PEOPLE OF THE HEATH:

UNDERSTANDING AND CONSERVING PETERSFIELD'S PREHISTORIC BARROWS

GEOPHYSICAL SURVEYS MARCH 2016

Mary and Neville Haskins

ADVISORY BODIES

WEST SUSSEX ARCHÆOLOGY

PETERSFIELD MUSEUM

TOWN PETERSFIELD COUNCIL

friends of Petersfield Heath

South Downs National Park Authority

Historic England

Hampshire County Council

Petersfieldtomorrow

Document Title:	**PEOPLE OF THE HEATH: UNDERSTANDING AND CONSERVING PETERSFIELD'S PREHISTORIC BARROWS** **GEOPHYSICAL SURVEYS – MARCH 2016**
Document Type:	**Archaeological Recording**
Client Names:	**People of the Heath: Understanding and Conserving Petersfield's Prehistoric Barrows** **Petersfield Museum**
Site Code:	**PH16A**
National Grid Reference:	**SU 75651 22758 (Barrows 16 and 17)**
Dates of the survey:	**3rd, 5th March 2016**
Prepared by:	**Dr Neville J. Haskins, Mary I. Haskins**
Position:	**Leaders, Geophysical Survey Team**
Date:	**March 2016**

This report has been prepared for the "People of the Heath: Understanding and Conserving Petersfield's Prehistoric Barrows" project

Copies have been provided for George Anelay, West Sussex Archaeology (Fieldwork Director) and Stuart Needham (Research Director) for dissemination to the Heath Barrow Cemetery Partnership, and for Historic England (as required by the Section 42 Licence)

CONTENTS

Photo front cover – Barrow 16 from the south during the survey

SUMMARY

A geophysical survey using an earth resistance meter has been carried out on two barrows which are part of the Petersfield Heath group.

The survey of Barrow 16 showed some faint features. The barrow is covered with mature trees, mainly silver birch and oak, with scrub underneath. The scrub had been cleared but left a thick layer of decomposing leaf litter which reduced the contrast for the measurements. In addition the presence of mature trees on the barrow also reduced the response. The lack of variation across the barrow may therefore be an artefact of the condition of the overlying soil. Using computer enhancement techniques a faint ditch and bank were confirmed on the plots.

The survey of Barrow 17 was previously surveyed in October 2015 (Haskins and Haskins 2015) but as the metric markers were overgrown and not found, it was on a different alignment. This time it was surveyed using the metric markers to layout the grids and the survey was extended to the south and the west. Although conditions were different, the results were very similar showing the feature with raised resistance comprising a ring of approximately 7m. diameter. The area surveyed had been covered with tussocks of grasses and soft rush and this had been "topped" prior to the October 2015 survey.

1. INTRODUCTION

1.1 THE CIRCUMSTANCES OF THE SURVEY

Petersfield Heath is situated on the east side of the town of Petersfield in Hampshire. It is home to a nationally important Bronze Age barrow cemetery comprising a total of at least 21 barrows, known as the Petersfield Heath group. Round barrow cemeteries of this type date from approximately 1900-1500 BC although some individual monuments may be earlier. They can contain different types of round barrow and often may contain additional burials between the mounds.

The Petersfield Heath group has been recognised for over 200 years, and early maps such as the first edition Ordnance Survey of 1810 indicate that the cemetery was once far more extensive with additional barrows to the north and east which are now destroyed by modern housing.

Apart from Ordnance Survey maps, the barrows have not been extensively surveyed and remain little understood. In the 1930s Stuart Piggott produced a plan of their locations on the Heath (Fig. 1) (Grinsell 1939). At least one barrow, number 4, was planned in detail by Piggott. There is a possibility that some of the monuments have been degraded or erased over time. The site was also developed as a golf course which led to the introduction of raised tees which look confusingly like barrows! Extensive tree planting took place on the barrow mounds. Dredged material from the Heath Pond may also have been left in dumps on the Heath in the past.

The National Heritage List for England (HeritageGateway 1999) describes both barrows as saucer barrows including a central mound and a partly infilled ditch approximately 2-3m wide. Both have been almost levelled by modern construction of a golf fairway.

1.2 THE AIMS OF THE PROJECT

This monument complex deserves to be better understood and therefore Petersfield Museum has sponsored the project “People of the Heath: Understanding and Conserving Petersfield's Prehistoric Barrows”. The project is largely funded by the Heritage Lottery Fund and the South Downs National Park Authority. Part of this community project will investigate the Mesolithic and Bronze Age prehistory of the Heath. This archaeological survey is directed by George Anelay and Stuart Needham. The aims of the project are:-

1. To understand the evolution of Petersfield Heath, with special reference to the Bronze Age funerary complex.
2. To place this complex in the broader settlement and land use patterns of the region during the Neolithic and Bronze Ages.

