Melbourne Cursus
Biggar, South Lanarkshire
Archaeological Geophysical Survey and Trial Excavation Report

National Grid Reference Number: NT 0800 4400
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AOC Archaeology Group

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Commissioned by:	**Royal Commission on the Ancient and Historical Monuments of Scotland**
National Grid References (NGR):	**NT 0800 4400**
AOC Project No:	**22977**
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Illustration by:	**Alice James, Clare Leevers & Jamie Humble**
Date:	**March 2015**

This document has been prepared in accordance with AOC standard operating procedures.

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Non-Technical Summary

AOC Archaeology Group was commissioned by the Royal Commission on the Ancient and Historical Monuments of Scotland to undertake an archaeological geophysical survey and evaluation excavation to investigate the potential for buried archaeological remains relating to Melbourne Cursus, west of Melbourne crossroads, Biggar, South Lanarkshire.

The site is located to the west of the Melbourne Crossroads, where the A702 and the A721 intersect, approximately 3km to the north-east of Elsrickle and 8km to the north-east of Biggar (centred at NT 0800 4400). Two areas were targeted with geophysical survey, the first is located to the north of the A721 and the second to the south of the A702 (Figure 2). The evaluation comprised the excavation of a single trench located over the bank and ditch on the ENE side of the cursus, close to the southern terminal.

A gradiometer survey was undertaken over approximately 5 Ha. Results are inconclusive, neither confirming the presence or demonstrating the absence of archaeological remains. It can be suggested that the survey instruments were affected by magnetic noise caused by the local geology and subsequently were unable to clearly identify potential archaeological remains.

In the excavation trench, evidence of the structure of the monument was revealed. The structural remains comprised a low broad bank with a turf core. A ditch extended along the exterior of the cursus bank. A shallow pit lay outside of the ditch. No artefacts were retrieved during the excavations, but soil samples that may produce datable organics and samples for soil micromorphological analysis were collected.

1 Introduction

1.1 AOC Archaeology Group was commissioned by the Royal Commission on the Ancient and Historical Monuments of Scotland to undertake an archaeological geophysical survey and subsequent evaluation excavation at the cursus monument that extends between Broomy Law and the Black Mount, to the west of Melbourne crossroads, Biggar, South Lanarkshire.

1.2 The geophysical survey was carried out to provide information on the extent and significance of potential buried archaeological remains within the valley, where the cursus monument does not survive as an upstanding monument, and to inform the scope of any further archaeological evaluation, if required. The evaluation excavation aimed to investigate the constructional details of the cursus and, if possible, to provide dating evidence for the monument. The project was undertaken with the kind permission of the landowners at Brownsbank Farm, to whom thanks are due.

Site location and description

1.3 The site is located to the west of the Melbourne Crossroads, where the A702 and the A721 intersect, approximately 3km to the north-east of Elsrickle and 8km to the north-east of Biggar (centred at NT 0800 4400).

1.4 Two areas were targeted with geophysical survey, the first is located to the north of the A721 and the second to the south of the A702 (Figure 2). Both fields contained pasture during the period of fieldwork and the gradiometer survey covered a total area of approximately 5 ha.

1.5 The A702 and the A721 follow the line of the base of the valley between the summits of Black Mount and Broomy Law. Geophysical survey area A was located on the north-western incline of Broomy Law and the natural topography has a steep gradient, lying at approximately 300m above Ordnance Datum (aOD) to the north-west and 400m aOD to the south-east. Geophysical survey area B was situated on the south-eastern slope of Black Mount and has a natural topography of 300m aOD to the south-east of the survey area rising to 350m aOD to the north-west.

1.6 A single archaeological trench measuring 4m by 1m was targeted on the ENE side of the cursus monument, 40m from the SSE terminal and extended across the bank and ditch of the monument. In the event the trench was extended to the WSW and SSE to investigate potential features extending out of the trench.

Geology and soils

1.7 The bedrock geology within the site comprises Biggar Volcanic Formation – Basaltic Lava and Andesitic Lava (BGS 2014) overlain by Brown soils derived from rhyolites and trachytes and Humus-iron podzols derived from old Red Sandstone Lavas and sediments (Soilscapes 2014).

1.8 Igneous geologies can be problematic for gradiometer surveys as the thermoremnant properties of the bedrock can affect the success of magnetic forms of survey, as possible archaeological remains will be masked by highly magnetic responses of the bedrock (David *et al.* 2008, 15).

2 Archaeological Background

2.1 The following section summarises the Royal Commission on the Ancient and Historical Monuments of Scotland (2013) record of the Melbourne Cursus monument (Canmore Id 73422; NMRS No NT04NE 55 & NT 04SE 45)

2.2 The Melbourne Cursus monument is located at the Melbourne crossroads, and is positioned diagonally across a valley between the summits of Black Mount and Broomy Law Hills. The ridges of these two hills extend to the north-east leading towards Edinburgh and running along the base of this valley is a Roman Road from Crawford to Inveresk.

2.3 Both terminals of the monument exist on the summits of the two adjacent hills upstanding earthworks, characterised by a bank and external ditch. However evidence of the continuation of the monument dissipates as the monument leads down the slopes into the improved farmland.

2.4 Approximately 250m of the north-west end of the monument is still visible in the modern landscape and is characterised by ditches that widen as the monument descends down the slope (at the widest recorded point the ditched as positioned approximately 83m to 85 m apart). There are two possible entrances, the first is positioned on the incline of Black Mount and is approximately 5m wide and the second is approximately 3.5m wide and situated on the crest of the summit on Black Mount. Directly external to the second entrance is a shallow circular depression; however it is difficult to determine whether this relates to the top of a pit or an un-associated modern feature.

2.5 Towards the upper limits of the improved fields, the remains of the south-eastern part of Melbourne Cursus are visible as shallow scarps marking the inner edges of the ditches and set approximately 98m apart. Like with the north-western terminal, the ditches narrow to approximately 75m as the monument ascends up the slope.

2.6 Improvement work on the landscape has possibly affected the conservation of the monument. In particular there are traces of furrows and grooves in and around the terminal on Broomy Law and the line of an old fence can be seen cutting through the south-west corner, which perhaps accounts for the shallow nature of the ditch in this area.

3 Aims

3.1 The aim of the geophysical survey was to identify any potential archaeological anomalies that would enhance the current understanding of the archaeological resource within the proposed development site.

3.2 The results of the geophysical survey will be assessed and interpreted to gain a clear understanding of potential buried remains within the survey area in advance of development works.

3.3 Specifically the aims of the gradiometer survey were;

- Locate, record and characterise any surviving sub-surface archaeological remains within the site
- Provide an assessment of the potential significance of any identified archaeological remains in a local, regional and (if relevant) national context
- Produce a comprehensive site archive report

3.4 The objectives of the evaluation excavation were to determine and assess the character, extent, condition, quality, date and significance of any buried archaeological remains at the site of the Melbourne cursus monument, through the excavation of an evaluation trench.

4 Methodology

4.1 Geophysical Survey

4.2 The gradiometer survey was carried out using Bartington Grad601-2 fluxgate gradiometer (see Appendix 1 and 2). Parameters were selected that were suitable for the prospective aims of the survey and in accordance with recommended professional good practice (David *et al*. 2008, 8). Data was collected on a north-south alignment using zig-zag traverses, with a sample interval of 0.25m and a traverse interval of 1m.

4.3 A total of 42 complete and partial 30m by 30m grids were surveyed within Area A and 21 grids in Area B, totalling a surveyed area of approximately 5 ha. Attention was taken to attempt to avoid metal obstacles present within the survey area, such as the metal fences used to divide the fields, as gradiometer survey is affected by 'above-ground noise'.

4.4 All geophysical survey work was carried out in accordance with recommended good practice specified in guideline documents published by English Heritage (David *et al.* 2008). Data processing, storage and documentation were carried out in accordance with the good practice specifications detailed in the guidelines issued by the Archaeology Data Service (Schmidt and Ernenwein 2009).

4.5 The data were downloaded using Bartington Grad601 PC Software v313 and processed using Geoscan Geoplot v3.0.

4.6 In order to process the data the survey area was divided into 6 areas (Figure 2). Details of processes used can be found in Appendices 3 and 4.

