

Waterloo Uncovered 2017 Field Season Project Design

Introduction

In July 2017 the Battlefield of Waterloo will once again provide the focus for a programme of field investigation, including excavation and metal detecting survey. Work will continue in some of the areas already subject to investigation in 2015 and 2016, while new locations will also be explored in an effort to more fully understand the nature of the activities related to the battle of 1815 through the medium of archaeology. However, as already demonstrated these investigations are also likely to shed light on both earlier and later aspects of the farm and the lands associated with it.

This document outlines the programme of works planned for 8th - 21st July 2017. For further information on the background to the project, the results of previous work and the rationale behind Waterloo Uncovered, the project website should be consulted at: <http://www.waterloouncovered.com/>. Perhaps the most pertinent of these other documents is the report on the various investigations carried out since 2016 and the WU Bi-Annual report, which has provided the foundation for a good deal of the fieldwork proposed here.

This project design has resulted from several meetings and discussions between various members of the Waterloo Uncovered team, including field directors Professor Tony Pollard (University of Glasgow), Dr Stuart Eve (L - P : Archaeology), Dominique Bosquet and Véronique Moolaert of SPW (the local Belgian government department responsible for cultural heritage).

Summary of tasks for 2017 (see Fig. 1 and 2)

Continuation of work commenced in 2015/16

- 1) Metal detecting and excavation in the Killing Zone.
- 2) Metal detecting and excavation inside the walls of the garden.
- 3) Further exploration of the buried building footprints of Hougoumont within the courtyard
- 4) Metal detecting and possible excavation in the kitchen garden.

Work to be undertaken in new areas

- 1) Large-scale trenching of an area to south-west of Mont Saint Jean farm.
- 2) Examination of the site of the possible backfilled pond to the north of the North Gate.
- 3) Investigation of a number of anomalies in the area of previous woodland to the south of Hougoumont.

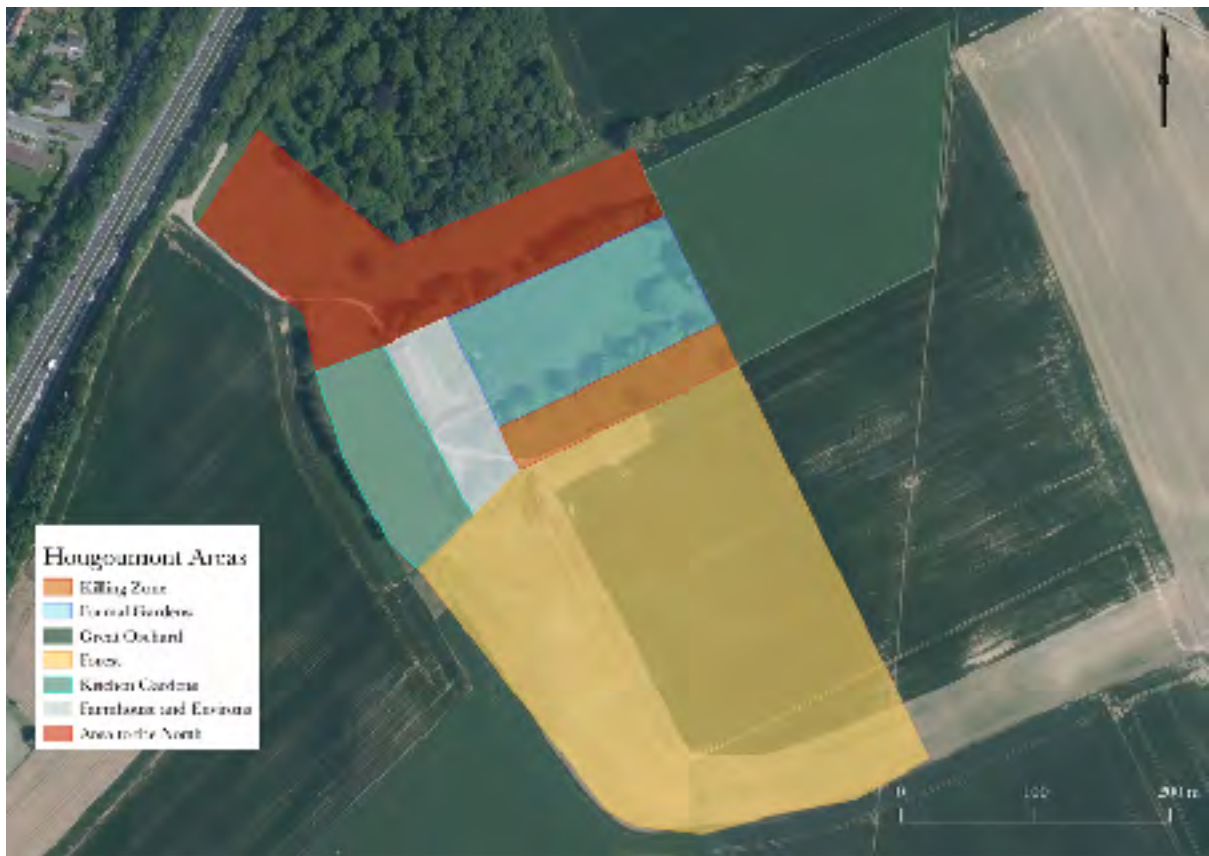


Fig. 1. Areas of investigation at Hougoumont farm.



Fig. 2. Area of investigation at Mont St. Jean farm.

Programme of works

Areas previously investigated

1) *Metal detecting the Killing Zone*

Given that the south wall of the garden is recorded as being a key point of attack for French forces advancing from the south, either through the wood to the west or the open fields to the east, it is of great value to understand more fully how this attack developed and whether it broke evenly against the entire length of the wall or was concentrated in limited areas. In order to accomplish this, further areas of the Killing Zone will be stripped of topsoil and the exposed soil horizon scanned with metal detectors.