As part of this project, an advisory committee was formed and first met on 30th May 2012. The committee included interested parties such as Hampshire County Council, University of Reading, Petersfield Town Council; Petersfield Tomorrow; East Hampshire District Council, Chichester District Council; Historic England; Friends of Petersfield Heath; Petersfield Area Historical Society. and the South Downs National Park Authority. The committee supported the proposal from the archaeological directors to undertake geophysical surveying of the Heath barrows and the areas in between.
The nature of Petersfield Heath (peaty soils overlying sandy sub-soils and variable water content) is such that it was not certain that geophysical surveying would give adequate results. A pilot study was proposed to test the available geophysical methods (magnetometry and earth resistance) for identifying features associated with the barrows such as banks, ditches and trackways. This study indicated that twin probe earth resistance measurement was the technique of choice, giving clear results despite the nature of the Heath soils (Haskins and Haskins 2012).

Part of the main project is to introduce local inhabitants to the use of geophysical techniques before undertaking archaeological investigations. To meet these requirements time is made available during the surveys to train and explain the techniques to inexperienced volunteers from the community who wish to be involved. In addition, members of the survey team would explain the activities to members of the public passing by.

1.3 THE LOCATION OF THE SURVEY

The area selected for this survey is shown (Figure 2). The position of the grids was aligned with the two metric markers from the topographical survey. Barrow 16 had until the previous autumn been covered with woodland comprising mature trees (mainly silver birch and oak) with scrub underneath. This was cleared by volunteers prior to the survey but the clearance left piles of loose scrub, etc. The survey team were able to move some but not all of this material. The surface was covered in a layer of leaf litter of fairly uniform depth. There were also some small blocks of concrete either from a golfing feature or public seat. These were small enough not to impede the survey.

Barrow 17 was in a flat area clear of woodland scrub but covered with tussock grasses and soft rush. These were cut before the survey leaving rough ground with stalks of 10-20cm in height. Areas which were very uneven due to the tussocks were not surveyed and there was also a small patch of gorse and heather which could not be surveyed.

A wide footpath runs north/south through the middle of the site dividing the wooded area of Barrow 16 from the more open area of Barrow 17. At the time of the survey, it had broadened further due to the muddy and boggy nature of parts of the path. A second small footpath lies south of Barrow 16 and just to the north of Barrow 20 (Figure 4)

2. METHODOLOGY

2.1 LICENCE

An Historic England licence was obtained to carry out this geophysics survey. This was necessary as both barrows are Scheduled Ancient Monuments and are protected under the Ancient Monuments and Archaeological Areas Act 1979 (as amended), section 42.

2.2 SCRUB CLEARANCE

Barrow 16 was cleared in late 2015 by Community Payback Volunteers working under the guidance of the Friends of the Heath. The area over Barrow 17 was cut by a contractor prior to the survey in October 2015. Again this was arranged by the Friends of the Heath.

2.3 LAYING OUT GRIDS

The grids for the area were laid out using two metric markers from the topographical survey, 30metres apart, to provide the northern baseline. (Figure 2). This also shows the position of the grid from the October 2015 survey.

2.4 EARTH RESISTANCE (TWIN PROBE) SURVEY

Earth resistance surveying was carried out using a Geoscan Research RM15 twin probe earth resistance meter. The pilot study (Haskins and Haskins 2012) had shown this to be the most appropriate technique on the soils of the Heath. This technique measures fluctuations in the soil resistivity due to the presence of varying amounts of water. Dry materials such as sand will contain less water than soil and will exhibit higher resistivity, whilst ditches and peat may contain more water leading to lowered resistivity. Walking lines were laid out at 1m intervals and the instrument was moved in 0.5m steps to produce the plot. All grids were walked in a south -north direction and walking up and back along the lines in a zig-zag manner. When an obstacle was encountered such as a large tree or tree stump, dummy logs were acquired.

Data were collected and stored for later download to a computer. Data were processed using a program (Geoplot, Geoscan Research) to construct an intensity plot of the variation in resistivity across the grids. .

2.5 LOCATING TREES ON THE BARROWS

The positions of trees and tree stumps, areas of tussocks and of gorse with heather were taken from the dummy logging acquired during the survey. (Figure 4)

3. FIELDWORK RESULTS

3.1 WEATHER AND OTHER ENVIRONMENTAL CONCERNS

The weather from late autumn 2015 onwards had been very wet and much of the ground on the heath had become waterlogged. In the week or so preceding the survey, there had been some dry days but rain the day before had not improved the boggy nature of the open areas. The leaf litter in the wooded area appeared dry on the surface but was quite wet when the surface layer was disturbed. Areas of the main footpath and part of the open area were very muddy and boggy.