4.7 Interpreted point, polyline and polygon layers were created as layers in AutoCAD and technical terminology used to describe identified features can be found in Appendix 5.

4.8 Evaluation excavation

4.9 The archaeological evaluation comprised the hand excavation of a single trench measuring 4m by 1m with the location agreed in advance with RCAHMS. This trench was excavated on the ENE side of the cursus monument, 40m from the SSE terminal and extended across the bank and ditch of the monument. In the event the trench was extended slightly to the WSW and SSE to investigate potential features extending out of the trench.

4.10 The trenches were excavated by hand and all features and structures revealed were cleaned by hand before being recorded by digital photography, drawn to an appropriate scale and a written record produced using AOC pro forma sheets.

4.11 Upon completion of the evaluation the trench was backfilled with a layer of geotextile placed at the base of the excavations.

5 Results and Interpretations

5.1 Geophysical survey

5.2 Gradiometer survey results have been visualised as greyscale plots (Figures 4 and 5). Figure 6 displays an individual processed greyscale plot of Area A and Figure 7 shows a greyscale plot of Area B.

5.3 Both survey areas appear to contain magnetic disturbance likely to be caused by the highly magnetic properties of the underlying geology and consequently any potential buried archaeological remains have been masked.

5.4 Natural soil processes and formations can heavily impact on the success of magnetic surveys, especially when surveying over igneous rock formations as a consequence of their thermoremnant magnetism (Gafney and Gater, 2003: 78-79). Biggar Volcanic Formation is igneous bedrock that has formed after eruptions of silica-poor magma from shallow volcanoes and fissures solidified from a high temperature on the earth's surface (BGS 2015). Therefore it is likely such geology has ferromagnetic properties, whereby the cooling of such rocks through their Curie temperature has resulted in a remnant magnetisation in the direction of the earth's magnetic field during the period of cooling (Aspinal *et al* 2009: 174). It is likely that the geology in this area has an undergone a thermoremnant magnetic change, which has caused the magnetic disturbance in the results. Consequently it can be suggested magnetic forms of survey can be considered unsuitable in this area, as possible archaeological features are composed of a weaker magnetic signature than the igneous bedrock.

5.5 Evaluation excavation

5.6 The archaeological evaluation was conducted between the 9th and 10th March 2015. Weather conditions were variable through the course of the work though the archaeological visibility was, however, good.

5.7 Trench 1 was excavated across the bank on the ENE bank and ditch of the cursus monument (Figures 1 & 2). The natural geology of this trench was an orange sandy clay and angular stone glacial till (007).

5.8 Extending across the width of the trench was a bank (002) 1.78m wide and up to 0.09m deep composed of a dark grey-brown sandy clay. Within the make-up of the bank material (002) was a lens of pale grey clayey sand interpreted as the remains of stacked turf built up to form the bank. Surviving below bank material (002) was a buried ground surface (003) up to 0.03m thick, composed of a dark orange-brown sandy clay. To the northeast, the exterior of the cursus monument, of the bank lay a linear ditch [004] oriented NNW-SSE extending across the width of the trench, 0.75m wide and 0.21m deep. Ditch [004] was filled by a single deposit of pale grey clayey sand (006). Overlying ditch [004] was a deposit of dark grey-brown sandy clay that extended across the width of the trench, 1.07m wide and 0.09m deep. This deposit is interpreted as collapsed bank material (002).

5.9 The southwest of bank (002) was truncated by an irregular linear cut extending across the 0.5m width of the trench, 0.78m wide and 0.25m deep. Cut [011] was filled with a loose deposit of angular stone in a matrix of silty sandy clay (012). Cut [011] is interpreted as a tree throw pit, similar to the numerous scoops and hollows visible around the monument in the area of the trench. Overlying tree throw [011] was deposit of pale grey brown clayey sand (010), collapse of bank (002) to the southwest.

5.10 Lying to the northeast of ditch [004] was a small shallow pit [008]; this pit was sub-oval in plan with steep sides and a flat base, measuring 0.56m by 0.45m and 0.08m deep. Pit [008] was filled by a single deposit of dark red-brown sandy clay.

6 Conclusion

6.1 The results of the geophysical survey have neither confirmed nor denied the presence of archaeological remains as a consequence of igneous geological formation in the area surrounding the site, which comprises a stronger magnetic response than potential buried archaeological remains.

6.2 It can be recommended that magnetic methods of survey over the geological formation in this area are unsuitable for detecting archaeological remains relating to former phases of human activity and that future studies utilise alternative geophysical survey techniques or forms of archaeological investigation.

6.3 The excavations at the Melbourne cursus have demonstrated that the cursus monument is defined by an upstanding bank (002) with an external ditch [004]. The excavations have shown the construction of the bank (002) was at least partially of turf, in all probability cut from above the ditch prior to the construction of the monument. The bank of the cursus (002) has been built directly upon the ground surface (003), leading to its preservation below the bank (002). Whilst no dateable material was recovered during the excavations, the preservation of a buried ground surface below the bank might imply that a secure date could be obtained from soil samples. It is possible that dateable material was recovered from the soil samples taken on-site and will be retrieved from the processing of bulk samples.

6.4 The discovery of a small pit [008] lying to the outside of the cursus monument within the limited area investigated does raise the possibility that this is not an isolated feature and that it may be related to a larger structure.

7 Statement of Indemnity

7.1 Although the results and interpretation detailed in this report have been produced as accurately as possible, it should be noted that the conclusions offered are a subjective assessment of collected data sets.

7.2 The success of a geophysical survey in identifying archaeological remains can be heavily influenced by several factors, including geology, seasonality, field conditions, the technique used and the properties of archaeological features being detected. Therefore geophysical survey may only reveal certain archaeological features and not create a complete plan of all the archaeological remains within a survey area.

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Plate 1. Survey Area A, during data collection, looking north-east

Plate 2. Survey Area B, after data collection, looking north

Plate 3. Trench post-excavation with pit [008] in foreground, from NW

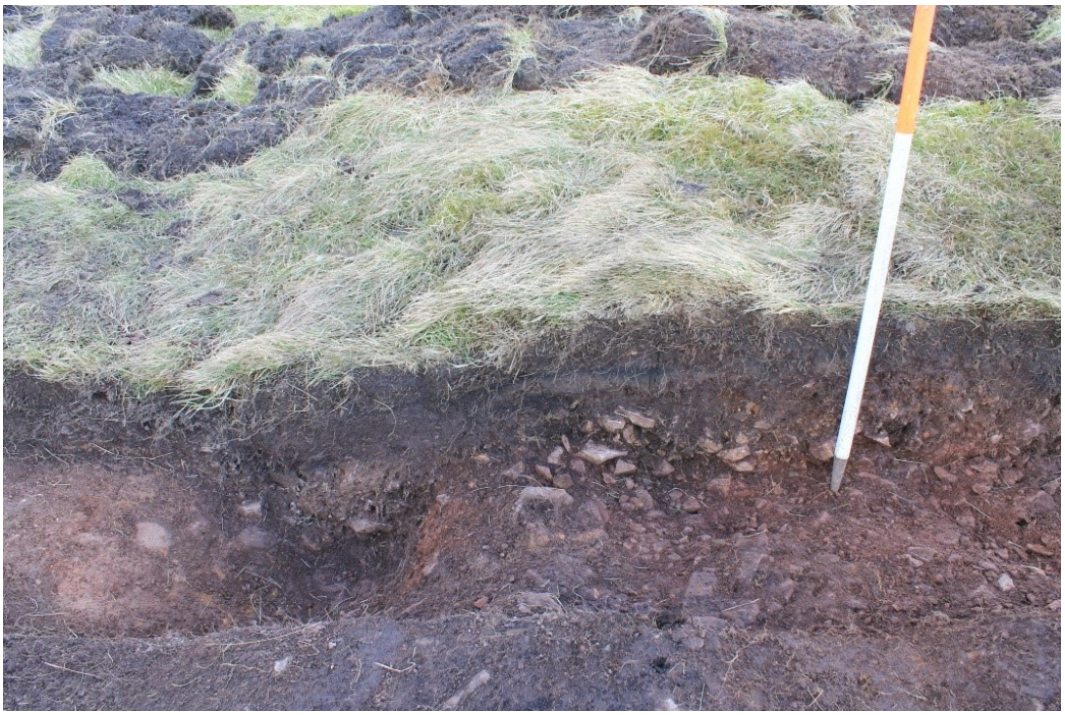


Plate 3. Trench north-east end of bank (002) with turf line, and ditch [004] from NW