We have now excavated a total of nine trenches in the Killing Zone (see Fig. 3) and it is planned to continue stripping as much as possible of the killing zone. Ideally, the entire area will be machine stripped, but given the constraints of a two week field season, this might not be possible, in which case a representative sample of areas will be investigated. Priority will be given to the eastern end of the Killing Zone, due to known truncation from early sand extraction at the western end.



Fig. 3. Previously trenched areas in Hougoumont

2) *Metal detecting inside the walled garden*

In a repeat of the stripping exercise carried out in the Killing Zone, the exposure of buried horizons against the inside of the south wall and eastern walls of the garden

resulted in the recovery of further musket shot. At first these were thought to be musket balls dropped close to the walls by defenders or French shot fired over the wall by attackers who managed to ascend it. However, as work continued further into the garden it became apparent that this scatter represented a fire fight inside the garden, with bullets from both sides demonstrating evidence for being fired and impacting at fairly close range. Further investigation of the musket balls seems to show a greater than expected number of French balls in the garden. It is suggested that this could be indication of hitherto unknown French incursion in the walled garden during the battle of Waterloo or may be a result of an earlier firefight in Hougoumont during the Revolutionary Wars.

On the basis of the above, further areas inside the walled garden will be machine stripped with the specific aim of exposing a buried surface around 30 cm below the surface, which will then be subject to metal detector survey. Some of these areas may coincide with those on the other side of the wall, in the Killing Zone, in order to test whether there is a correspondence of areas of fighting on both sides in these areas (i.e. did areas of heavy fighting on the south side correspond to incursions over the wall, which resulted in fighting inside the garden).

3) *Further exploration of the buried building footprints of Hougoumont within the courtyard*

During the 2016 season we excavated three trenches within the courtyard of Hougoumont. Each of these trenches revealed evidence of the previous (now



Fig. 4. Frontage of building in courtyard, misaligned with cartographic evidence

demolished) buildings in the north-western quarter of the courtyard. The building foundations are very well preserved. Contrary to expectations the frontage of the

eastern range did not correspond with the cartographic evidence, suggesting that the buildings were slightly thinner than has previously been depicted (see Fig.4 and the bi-annual report for full details).

In addition to evidence of the eastern range we also uncovered the corner of the buildings by the North Gate. These were also very well preserved, quite substantial and contained slate that may have fallen from the roof, suggesting that they haven't been disturbed since their destruction as a result of the battle.

We will reopen and extend these two trenches to uncover further evidence of the buildings and to build a better picture of the possible length, breadth and height of the buildings within the courtyard. If time permits we will open a third trench to attempt to ascertain the relationship of the buildings to each other in the northeastern corner.

These trenches will be excavated by hand and will be backfilled with the original material, with the ground surface returned to its original state.

4) *Further investigation the areas of the kitchen gardens to the west of the complex*

Continuing from our investigations in 2016 which were limited to metal detection, we will continue to metal detect and possibly mechanically strip some areas of the kitchen garden, the site of quite a heavy assault on Hougoumont in 1815 and also some bombardment during the engagement of the Revolutionary Wars.

In order to understand the nature of soils in an area of slope and also to test the possibility of remains relating the kitchen gardens surviving it is proposed to place at least one machine cut trench in this area, with metal detecting used to scan soils at various depths as the stripping takes place. Metal detecting in 2016 showed the artefacts from the battle are at a significant depth, in some cases too deep for for the range of a normal metal detector.

An insight into the nature of these soils will provide valuable information when it comes to understanding the wider landscape of the battle, much of which is sloping and where soil creep might well have smoothed out gulleys and hollows which although not today visible might have represented vital elements of military terrain in 1815. Should remains related to the gardens, in the form of boundaries or beds, be discerned within this area this once again will provide a valuable insight into the nature of the site as it appeared in 1815 and perhaps enhance the experience of visitors keen to explore the battlefield.

Areas not investigated in 2016

1) *Mont St. Jean Farm*

The 2017 season brings a break in the tradition of WU digging solely at Hougoumont Farm. We will expand the team to encompass a section of land to the southwest of Mont St. Jean farm (Fig. 2). SPW (the local planning authority) is expanding the road that passes by the farm, and building a new roundabout. In order to mitigate any possible impact on buried archaeological remains SPW are required to undertake a programme of archaeological groundworks in advance of the development. As a key partner of Waterloo Uncovered, SPW have invited WU to aid in these vital excavations.

The farm of Mont St. Jean played an important role in the battle as the Allied field hospital, treating casualties of the battle of Waterloo itself, but also from the preceding battles of Quatre Bras, Ligny and Wavre. The major part of the field hospital was contained within the farm itself, with contemporary accounts talking of amputated limbs filling every corner of the courtyard. The farm complex is large enough to have handled very many casualties and therefore it is unlikely that would have been any tents or temporary structures erected in the area of investigation. According to one of the WU visiting historians (Dr Mick Crumplin) towards the end of the battle the remnants of Kielmansegge brigade and several units of cavalry would have been stationed in the area. The casualty management philosophy of the time would have been to treat as many casualties as quickly as possible and then send them to Brussels or Antwerp via the main road (hence the favourable location for the field hospital). However as amputations (and presumably deaths) would have taken place within the farm complex, the remains are likely to have been disposed of within burial pits in the immediate area. There is a distinct possibility that some of these disposal pits may be present in the area under investigation.

A recent geophysical programme undertaken by the ORBIT unit of Ghent University in advance of the excavation has revealed some interesting anomalies, which warrant further investigation and have enabled us to draw up some specific targets for excavation.



Fig. 5. Electrical conductivity survey of MSJ, showing linear features

As can be seen in Fig. 5, the electrical conductivity survey appears to show a series of very linear features in the centre and southwest of the area. These are

intriguing, and it is unclear what they represent. There is a slight possibility that these may relate to battle activity (such as an area of bivouacs) however, their regularity and size would seem to suggest otherwise - also it is a big response for such an ephemeral activity as temporary tentage. In addition there is no contemporary evidence of a tented hospital being set up by Mont St. Jean farm (and indeed it would be against the philosophy of the time). It is more likely that the features relate to some kind of modern agricultural activity (such as drainage or semi-temporary structures like greenhouses). One of the main research aims of the excavation in this area will be to uncover and define the nature of these features.