The first day of the survey (March 3rd) was dry and bright in the morning but clouded over and during the volunteers' break after the second grid had been completed, there was heavy precipitation with a mixture of hail, sleet and snow. As the temperature had also dropped (3^0C), it was decided to abandon the survey for the day. There was further heavy rain overnight and with a forecast for more heavy showers with possible snow the next day, the suvery for 4th March was cancelled.

The third day, March 5th, was overcast but dry for the duration of the survey.

3.2 TWIN PROBE RESISTIVITY SURVEYS OF BARROWS 16 AND 17

The twin probe resistivity survey requires the operator to push the probes into the ground at regular intervals to make a reading. There was no problem in doing this across both barrows as the ground was soft.

The density plot for Barrows 16 and 17 is shown in Figure 3. There was a wide footpath running north/south through the middle of the plot. Barrow 16 in the wooded area was to the west of the wide footpath. There was a small variation across the area of Barrow 16 but it was thought the thick layer of leaf litter reduced the response to the archaeological features. The two grids over Barrow 16 were processed with a high pass filter (Figure 6) to enhance the variation. This shows an elliptical feature with possible ditch and inner bank.

There were a number of mature trees and tree stumps (Figure 4 - shown in green) and a pile of debris from scrub clearance (Figure 4 - shown in purple). There was a footpath south of Barrow 16 just to the north of Barrow 20 which shows as a narrow band of slightly higher resistance.

Barrow 17 is to the east of the central north/south footpath in an open area. There was a patch of gorse and heather area (Figure 4 - shown in blue) and the areas of tussocks not surveyed are shown by brown hash lines in Figure 4. Apart from the ring there is an area of raised resistance to the west of the ring and across the northern end of the main footpath. This was an area of cleared bracken.

The relative positions of Barrows 16, 17 and 20 (not surveyed) are shown in Figure 5.

3.3 COMMUNICATING WITH THE PUBLIC

An important aspect of this project is to inform the public who are passing by. **T**he team were able to explain what was happening to members of the public passing through the survey area and some expressed an interest in taking part in the excavations later in the year. They were referred to the web site for more information.

4. DISCUSSION

4.1 CARRYING OUT THE SURVEY

The survey of Barrow 16 was problematic. This barrow had been covered with an impenetrable copse beforehand and although much of this had been cleared, there were many remaining mature trees as well as stumps and fallen logs. In addition the debris from the scrub clearance had been left in piles. The team were able to move most but not all the debris to an area that had already been surveyed. There was a thick layer of mulch from leaf litter. It was thought that this in particular reduced the ability to obtain good contrast across the barrow.

Barrow 17 had been 'topped' prior to the survey in 2015. (Haskins & Haskins 2015). The area was relatively flat with the rough tussocks similar to those that created problems when we surveyed sites 11, 23 and 24 (Haskins & Haskins June 2014). The ground was waterlogged and in places quite boggy. In one boggy area close to the main footpath, the probes kept contacting stones, suggesting that at some time in the past, there may have been a small quantity of hard core added but this did not show up as a feature on the plot. There was good contrast for this survey allowing easy visualisation of the expected circular feature (Figure. 3).

The area between the two barrows showed a patch of high resistance. This was an area that had been cleared of bracken. It is thought that the effect is either due to the bracken roots removing water or due to the underlying geology which encourages the growth of bracken. Similarly, although not as pronounced, the heather appears on a relatively higher resistance area and therefore a drier patch. This effect has been seen elsewhere on the heath. Neither are thought to be of archaeological significance.

4.2 RESULTS FOR BARROW 16

The density plot for Barrow 16 is shown in Figure 3 and the enhanced plot in Figure 6. There is a possible elliptical ditch approximately 16m x 20m with an inner bank.

The slightly higher resistance band in the southern part of the plot near Barrow 20 corresponds with a footpath.

4.3 RESULTS FOR BARROW 17

The previous survey could not be aligned with the topographical survey, as the metric markers had become overgrown. However with the clearance of the bracken, the western marker was found and measuring from this, the eastern marker was located.

The density plot for Barrow 17 is shown in Figure 3. There is a clear feature comprising a ring of greater resistivity approximately 7m. in diameter to the west of centre of the grid. It is probable that this is the barrow described by Piggott and which is shown on his plan in this position (Figure 1). However this size could also be due to a hut circle.

The extension to the south and west of the barrow do not show any significant archaeological features. As the ground tends to be boggy in wet conditions, the areas of relatively low resistance to the south are probably due to drainage channels either natural or man-made.

4.4 SELECTION OF VOLUNTEERS

For this survey, an open invitation was made. Ten experienced volunteers took part and a further four experienced volunteers would have taken part had not the second day been cancelled. Some of these had been trained in earlier surveys and returned to improve their skills. Only one novice applied and then was unable to join us on his allocated day.