Plate 4. Pit [008], post-excavation from NE

Appendix 1: Survey Information

Field	Description
Surveyor	AOC Archaeology
Client	Royal Commission on the Ancient and Historical Monuments of Scotland
Site	Land to the west of Melbourne Crossroads
County	South Lanarkshire
NGR	NT 0800 4400
Solid geology	The bedrock geology within the site comprises Biggar Volcanic Formation – Basaltic Lava and Andesitic Lava (BGS 2014)
Soil composition	Brown soils derived from rhyolites and trachytes and Humus-iron podzols derived from old Red Sandstone Lavas and sediments (Soilscapes 2014).
Historical documentation/ mapping on site	
Known archaeology on site	Melbourne Cursus
Scheduled Ancient Monument	No
Land use/ field condition	Arable
Duration	16th February – 17th February
Weather	Overcast – Occasional Rain
Survey type	Gradiometer Survey
Instrumentation	Trimble GXOR system Bartington Grad 601-2
Area covered	5ha (63 grids)
Data collection staffing	Alice James, Clare, Leevers and Jessica Lumb
Download software	Grad601 PC Software v313
Processing software	Geoplot v3.0
Visualisation software	AutoCAD LT 2009
Report title	Land to the west of Melbourne Crossroads, Biggar, South Lanarkshire
Project number	51233
Report Author	Alice James
Report approved by	Graeme Cavers

Appendix 2: Archaeological Prospection Techniques, Instrumentation and Software Utilised

Gradiometer survey

Gradiometer surveys measure small changes in the earth's magnetic field. Archaeological materials and activity can be detected by identifying changes to the magnetic values caused by the presence of weakly magnetised iron oxides in the soil (Aspinall *et al.*, 2008, 23; Sharma, 1997, 105). Human inhabitation often causes alterations to the magnetic properties of the ground (Aspinall et al, 2008, 21). There are two physical transformations that produce a significant contrast between the magnetic properties of archaeological features and the surrounding soil: the enhancement of magnetic susceptibility and thermoremnant magnetization (Aspinall *et al.*, 2008, 21; Heron and Gaffney 1987, 72).

Ditches and pits can be easily detected through gradiometer survey as the top soil is generally suggested to have a greater magnetisation than the subsoil caused by human habitation. Also areas of burning or materials which have been subjected to heat commonly have high magnetic signatures, examples include: hearths, kilns, fired clay and mudbricks (Clark 1996, 65; Lowe and Fogel 2010, 24). It should be noted that negative anomalies can also be useful for characterising archaeological features. If the buried remains are composed of a material with a lower magnetisation compared with the surrounding soil, the surrounding soil will consequently have a greater magnetisation resulting in the feature displaying a negative signature. For example stone materials of a structural nature that are composed of sedimentary rocks are considered non-magnetic and so will appear a negative features within the data set.

Ferrous objects- i.e. iron and its alloys- are strongly magnetic and are typically detected as high-value peaks in gradiometer survey data, though it is not usually possible to determine whether these relate to archaeological or modern objects.

Although gradiometer surveys have been successfully carried out in all areas of the United Kingdom, the effectiveness of the technique is lessened in areas with complex geology, particularly where igneous and metamorphic bedrock is present. All magnetic geophysical surveys must therefore take the effects of background geological and geomorphological conditions into account.

Gradiometer Survey Instrumentation

AOC Archaeology's gradiometer surveys are carried out using Bartington Grad601-2 magnetic gradiometers. The Grad601-2 is a high-stability fluxgate magnetic gradient sensor, which uses a 1m sensor separation. The detection resolution is from 0.03 nT/m to 0.1nT/m, depending on the sensor parameters selected, making the Grad601-2 an ideal instrument for prospective survey of large areas as well as detailed surveys of known archaeology. The instrument stores the data collected on an on-board data-logger, which is then downloaded as a series of survey grids for processing.

Software

Following the survey, gradiometer data was downloaded from the instrument using Grad601 PC Software v313. Survey grids were then assembled into composites and enhanced using a range of processing techniques are applied to the data using Geoscan's Geoplot v3.0 (see Appendix 2 for a summary of the processes used in Geoplot and Appendix 3 for a list of processes used to create final data plots).

Appendix 3: Summary of Processes used in Geoplot

Process	Effect
Clip	Replaces data values outside a specified range, in order to display important data with relative values stretched across the display range.
De-spike	Removes exceptionally high values represented in the data that can obscure the visibility of archaeological features. In resistivity survey, these can be caused by poor contact of the mobile probes with the ground; in gradiometer survey, these can be caused by highly magnetic items such as buried ferrous objects.
De-stagger	Counteracts the striping effect caused by misalignment of data when collected on a zig-zag traverse pattern.
Edge Match	Counteracts edge effects in grid composites by subtracting the difference between mean values in the two lines either side of the grid edge.
High pass filter	Removes low-frequency, large scale detail in order to remove background trends in the data, such as variations in geology.
Interpolate	Increases the resolution of a survey by interpolating new values between surveyed data points
Low Pass filter	Uses a Gaussian filter to remove high-frequency, small scale detail, typically for smoothing or generalising data.
Periodic Filter	Used to either remove or reduce amplitudes of constant and reoccurring features that distort other potential patterns. An example of which is plough lines.
Wallis filter	Applies a locally adaptive contrast enhancement filter.
Zero Mean Grid	Resets the mean value of each grid to zero, in order to counteract edge discontinuities in composite assemblies.
Zero Mean Traverse	Resets the mean value of each traverse to zero, in order to address the effect of striping in the data and counteract edge effects.

Appendix 4: Gradiometer Survey Processing Steps

Process	Extent
Area A	
High Pass Filter	X=10 Y=10 Wt=G
Zero Mean Traverse	All LMS =on Thresholds not applied
Edge Match	EM44L EM35L EM37L
Clip	Min = -5 Max = 5
Despike	X=1 Y=1 Thr = 3 Repl = Mean
Interpolate	X, Expand – SinX/X, x2 Y, Expand – SinX/X, x2
Wallis Filter	X=3 Y=3 Wt=G DSD=2 DL=1
Low Pass Filter	X=1 Y=1 Wt=G
Raw Palette Scale	Grey55 Min= -15 Max= 15
Palette Scale	Grey55 Min= -5 Max=53
Area B	
High Pass Filter	X=10 Y=10 Wt=G
Zero Mean Traverse	All LMS =on Thresholds not applied
Clip	Min = -5 Max = 5
Despike	X=1 Y=1 Thr = 3 Repl = Mean
Interpolate	X, Expand – SinX/X, x2 Y, Expand – SinX/X, x2
Wallis Filter	X=3 Y=3 Wt=G DSD=2 DL=1
Low Pass Filter	X=1 Y=1 Wt=G
Raw Palette Scale	Grey55 Min= -15 Max= 15
Palette Scale	Grey55 Min= -5 Max=53