Fig. 6. Magnetic susceptibility survey of MSJ, showing a number of anomalies (darker and lighter areas)

The magnetic susceptibility survey (Fig. 6) also reveals a number of intriguing anomalies. The response (and depth) of some of these is similar to the geophysical response from some of the anomalies encountered during the previous excavations at Hougoumont. When excavated the anomalies at Hougoumont proved to be brick kilns broadly contemporary with the battle. However, given their location there is a possibility that the anomalies at MSJ could be disposal pits related to the field hospital. A further possibility brought forward by Mick Crumplin is that they could be brick kilns constructed to help produce the 1000s of bricks needed to build the brick tower that stands at the centre of the Lion Mound.

In order to investigate these anomalies and also to evaluate the archaeological potential of the road widening scheme we will excavate a set of trenches as shown in Fig. 7. These will be excavated with a 20t machine under close supervision of



Fig. 7. Proposed trenching plan, showing anomalies to be investigated and general sampling trenches.

SPW staff and archaeologists from Waterloo Uncovered. The area of the trenches will be metal detected prior to any excavation and also during the excavation itself. An adaptive sampling strategy will be employed, meaning that if any features are found that extend beyond the trench boundaries the trenches can be extended to ascertain the boundaries of the features.

2) *Examine site of back-filled pond*

This area was due for investigation during the 2016 season, however, due to time constraints no intrusive investigation was possible, therefore it has become a target for the 2017 season.

The post battle map by De Craan and William Siborne's model suggest a pond to the north of the North Gate, however this does not appear on the 1777 map. The present terrain suggests wet ground in the area, an observation backed up by the nature of the soils excavated in order to recover objects located by metal detector. Machine excavation will be used in an attempt to demonstrate the presence or absence of a pond, which might have limited troop movements, particularly those of the French, during the battle, and provided a receptacle for cleared battle debris after the conflict. Should waterlogged deposits be identified these might also provide evidence for environmental conditions, through pollen etc. in addition to the benefits that such deposits might have with regard to organic preservation.

On the negative side this feature may be nothing more than ground disturbed during the construction of the highway, as evidenced by the trench placed across the western end of the sunken way and other trenches previously opened in this vicinity.

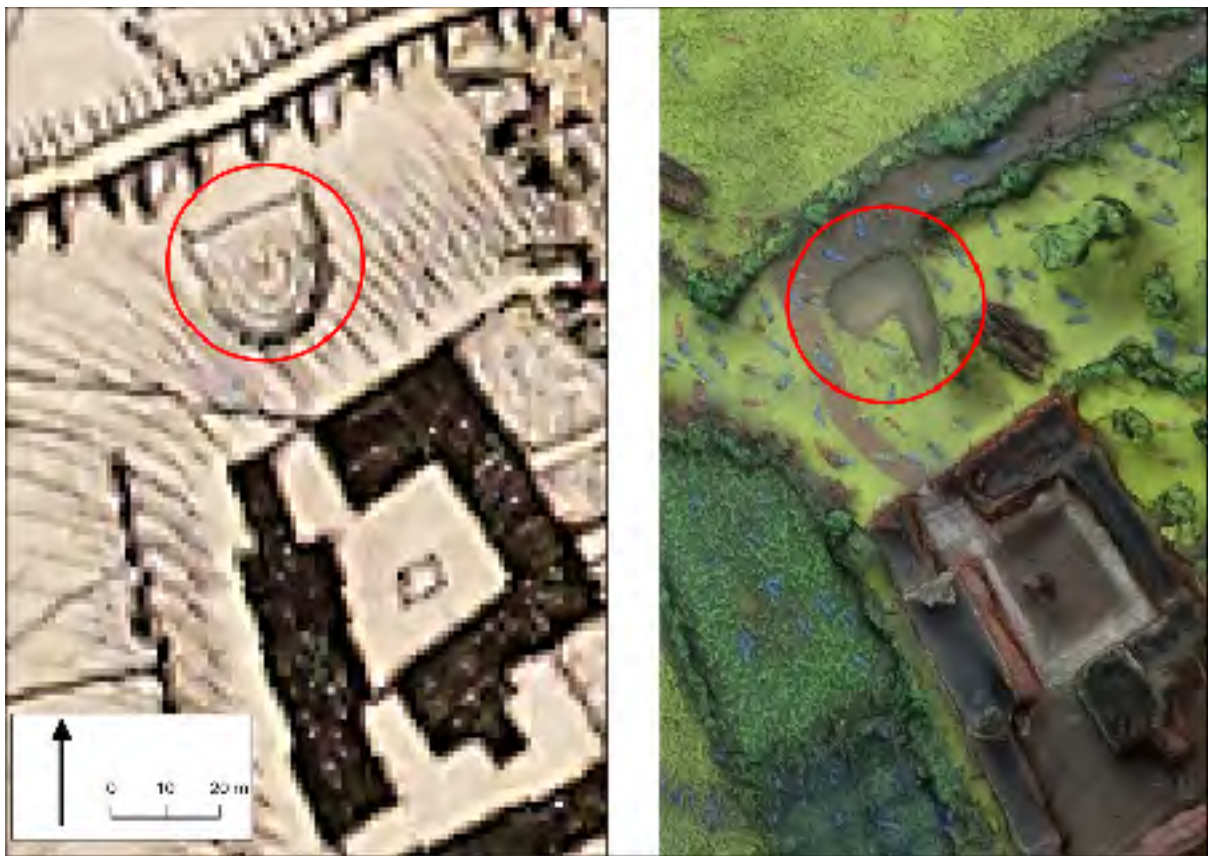


Fig. 8. The possible pond by the North Gate as shown on De Craan 1816 (left) and Siborne's model (surveyed 1830s) (right).