4.5 RECOMMENDATIONS

The survey of Barrow 16 has shown that there is a possible elliptical ditch with an inner bank. This deserves further investigation to determine the nature of the barrow.

The survey of Barrow 17 has shown a significant feature not visible from the surface. Again this would be worthy of further investigation as it is small for a barrow but could be a hut circle instead.

ACKNOWLEDGEMENTS

We acknowledge the help and guidance given by George Anelay and Stuart Needham as directors of the project. George Anelay also provided the plot for the first survey of Barrow 17 pasted onto the topographical survey of the Heath.

We acknowledge the huge effort by the Friends of Petersfield Heath led by Richard Warton (who also organised the participation of community payback volunteers in this) to clear the tall vegetation and bramble covering the areas before the survey could go ahead.

We thank the Remote Sensing Team (Andy Payne, Neil Linford and Paul Linford), Heritage Protection Department, Historic England, Fort Cumberland, Portsmouth for their advice. We also thank the Chichester City Walls Project Trust for the loan of their resistivity meter, with especial thanks to James Kenny for organising this.

Special thanks to Carl Raven and Lyn Pease who supported MIH in her first survey as sole leader in the field (NJH was unable to participate in field activities). Carl also laid out the grids for the survey. We thank all the other volunteer surveyors involved in this survey:- Dave Butcher, Peter Gilliard, Jane Godden, Hannah Jeffery, John Jeffery, Helen Poulter, Tim Pullen and Andy Sutton. This was another excellent survey.

BIBLIOGRAPHY

1. L.V.Grinsell Proceedings of the Hampshire Field Club **XIV,** (1939

2. HeritageGateway list entry 1016457. Amended 04-Feb-1999.

3. N.J.Haskins and M.I.Haskins Petersfield Heath Barrow Cemetery; Prehistoric Settlement and Burial in the Apex of the Weald. Geophysical Survey, a Pilot Study. (2012)

4. M.I.Haskins and N.J.Haskins People of the Heath: Understanding and Conserving Petersfield's Prehistoric Barrows. Geophysical Survey June 2014.

5. M.I.Haskins and N.J.Haskins People of the Heath: Understanding and Conserving Petersfield's Prehistoric Barrows. Geophysical Survey October 2015..