Appendix 5: Context Register

Context No.	Description and Interpretation
001	**Turf and topsoil**. Dark brown humic clayey sand with abundant angular pea sized gravel. Throughout trench up to 0.11m thick.
002	**Bank material**. Dark grey brown sandy clay with abundant angular pea size gravel and common angular stone up to 0.10m by 0.05m by 0.05m. Extends across 1m width of trench, 1.78m wide and 0.09m deep.
003	**Buried ground surface**. Dark orange brown sandy clay withabundant angular stone up to 0.10m by 0.05m by 0.05m. Survives below bank material (002) up to 0.03m thick.
004	**Cut of ditch**. Linear cut oriented NW-SE extending across trench to NE of Bank (002). Gradual break of slope at top leads to steep sides that break gently to a flat to concave base. Extends across 1m width of trench, 0.75m wide and 0.21m deep.
005	**Slumping of bank to NE**. Dark grey brown sandy clay with angular pea sized gravel and occasional angular stone up to 0.10m by 0.05m by 0.05m.Extends across 1m width of trench, 1.07m wide and 0.09m deep.
006	**Fill of ditch [004]**. Dark grey clayey sand with abundant angular pea sized gravel and occasional angular stone up to 0.10m by 0.05m by 0.05m. Fills ditch [004], extending across 1m width of trench, 0.75m wide and 0.21m deep.
007	**Natural glacial till**. Orange sandy clay and angular stone up to 0.10m by 0.05m by 0.05m. Throughout trench.
008	**Cut of pit**. Oval cut oriented NW-SE to NE of bank (002) and ditch [004]. Sharp break of slope at top leads to steep sides that break gently to a flat base. Measures 0.56m by 0.45m by 0.08m.
009	**Fill of pit [008]**. Dark reddish brown sandy clay with abundant angular pea sized gravel and rare angular stone. Fills cut [004] measuring 0.56m by 0.45m and 0.08m deep.
010	**Lens of material within tree throw pit [011]**. Pale grey brown clayey sand. Lies to SE of bank extends across 1m width of trench , 0.41m wide and 0.11m deep.
011	**Cut of tree throw pit**. Linear cut oriented NW – SE extending across 0.5m width of trench xxxm wide and xxxm deep. Sharp break of slope at top leads to irregular sides breaking gently to a flat base. Sides are very uneven and rough.
012	**Fill of tree throw pit [011]**. Deposit of angular stone up to 0.10m by 0.05m by 0.05m in a matrix of silty sandy clay. Of similar character to underlying natural (007), suggesting it is a disturbed natural.

Appendix 6: Excavation Photographic Register

Frame	Description	From	Date
001-002	Pre-excavation	SE	9/3/15
003-004	Working shots	-	9/3/15
005	Bank (002) and slumping (005) pre-excavation	SW	9/3/15
006-007	Bank (002) and slumping (005) pre-excavation	NW	9/3/15
008	Bank (002) and slumping (005) pre-excavation	NE	9/3/15
009-010	Working shot	ENE	9/3/15
011	Tree throw pit [011] and western end of trench	W	9/3/15
012	Tree throw pit [011] and western end of trench	NW	9/3/15
013	Tree throw pit [011] and western end of trench	SW	9/3/15
014	Pit [008] pre-excavation	NE	9/3/15
015-016	Pit [008] pre-excavation	SE	9/3/15
017-019	Trench post-excavation	ENE	9/3/15
020	Pit [008] post-excavation	ENE	9/3/15
021	Pit [008] post-excavation	SE	9/3/15
022-023	Pit [008] post-excavation	NW	9/3/15
024	Trench NW facing section (E-end)	NW	9/3/15
025	Trench NW facing section (centre)	NW	9/3/15
026-027	Bank (002) and slumping (005)	SE	9/3/15
028	Trench NW facing section (W-end)	NW	9/3/15
029	Trench post-excavation	SW	9/3/15
030	Pit [008] post-excavation	NW	9/3/15
031	Ditch [004] post-excavation	NW	9/3/15
032-033	Ditch [004] post-excavation	SE	9/3/15
034	Bank (002) post-excavation	NW	9/3/15
035	Bank (002) post-excavation	SE	9/3/15
036	Tree throw pit [011] post-excavation	NW	9/3/15
037	Tree throw pit [011] post-excavation	SE	9/3/15
038-039	Trench (W-end) post-excavation	NW	9/3/15
040-049	Panorama of valley to N of site	-	10/3/15
050-058	Panorama of valley to NE of site	-	10/3/15
059-061	View over valley following line of cursus	NW	10/3/15
062-064	Working shots	WNW	10/3/15
065-067	Working shots	SW	10/3/15
068-070	Working shots	E	10/3/15
071-073	Trench post-excavation	NE	10/3/15
074-076	Trench post-excavation	ENE	10/3/15
077-079	Trench NW facing section (E-end)	NW	10/3/15
080-082	Trench NW facing section (centre) showing bank (002) & ditch [004]	NW	10/3/15
083-085	Trench NW facing section (centre) showing bank (002)	NW	10/3/15
086-088	Pit [008] post-excavation	NE	10/3/15
089-091	Trench NW facing section (W-end) showing tree throw [011]	N	10/3/15
092-094	Trench post-excavation	WSW	10/3/15
095-97	Trench post-excavation	SW	10/3/15
098-100	Trench post-excavation (E-end)	NE	10/3/15
101-103	Bank (002) NW facing section	NW	10/3/15
104-106	View across valley following line of cursus	ESE	10/3/15
107-108	Kubiena tins through bank (002) and buried ground surface (003)	NW	10/3/15
109	Trench backfilled	SE	10/3/15
110	Trench backfilled	SW	10/3/15
111	Trench backfilled	W	10/3/15

Frame	Description	From	Date
112-126	Panorama from top of Broomy Law	-	10/3/15
127-128	Southeastern terminal of cursus of Broomy Law	-	10/3/15

Appendix 7: Drawing Register

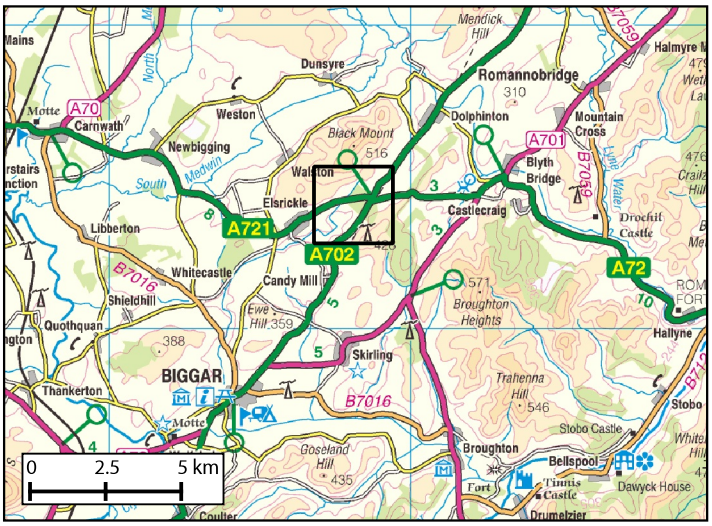
Drawing No.	Details	Scale
01	Plan of Trench 1	1:20
02	Trench 1 Northwest facing section	1:10

Appendix 8: Sample Register

Context No.	Quantity (litres)	Desription
002	30l	Bulk Sample
003	10l	Bulk Sample
005	10l	Bulk Sample
006	10l	Bulk Sample
009	10l	Bulk Sample
Kubiena tin 1	-	Kubiena tin sample through bank (002) and buried ground surface (003)
Kuniena tin 2	-	Kubiena tin sample through bank (002) and buried ground surface (003)

Appendix 9: 'Discovery and Excavation in Scotland' Report

LOCAL AUTHORITY:	South Lanarkshire
PROJECT TITLE/SITE NAME:	Melbourne Cursus Monument Evaluation
PROJECT CODE:	22977
PARISH:	Biggar
NAME OF CONTRIBUTOR:	Jamie Humble
NAME OF ORGANISATION:	AOC Archaeology Group
TYPE(S) OF PROJECT:	Geophysical Survey and Evaluation Excavation
NMRS NO(S):	NT04SE 48
SITE/MONUMENT TYPE(S):	Cursus Monument
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NT 08580 43009
START DATE (this season)	9th March 2015
END DATE (this season)	10th MArch 2015
PREVIOUS WORK (inc DES)	None
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	*AOC Archaeology Group was commissioned by the Royal Commission on the Ancient and Historical Monuments of Scotland to undertake an archaeological geophysical survey and evaluation excavation to investigate the potential for buried archaeological remains relating to Melbourne Cursus at Land to the west of Melbourne crossroads, Biggar, South Lanarkshire.* *The site is located to the west of the Melbourne Crossroads, where the A702 and the A721 intersect, approximately 3km to the north-east of Elsrickle and 8km to the north-east of Biggar (centred at NT 0800 4400). Two areas were targeted with geophysical survey, the first is located to the north of the A721 and the second to the south of the A702. The evaluation comprised the excavation of a single trench located over the bank and ditch on the ENE side of the cursus, close to the southern terminal.* *A gradiometer survey was undertaken over approximately 5ha. Results are largely inconclusive neither displaying the presence or absence of archaeological remains. It can be suggested the instruments were affected by geology and subsequently were unable to clearly identify potential archaeological remains.* *In the excavation trench evidence of the structure of the monument was revealed. The structural remains comprised a low broad bank with a turf core. A ditch extended along the exterior of the cursus bank. A shallow pit lay outside of the ditch. No artefacts or dating evidence was retrieved during the excavations.*
PROPOSED FUTURE WORK:	To be confirmed
CAPTION(S) FOR ILLUSTRATIONS:	N/A
SPONSOR OR FUNDING BODY:	RCAHMS
ADDRESS OF MAIN CONTRIBUTOR:	AOC Archaeology Group, Edgefield Road Industrial Estate, Loanhead, Midlothian, EH20 9SY
EMAIL ADDRESS:	admin@aocarchaeology.com
ARCHIVE LOCATION	Archive to be deposited in NMRS



