

# PEOPLE OF THE HEATH: UNDERSTANDING AND CONSERVING PETERSFIELD'S PREHISTORIC BARROWS



GEOPHYSICAL SURVEY NOVEMBER 2014

Mary and Neville Haskins

## ADVISORY BODIES



**Document Title: PEOPLE OF THE HEATH: UNDERSTANDING AND CONSERVING PETERSFIELD'S PREHISTORIC BARROWS**

**GEOPHYSICAL SURVEYS – NOVEMBER 2014**

**Document Type: Archaeological Recording**

**Client Names: People of the Heath: Understanding and Conserving Petersfield's Prehistoric Barrows**

**Petersfield Museum**

**Site Code: PH14E**

**National Grid Reference: SU 7547 2269 (Barrow 18)**

**SU 7558 2252 (Barrow 21)**

**Dates of the survey: 3<sup>rd</sup>, 5<sup>th</sup> November 2014**

**Prepared by: Dr Neville J. Haskins, Mary I. Haskins**

**Position: Leaders, Geophysical Survey Team**

**Date: November 2014**

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

***No part of this document may be reproduced or transmitted without prior agreement.***

***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 English Heritage (as required by the Section 42 Licence)***

## **CONTENTS**

SUMMARY .....	1
1. INTRODUCTION .....	2
1.1 The circumstances of the survey .....	2
1.2 The aims of the project .....	2
1.3 The locations of the surveys .....	3
2. METHODOLOGY .....	4
2.1 Licence .....	4
2.2 Scrub clearance and temporary barriers .....	4
2.3 Laying out grids .....	4
2.4 Earth resistance (twin probe) survey .....	4
2.5 Locating trees on the barrows .....	4
3. FIELDWORK RESULTS .....	5
3.1 Weather and other environmental concerns .....	5
3.2 Twin probe resistivity survey of Barrows 18 and 21 .....	5
3.3 Communicating with the Public .....	5
4. DISCUSSION .....	6
4.1 Carrying out the survey .....	6
4.2 Clearing the overburden before the survey .....	6
4.3 Results for Barrow 18 .....	6
4.4 Results for Barrow 21 .....	6
4.5 Selection of volunteers .....	7
4.6 Recommendations .....	7
5. ACKNOWLEDGEMENTS .....	8
6. BIBLIOGRAPHY .....	8
7. FIGURES .....	9

*Photo front cover – Barrow 18 from the East*

## **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 18 showed an area of relatively low resistance corresponding with the low mound forming the barrow itself. No significant features were observed within this area. The survey of barrow 21 likewise showed an area of lower resistance corresponding to the mound of the barrow which was approximately 40m long and 25m wide. Again no distinct features were observed within the barrow. Both barrows had been covered with scrub comprising small trees, bramble, etc. These had been cleared but left a thick layer of decomposing leaf litter which reduced the contrast for the measurements using the meter. In addition the presence of mature trees on the barrows also reduced the response. The lack of variation across the barrows may therefore be an artefact of the condition of the overlying soil.

## **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.

### **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 30<sup>th</sup> 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; English Heritage; 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. For this survey, participants from the June 2014 survey were invited to come and improve their skills. The nature of the two sites in this survey (recently cleared scrub on decomposing leaf mould with plenty of mature trees) was not considered suitable for training complete novices. In addition, members of the survey team would explain the activities to members of the public passing by.

### **1.3 THE LOCATIONS OF THE SURVEY**

The areas selected for this survey are shown (Figure 2). The position of the grids is approximate at this scale. Both barrows had until recently been covered in bramble and bracken with shrubs and some mature trees. The smaller vegetation was cleared by volunteers from Friends of Petersfield Heath prior to the surveys. It was necessary to work around the mature trees and tree stumps.

## **2. METHODOLOGY**

### **2.1 LICENCE**

An English Heritage 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 AND TEMPORARY BARRIERS**

Barrows 18 and 21 had been covered by trailing brambles and small shrubs. These areas were cleared by working parties of volunteers from the Friends of Petersfield Heath in the two weeks before the survey. The Friends also removed much of the loose leaf litter. As both areas were off the main routes used by the public no barriers were used but volunteers were asked to be aware of the public in the vicinity.