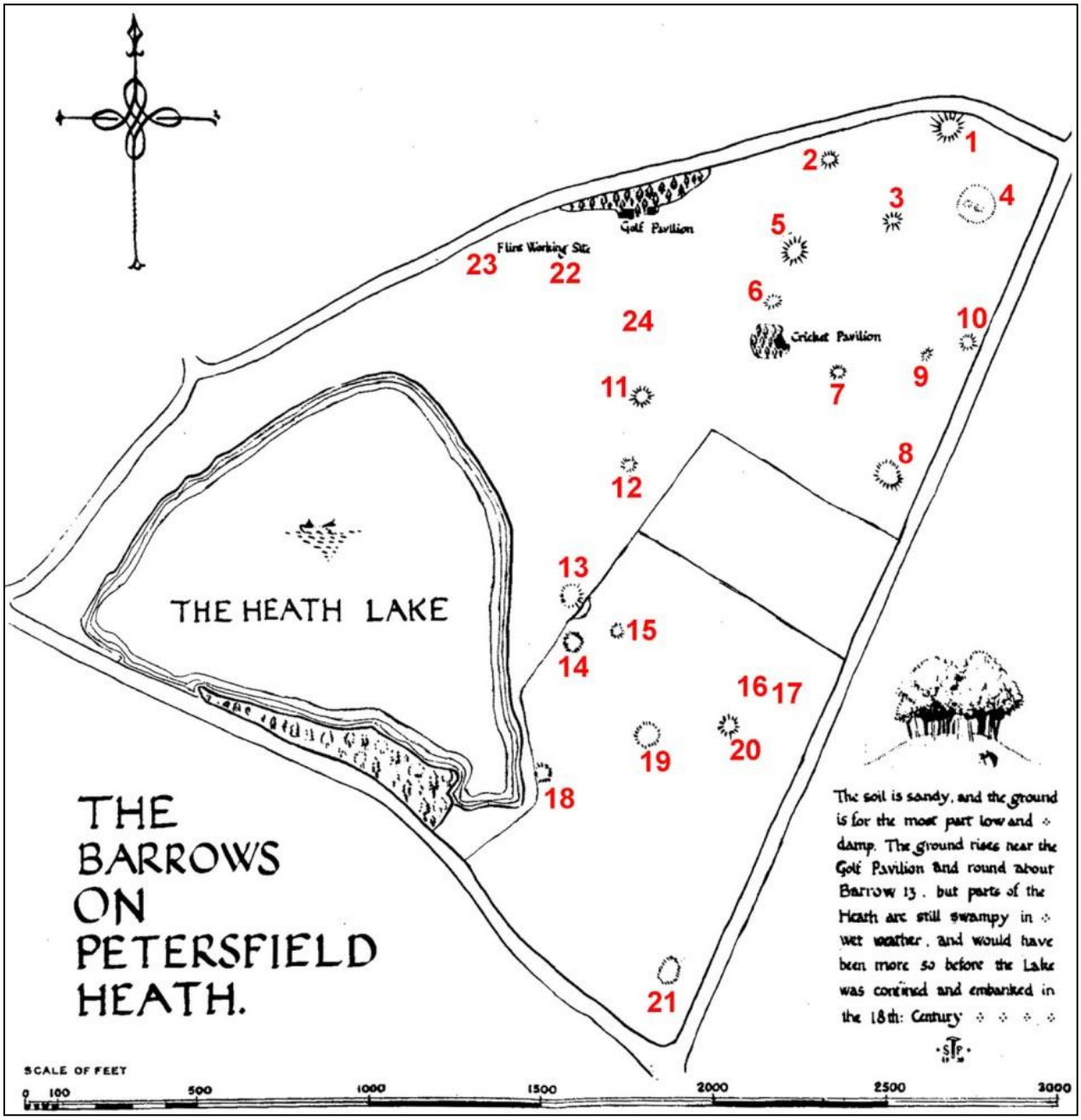

Figure 1: Piggott's plan of the heath and his numbering system.