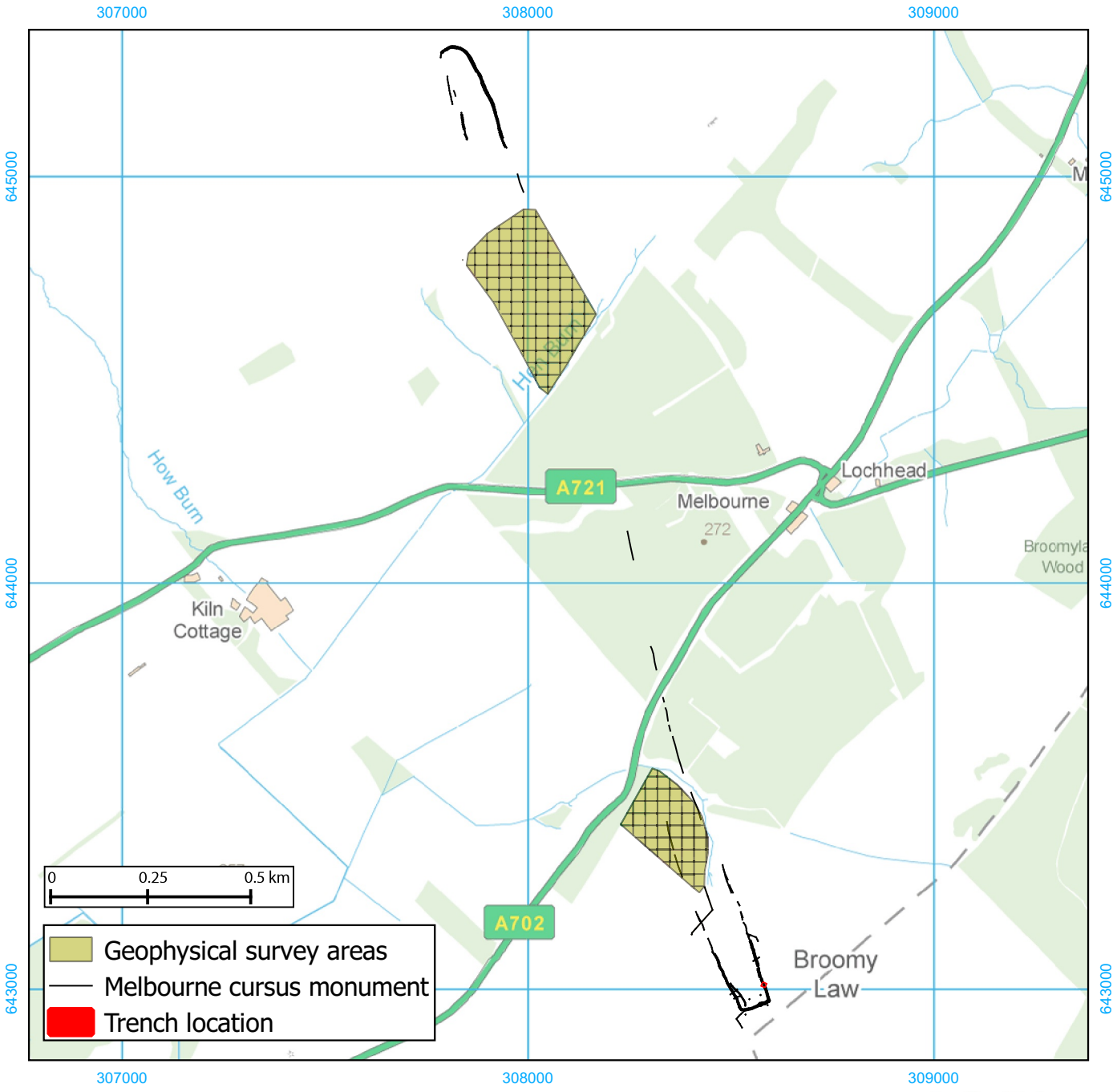


Figure 1: Site location

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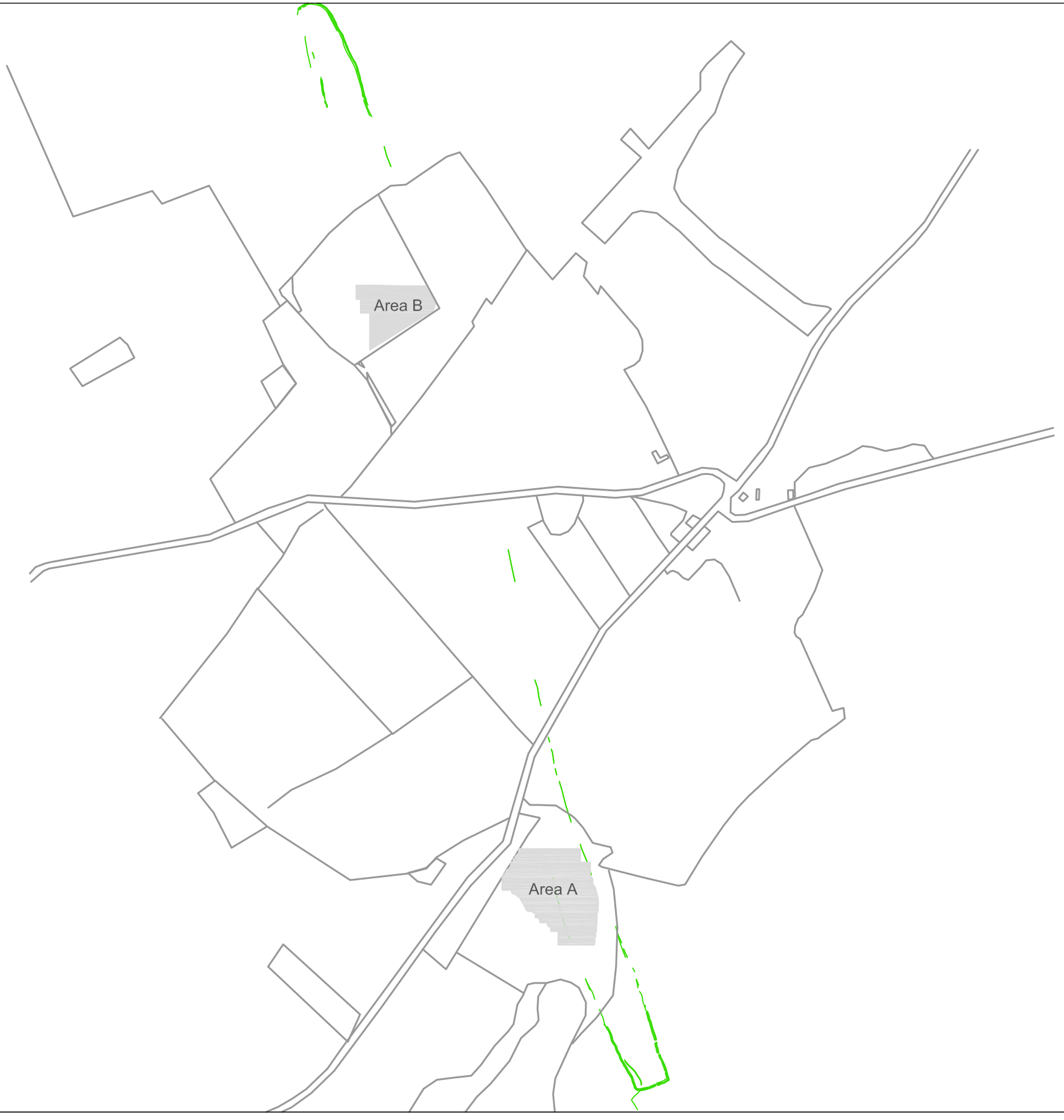