3) Examination of geophysical anomalies in the old woodland to south of Hougoumont

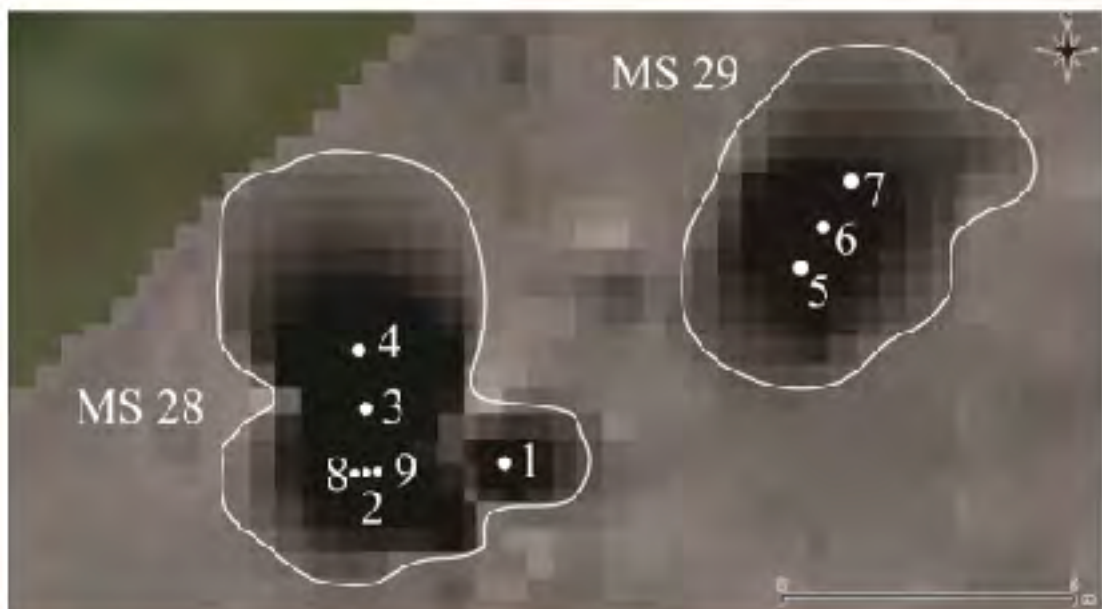


Fig. 9. Geophysical anomalies in Hougoumont Woodland.

Following the negative evidence of the possible mass grave under the car park at Hougoumont investigated in 2016, further investigation of the written archive of the previous owner of Hougoumont, Count d'Oultremont was undertaken. A letter, written by de Robiano, the landowner of Hougoumont from 1816 to his farmers states *"I hope that you've already [begun] to plough the wood: there are 2 round places where one burned many bodies and horses, you should not plough these two places"*. This letter suggests that the grave pits depicted in the famous pictures outside the southern gate of Hougoumont may in fact derive from other pits that were dug within the woodland - and the drawings used the backdrop of Hougoumont for artistic effect.

Previous geophysical work in the woodland revealed two magnetic susceptibility anomalies (Fig.9 (MS 28 and 29)) that may be perfect candidates for the two burned round places de Robiano is speaking about. In June 2017 these anomalies were investigated via core drilling (see Appendix 1 for the full report).

Cores 3, 4, 5, 6 and 9 (Fig. 9) reached the in situ Tertiary sand without hitting anything burned or of anthropogenic origin. Cores 1 and 7 hit a more clayey horizon situated between bottom of the top soil and the top of the in situ Tertiary sand. This unit is more difficult to interpret on such narrow samples. It could be seen as an anthropogenic mixed horizon or as natural lens of a bit more clayey sediment in the Tertiary sand.

Only cores 2 and 8, situated at 20 cm from each other delivered traces of burned hearth and charcoal. In core 2, this unit is 9 cm thick and is situated between the top soil and the Tertiary sand, while in core 8 the burned elements constitute a 9 cm thick unit situated at the bottom of a 15 cm thick detritic layer containing a tiny piece of glass. No burned bone was observed in either core 2 or 8. However, based on such narrow samples this does not preclude the possibility that these traces are linked to burial pits or pyres. Core 9 was opened to check the extent of the burned horizon observed in 2 and 8, but returned negative results.

Due to the indeterminate nature of the results in cores 2 and 8, we will excavate a trench measuring 6 x 6.5m covering the entire anomaly to further elucidate the nature of the anomaly and further investigate the observed burnt horizon.



Fig. 10. Proposed trench over anomaly MS 28.

Team Composition

There will be a mix of experienced archaeologists and students and veterans with limited or no experience. The latter group will be receiving training in archaeological field techniques through their active participation in the project over the course of the two week field season. Day to day management of the work will be undertaken by Project Directors Tony Pollard (University of Glasgow), Stuart Eve (L - P : Archaeology), Véronique Moulaert (SPW) and Dominique Bosquet (SPW). They will work closely with senior archaeologist, Cornelius Barton (L - P : Archaeology), who will be in overall control of site recording. Training will be overseen by Project Supervisors Emily Glass and James Earley.

There will be six teams operating, each consisting of around 3-5 veterans supervised by at least one experienced archaeologist. These teams will be allocated individual tasks based on the research design presented above.

Field Methods and Recording

The techniques of investigation deployed and the standards of recording adopted will be in keeping with those detailed in the 2015 project design. Site codes for this year will be BA17HOU (for Hougoumont) and WAT17MSJ (for Mont St. Jean). Site mapping and artefact location will be recorded using differential GPS by a team from L - P : Archaeology led by Mike Johnson and assisted by veterans, students or trained archaeologists where necessary.