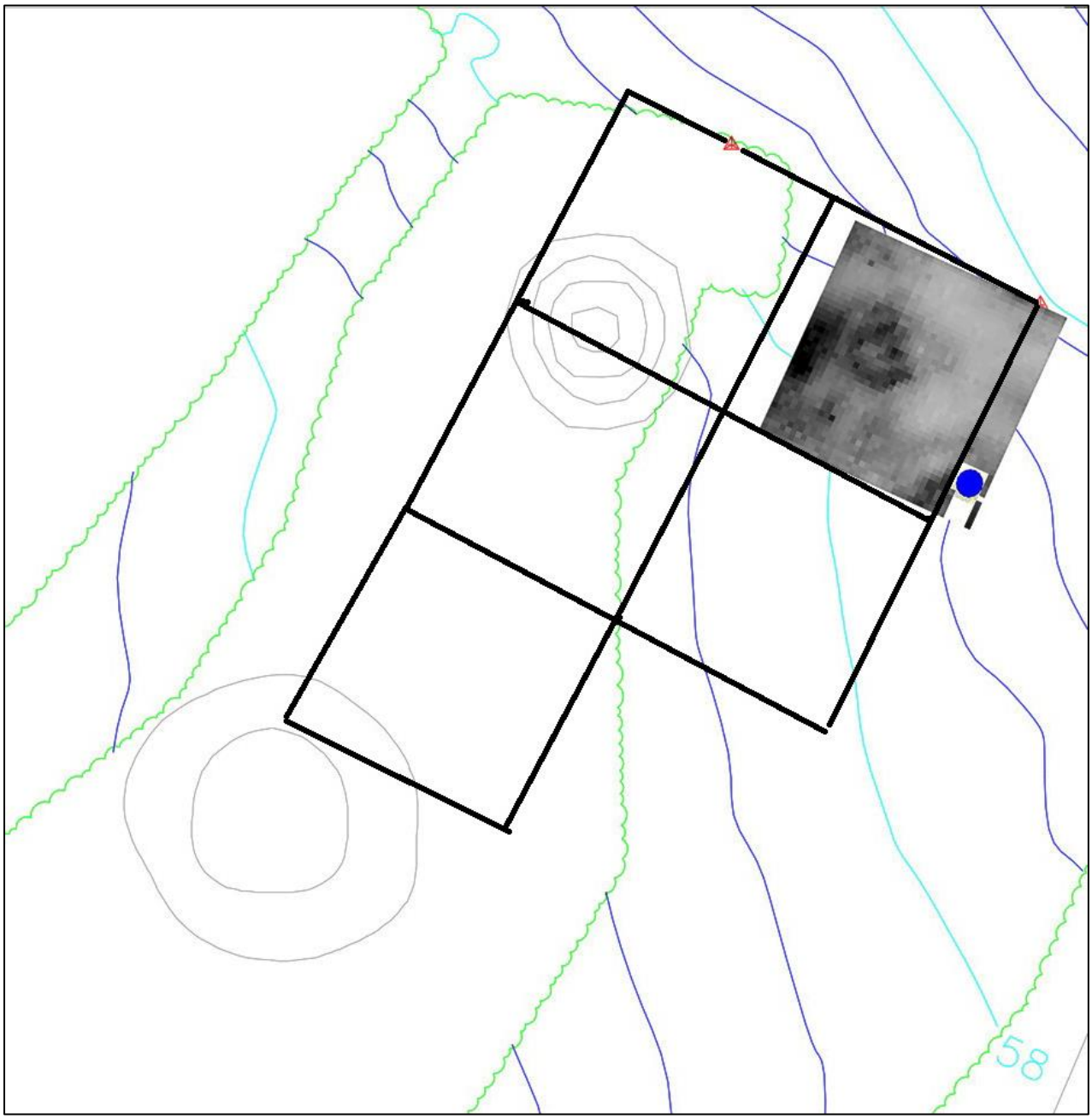

Figure 2: The survey grids used for the project .
Also showing the position of the October 2015 survey

The metric markers from the topographical survey are shown in red.