Location of survey areas

Figure 2

N

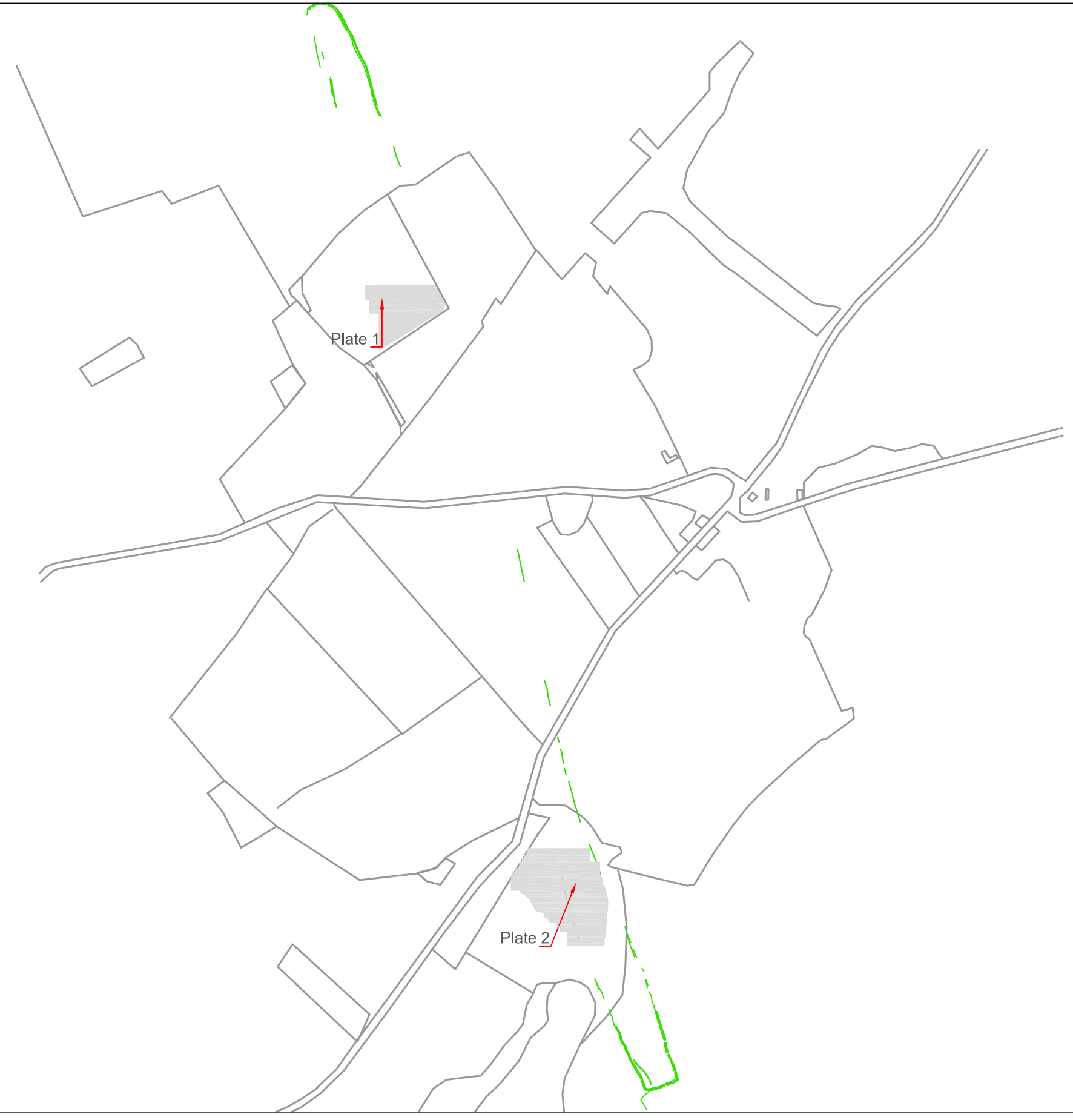
Survey area

Melbourne Cursus

0 500m

1:10,000 at A3

AOC Archaeology Group



Location of plates

Figure 3

N

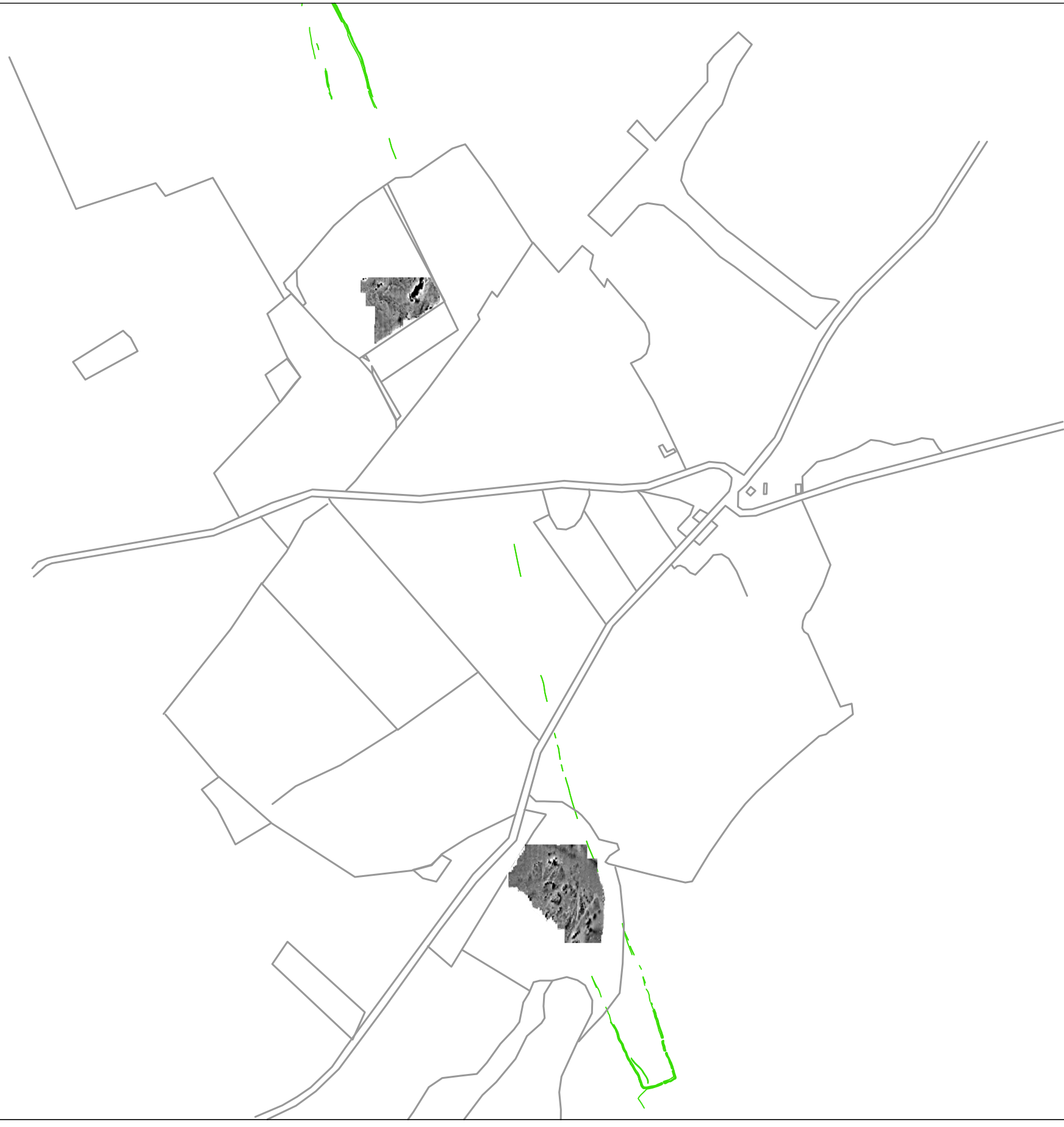
Survey area

Melbourne Cursus

0 500m

1:10,000 at A3

AOC Archaeology Group



Scale
15
-15

Unprocessed gradiometer survey results greyscale plot

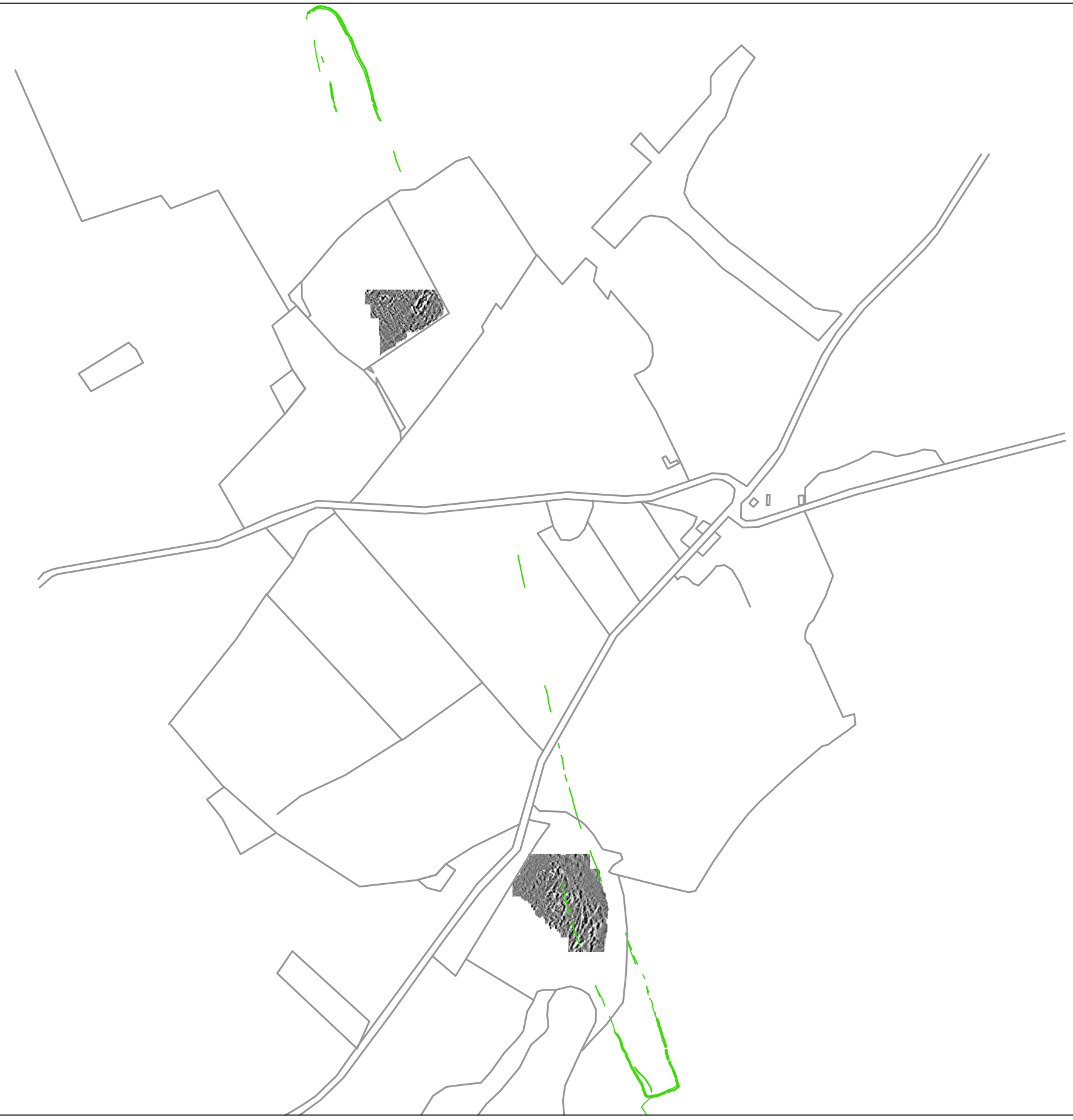