Metal detecting will be carried out by a small team of experienced detectorists led by Garry Craig, the team operating under the direct supervision of the project's directors and senior archaeologist.

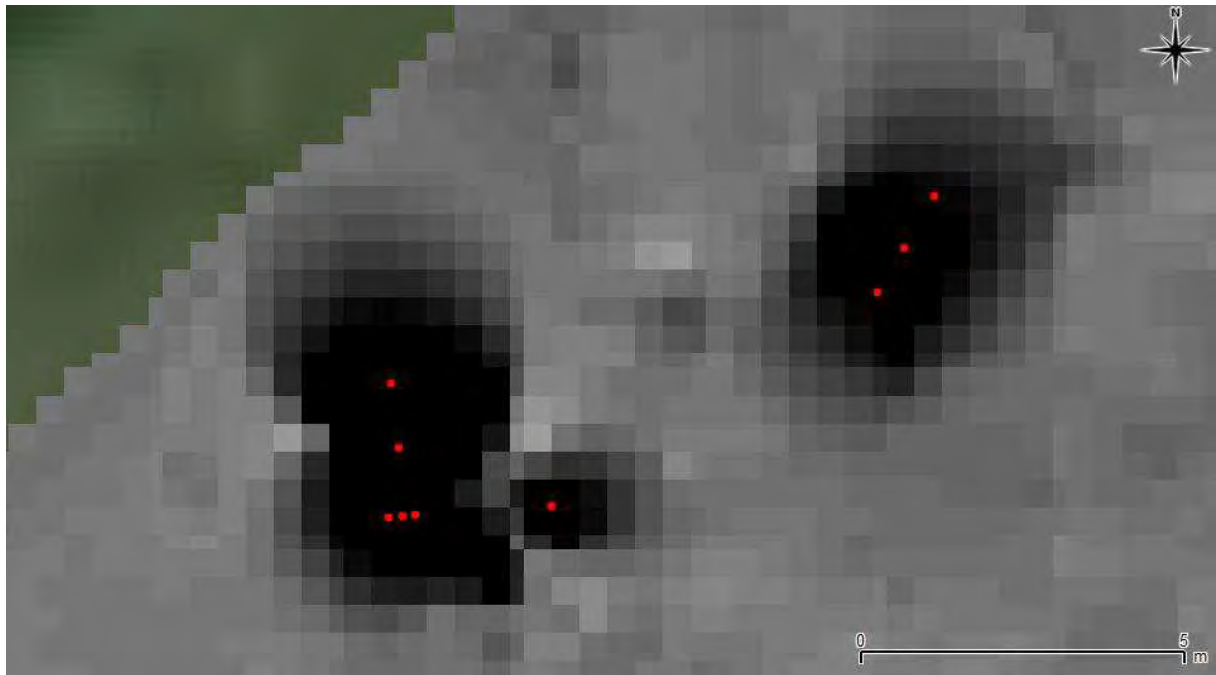
The separate areas (Hougoumont and MSJ) will have their own dedicated finds and survey teams. At the end of each day the finds and survey data will be collated and presented to the finds team for processing and further recording, including photography. This team will be led by lead finds officer Hillery Harrison, along with Masters and PhD students from the Centre for Battlefield Archaeology, who have been engaged in the post-excavation analysis of the assemblages from 2015. During this process information about the artefacts will be fed into the ARK system (<http://www.lparchaology.com/waterloouncovered>), providing an on-line searchable database and permitting public access to the material.

As undertaken successfully in 2016, in order to minimise the amount of analysis and report writing post field season, every effort will be made to complete trench reports while the team is deployed in the field. This will be led by Publications Officer Flo Laino (L - P : Archaeology). One distinct advantage to this on-site reporting will be the ability for supervisors and volunteers to discuss the archaeology while it is still exposed rather than relying on context sheets and field drawings as is usually the case. Likewise, with finds, the intention is to complete as much analysis in addition to recording as possible (measuring and weighing of musket balls etc.) before they are packaged and taken away from site. For this reason the size of the finds team has been increased to include students already familiar with the material, particularly musket balls and buttons.

APPENDIX 1 - JUNE 2017 CORE DRILLING REPORT

Waterloo Uncovered

June 2017 core drillings report



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SPW-DGO4-Service de l'archéologie-Direction extérieure du Brabant wallon

June 2017

June 2017 Core drillings report

Location, aim, method

Core drillings have been carried out over magnetic anomalies MS 28 and MS 29, situated on the North edge of the South wood, 20 meters behind of the old chestnuts, which are the only remnants of the edge of the wood at the time of the battle (fig. 1). There, on the magmap provided by the Orbit unit of the Gent University led by Philippe Desmedt (Desmedt, 2014), two magnetic anomalies indicate features with a high magnetic susceptibility (fig. 1). As observed from our previous campaigns on the site, these anomalies can be anthropogenic features linked to fire places as it can also be due to the presence of natural tertiary sand outcrops riddled with iron oxides and pebbles (Bosquet *et al.*, 2015; Waterloo Uncovered 2015 campaign report).

