field boundary
- field boundary?
- trends
- ridge and furrow?
- agriculture
- bipolar response (modern)
- magnetic disturbance
- edge of geophysical survey
- proposed development area

N

0 100 m

scale 1:2000 @ A3

Area A
Area B
Area C
Area D
Area E
Pond
A1
A2
A3
A4
A5
A6
A7
B1
B2
C1

Land to the North of Seashell Trust, Heald Green, Stockport: interpretation of geophysical survey results

Figure 6