Figure
4

N

Melbourne Cursus

0 500m
1:10,000 at A3

AOC Archaeology Group



Scale
5
-5

Processed gradiometer survey results greyscale plot

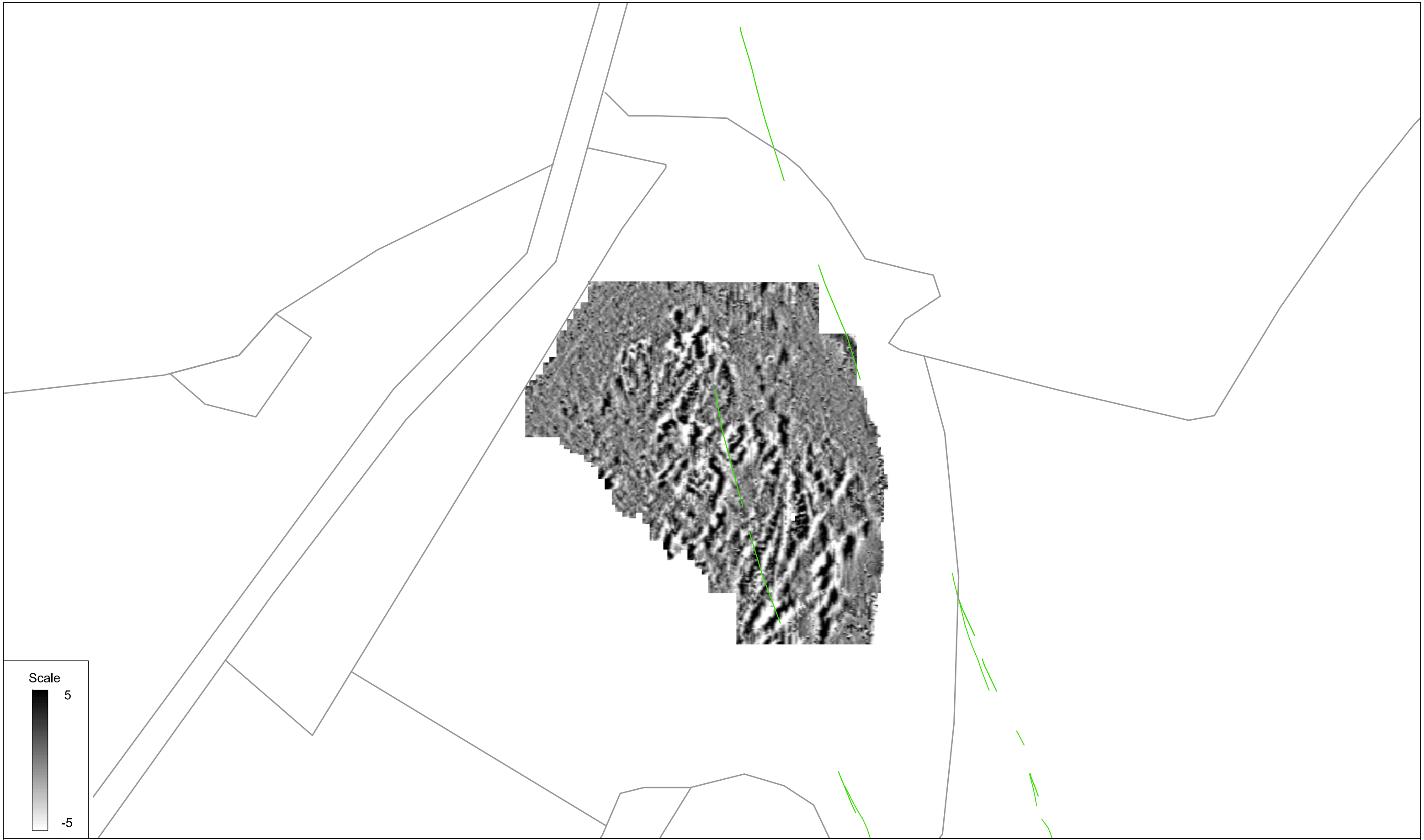
Figure
5

N

Melbourne Cursus

0 500m
1:10,000 at A3

AOC Archaeology Group



Area A processed gradiometer survey results greyscale plot

Figure 6

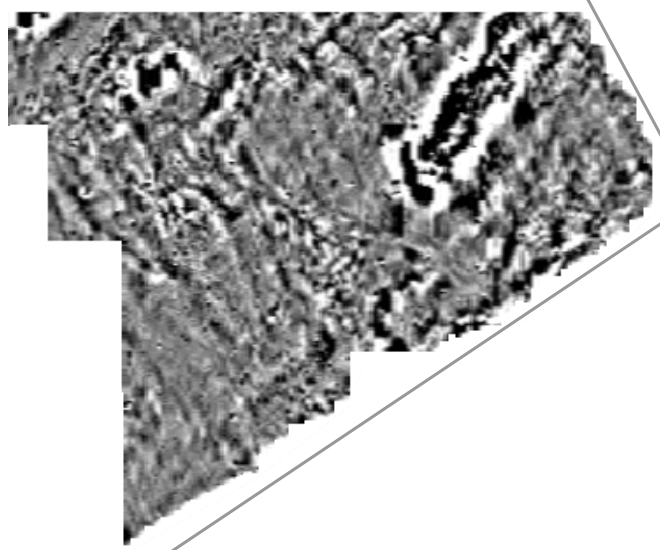
N

Melbourne Cursus

0 100m