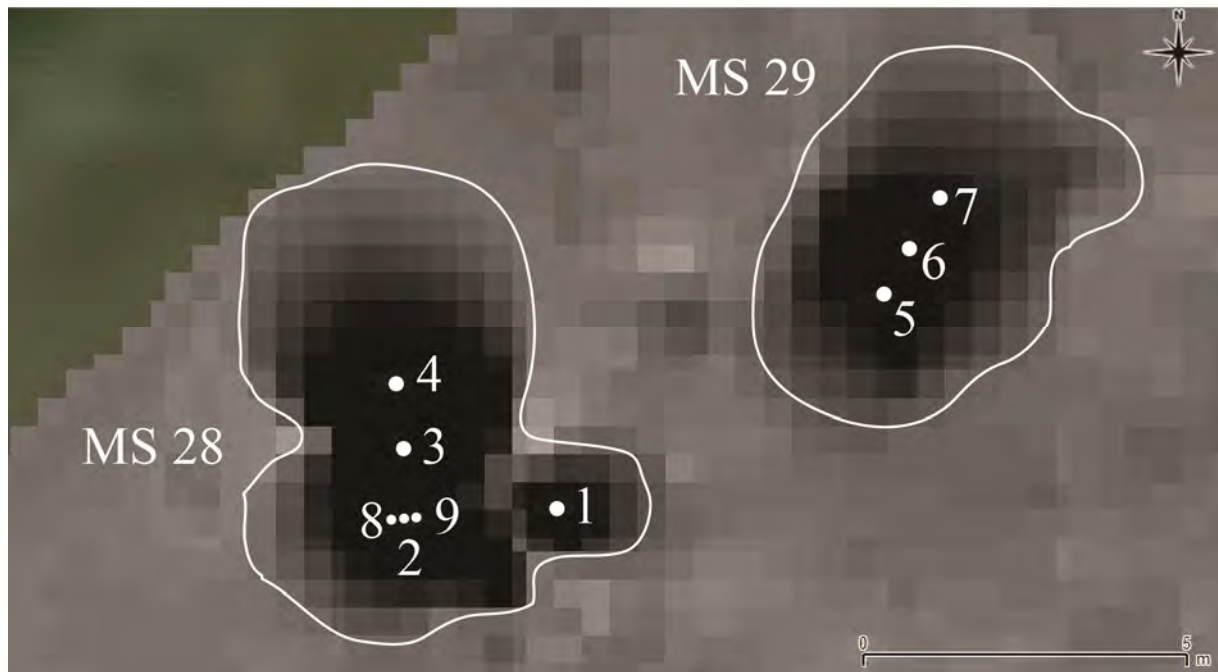


Fig. 1. Braine-l'Alleud "Hougoumont" : MS anomalies 28 and 29 situation and cores setting

Added to that, a letter from Comte Guibert d'Oultremont archives, written by de Robiano, the landowner of Hougoumont from 1816 to his farmers is saying "*I hope that you've ~~already~~ begin to plough the wood: there are 2 round places where one burned many*

bodies and horses, you should not plough these two places". Magnetic susceptibility anomalies 28 and 29 mentioned above are then perfect candidates for those two burned *round places* de Robiano is speaking about.

The core have been taken using a gouge type auger (2 cm diameter, 50 cm long) which was hammered into the ground after evacuation of most of the mixed ploughed top soil which contains no more information for us. Nine cores have been taken and reached 50 cm deep, except cores 1, 5 and 7, which goes deeper (see Field data chapter below).

Results

Cores 3, 4, 5, 6 and 9 (fig. 3, 4) reach the *in situ* Tertiary sand without hitting anything burned or of anthropogenic origin, as long as we can judge on 2 cm diameter cores. Cores 1 and 7 (fig. 2, 4) hit a more clayey horizon, reddish in colour on core 7, situated between bottom of the top soil and the top of the *in situ* Tertiary sand. This unit is more difficult to interpret on such narrow samples. It could be seen as an anthropogenic mixed horizon or as natural lentils of a bit more clayey sediment in the Tertiary sand.

Only cores 2 (fig. 2) and 8 (fig. 4), situated at 20 cm from each other (fig. 1) delivered traces of burned hearth and charcoal. In core 2, this unit is 9 cm thick and is situated between the top soil and the Tertiary sand, while in core 8 the burned elements constitute a 9 cm thick unit situated at the bottom of a 15 cm thick detritic layer containing a tiny piece of glass (fig. 4). Neither in core 2 nor in core 8 can one observe a single trace of burned bone, but on such narrow samples it's not enough to definitively eliminate the possibility that these traces are linked to pyres maintained to clean the battlefield. The piece of glass is more problematic as it indicates that we are here very probably in presence of a waste dump like those whom frequently observe in the fields. Let's mention the fact that core 9 has been opened to check the extension of the burned horizon to the east and that it was negative.

Field Data

Core 1 (fig. 2)

0-21 cm : top soil remnant.

21-42 cm : beige-brown sandy loam.

42-100 cm : yellow-green *in situ* Tertiary sand.

Core 2 (fig. 2)

0-26 cm : top soil.

26-35 cm : burned heart and charcoal.

35-50 cm : yellow-green *in situ* Tertiary sand.

Core 3 (fig. 3)

0-21 : top soil.

21-50 cm : yellow-green *in situ* Tertiary sand.

Core 4 (fig. 3)

0-12 : top soil.

21-50 cm : yellow-green *in situ* Tertiary sand.