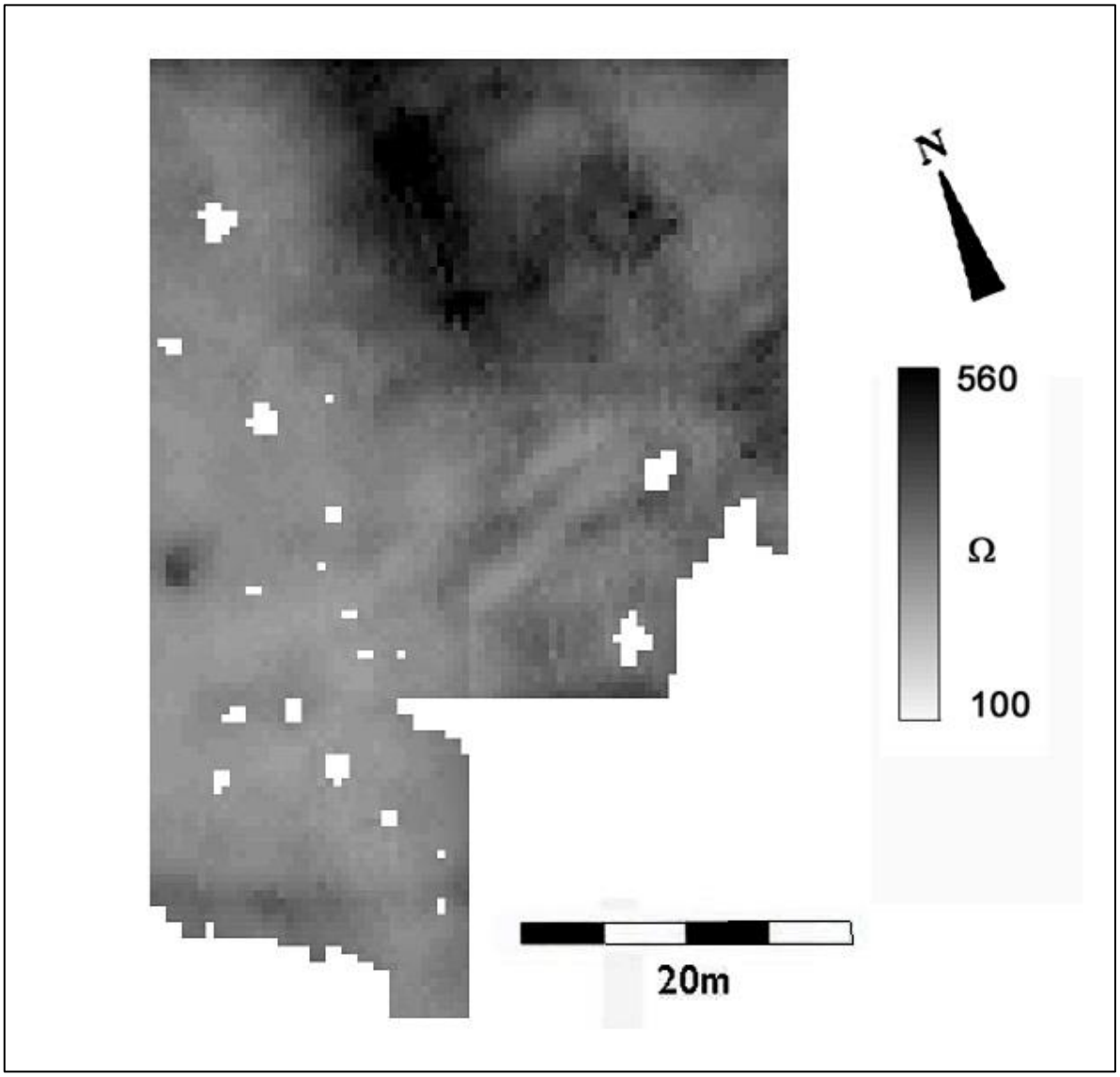

Figure 3: The geophysical survey of Barrows 16 and 17

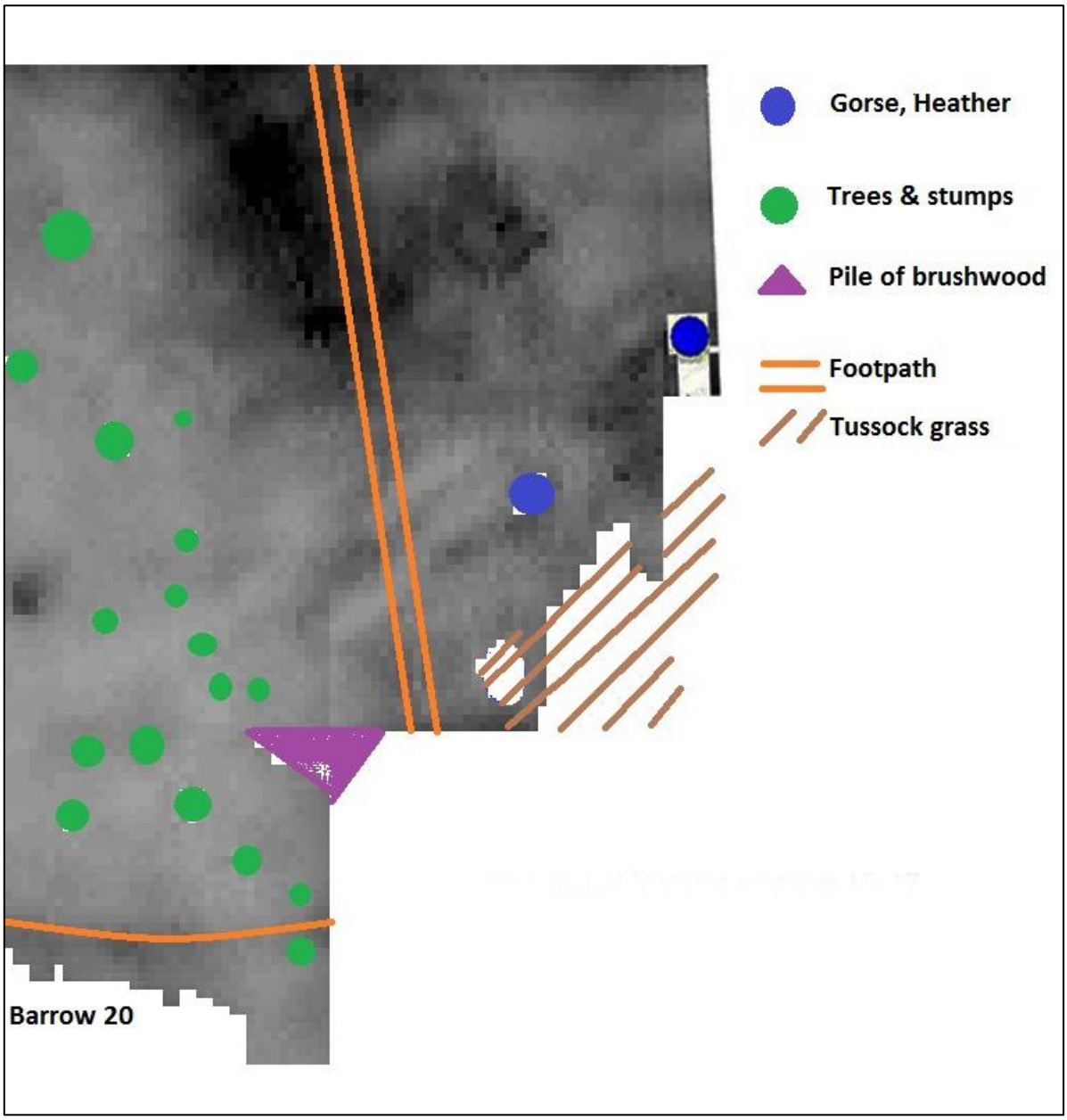

Figure 4; Environmental features