1:2000 at A3

AOC Archaeology Group



Scale
5
-5

Area B processed gradiometer survey results greyscale plot

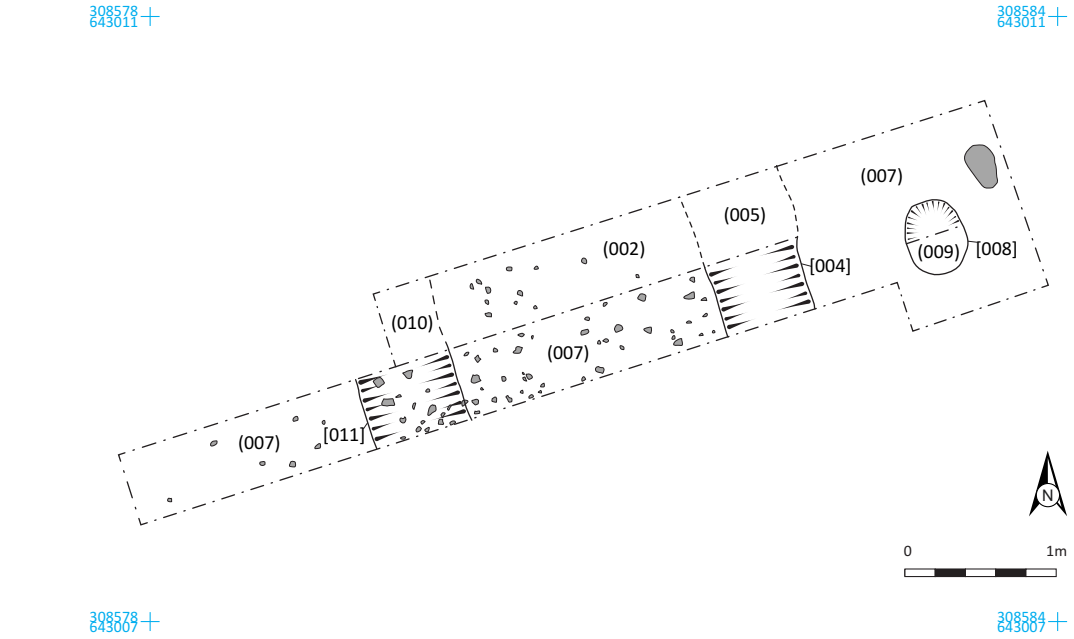
Figure
7

N

Melbourne Cursus

0 100m
1:2000 at A3

AOC Archaeology Group



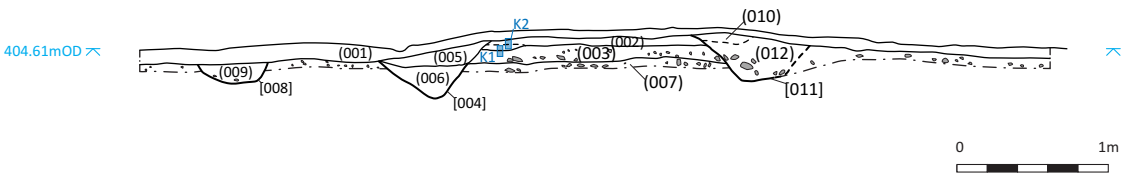
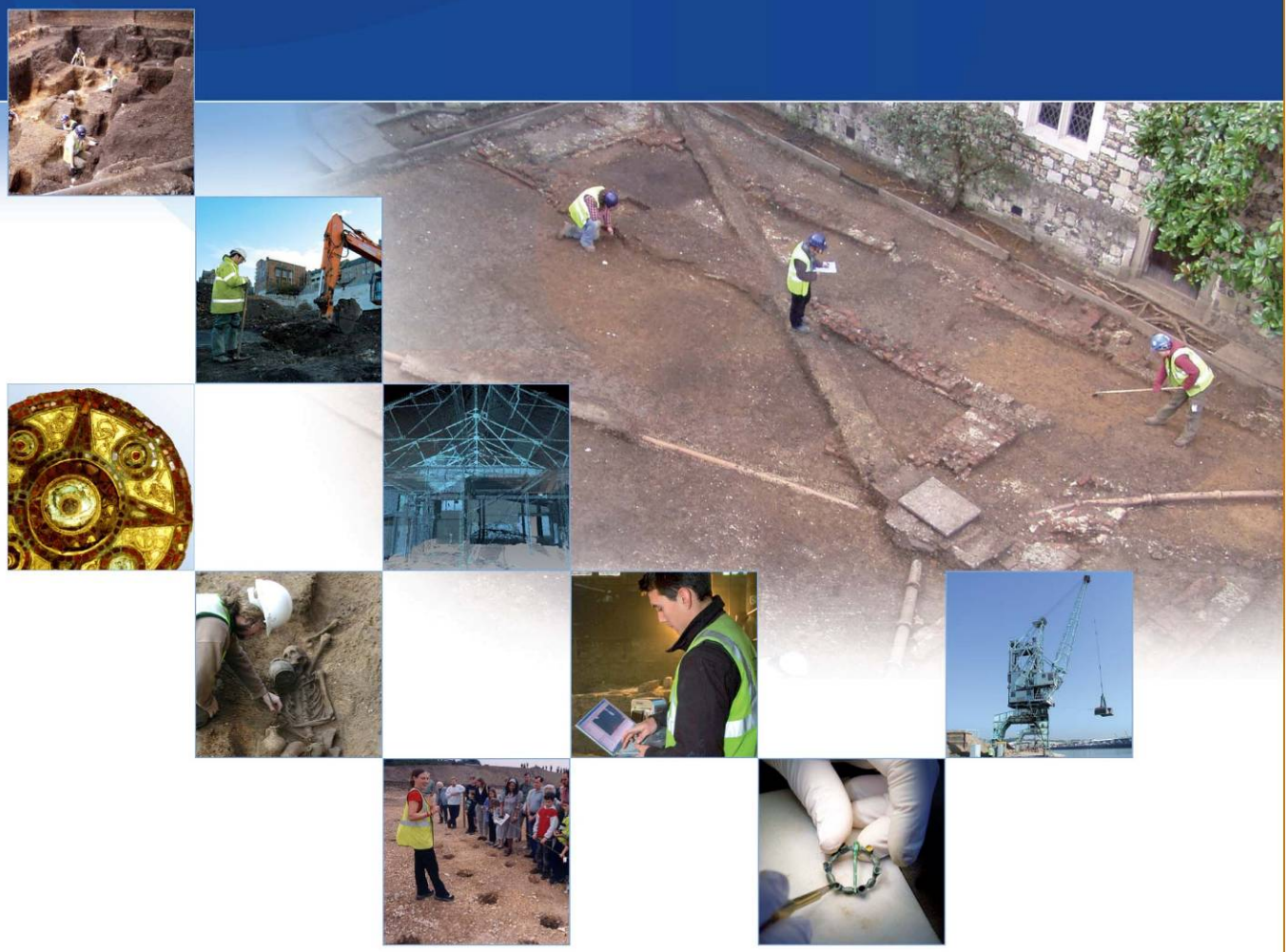


Figure 8: Trench Plan and NW facing section



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