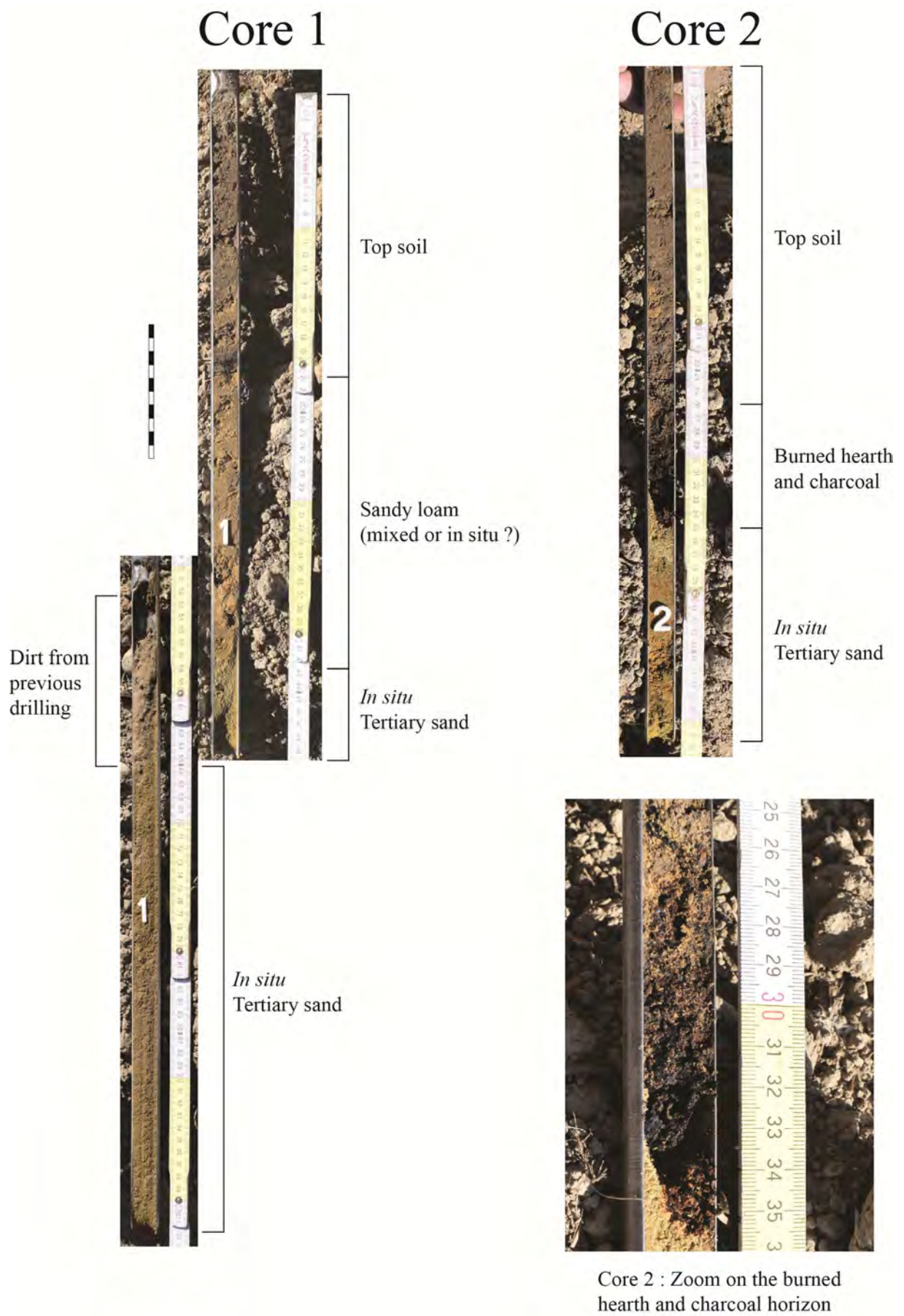


Fig. 2. Braine-l'Alleud "Hougoumont" : cores 1 and 2.

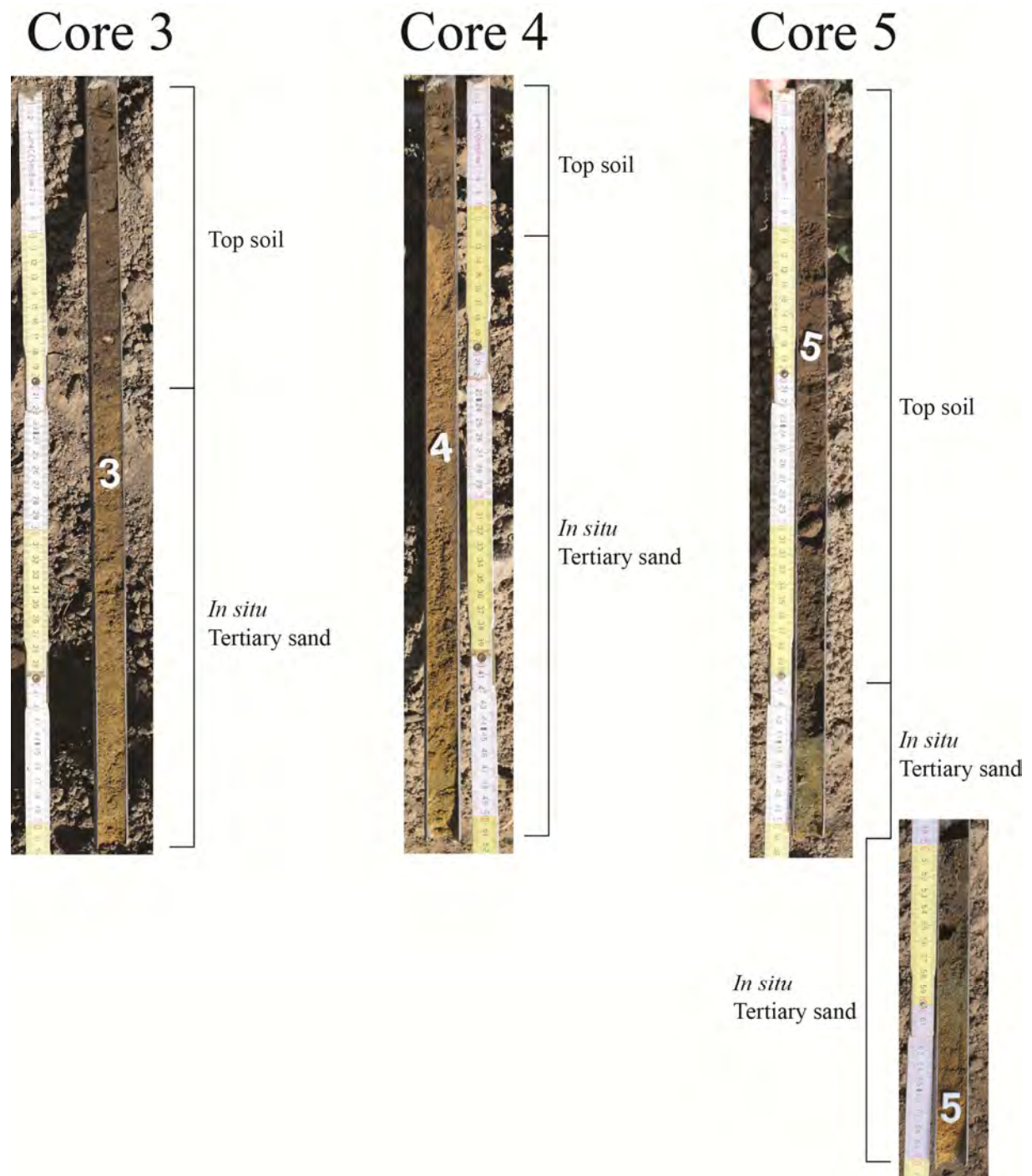


Fig. 3. Braine-l'Alleud "Hougoumont" : cores 3, 4 and 5.