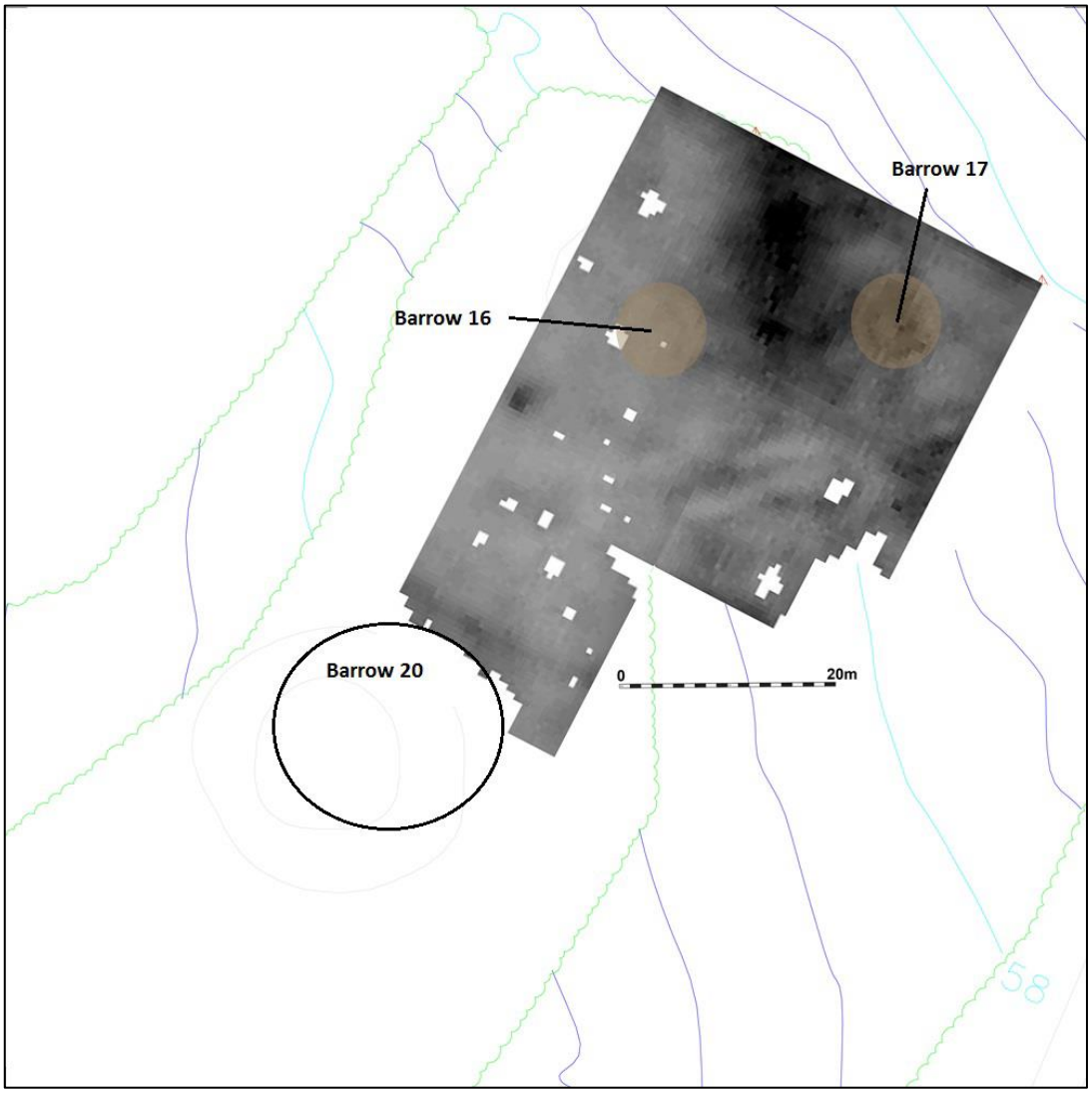

Figure 5: Position of Barrows 16, 17 and 20

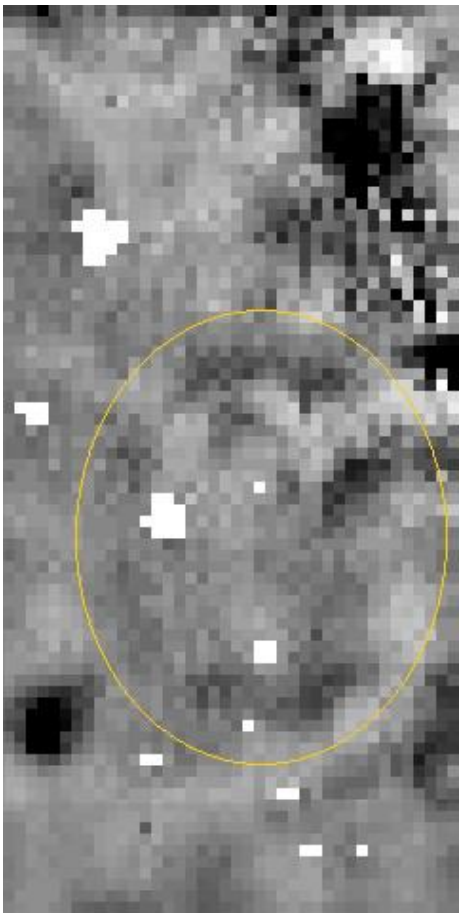

Figure 6: Enhanced geophysical survey of Barrow 16