Core 5 (fig. 3)

0-40 : top soil.

40-50 cm : yellow-green *in situ* Tertiary sand.

Core 6 (fig. 4)

0-16 : top soil.

16-50 cm : yellow-green *in situ* Tertiary sand.

Core 6



Top soil

In situ
Tertiary sand

Core 7



Top soil

In situ
Tertiary sand
(a : more clayey
redish units)

In situ
Tertiary sand



Core 8



Top soil

Waste dump layer
(a : piece
of glass)

Burned hearth
charcoal



Core 8 : Zoom on the burned
hearth and charcoal horizon

Fig. 4. Braine-l'Alleud "Hougoumont" : cores 6, 7 and 8.

Core 7 (fig. 4)

0-17 : top soil.

17-50 : yellow-green *in situ* Tertiary sand with more clayey redish units.

50-66 cm : yellow-green *in situ* Tertiary sand.

Core 8 (fig. 4)

0-25 cm : top soil.

25-40 cm : waste dump unit (one piece of glass)

40-50 cm : burned hearth and charcoal.

Core 9 (not illustrated)

0-15 : top soil

15-50 cm : yellow-green *in situ* Tertiary sand.

Conclusion

Whatever the case, we propose the opening of a 6 m x 6.5 m (39 m²) test trench (fig. 5) on anomaly 28 to assure that cores 2 and 8 burned unit is not the remnant of a post-battle pyre. If we want to do it in July 2017, we have to contact the farmer to ask him if we can compensate him as he planted potatoes all over the field corresponding to the South wood. Indeed, potatoes harvest happens in fall (between October and November), too late then as July 2017 campaign is concerned.

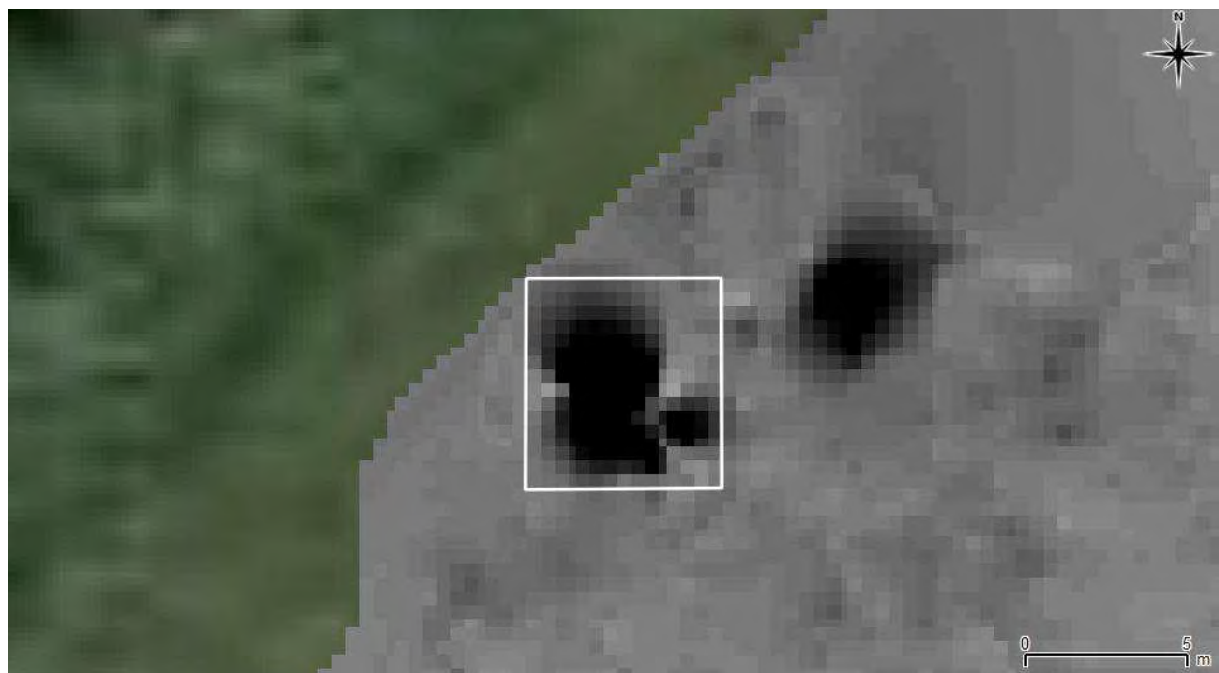


Fig. 5. Braine-l'Alleud "Hougoumont" : situation and size of the proposed test trench on anomaly 28.

References

- BOSQUET D., POLLARD T., DE SMEDT PH., EVANS M., EVE S., FOINETTE CH., VAN MEIRVENNE M. & WHITE A., 2015. Braine-l'Alleud / Braine-l'Alleud : fouilles sur le domaine d'Hougoumont dans le cadre du projet *Waterloo Uncovered*, *Chronique de l'archéologique wallonne*, 24, p. 29-31.
- DE SMEDT P. & VAN MEIRVENNE M., 2014. *Geophysical Soil Survey Waterloo: EMI Survey*, Research Group Soil Spatial Inventory Techniques (ORBit) Department of Soil Management. Ghent University, rapport inédit.