### **2.3 LAYING OUT GRIDS**

The grid baselines for both barrows were laid out along the eastern edge of the survey grids (Fig. 2). Grids (20m x 20m) were extended using tape measures to generate the overall grid. Marker posts were positioned at the ends of the baselines. These will be measured in accurately during a forthcoming topographical 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 an approximate north-south direction and walking up and back along the lines in a zig-zag manner.

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 across the grids.

### **2.5 LOCATING TREES ON THE BARROWS**

The positions of trees were measured in using tapes and using the survey grid to provide the base lines. The plot of the trees' position was then superimposed on the resistivity plot where missed/dummy readings in the geophysical survey corresponded to tree positions.

### **3. FIELDWORK RESULTS**

#### **3.1 WEATHER AND OTHER ENVIRONMENTAL CONCERNS**

The weather preceding the survey had been very wet, but there was no surface water in the immediate vicinity of the surveyed barrows. The survey of barrow 18 on November 3<sup>rd</sup> was abandoned at midday due to persistent rain. The survey of barrow 21 was conducted during a dry day.

#### **3.2 TWIN PROBE RESISTIVITY SURVEY OF BARROWS 18 AND 21**

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 cleared areas generally had a thick coat of decomposing leaf litter (see frontispiece).

The density plot for Barrow 18 is shown in Figure 3. In the Figure the position of mature trees atop the barrow are shown in blue. Due to the vegetation beyond the cleared area the northern grid was truncated as shown.

The density plot for barrow 21 is shown in Figure 4. This barrow has a number of mature Scots Pine and other trees (shown in blue). There was also a well-trodden footpath and a low bank across the NW corner. The barrow itself was a low elongated mound approximately 40m N-S and 25m E-W.

#### **3.3 COMMUNICATING WITH THE PUBLIC**

An important aspect of this project is to inform the public who are passing by. However given the weather conditions (wet on 3 November and cold on 5 November) there were not many people about but few showed any interest in our proceedings.



## **4. DISCUSSION**

### **4.1 CARRYING OUT THE SURVEY**

The ground was relatively flat without the rough tussocks that created problems when we surveyed sites 11, 23 and 24 (Haskins & Haskins June 2014). However the areas were covered by a deep layer of decomposing leaf litter (see frontispiece). This reduced any contrasts we could detect as it gave rise to a constant resistance across the site.

### **4.2 CLEARING THE OVERBURDEN BEFORE THE SURVEY**

It was essential to clear the areas around the barrows in order to use the instrument. For this survey it was necessary to clear the scrub around the mature trees on the two barrow sites. This was carried out successfully before the survey by a team of volunteers from 'Friends of the Heath. In addition, the Friends of the Heath were asked to remove as much of the loose leaves as possible. Even so, there was still a build-up of leaves on the end of the probes which required removal after every couple of lines were walked.

### **4.3 RESULTS FOR BARROW 18**

The density plot for Barrow 18 is shown in Figure 3. Due to the vegetation beyond the cleared area the northern grid was truncated. On the ground the barrow comprises a shallow mound approximately 16m in diameter. There are significant features visible. The plot shows that the mound is probably well drained although it is mainly a mix of low and medium-high resistance. The area of discrete intense resistance in the centre of the mound appears to correspond with a probable tree throw which also contains a well weathered pile of ash. There are also areas of raised resistance to the north and east of the mound. Such areas observed before seem to correspond with areas of free draining sand.

### **4.4 RESULTS FOR BARROW 21**

The density plot for barrow 21 is shown in Figure 4. The barrow was a low elongated mound approximately 40m N-S and 25m E-W. Few features could be seen on top of the barrow. This may be because the barrow had a number of mature Scots Pine and other trees which distort the measurements. There was also a well-trodden footpath across the NW corner and a shallow bank across this corner which corresponds to an area of reduced resistance. Higher resistance visible around the barrow except in the diagonal corresponding to bank and footpath across the north west corner may indicate this area contains free draining sand. There is no conclusive evidence for a surrounding ditch. This barrow especially has been affected by alterations to accommodate the golf course. The southern edge of the survey abuts a disused green which is on a raised platform. The north-west corner is also a golf tee/green, cut into the slope.

#### **4.5 SELECTION OF VOLUNTEERS**

For this survey, participants from the June 2014 survey were invited to come and improve their skills. The nature of the two sites in this survey (recently cleared scrub on decomposing leaf mould with plenty of mature trees) was not considered suitable for training complete novices. Two novices from the June survey were able to take part.

#### **4.6 RECOMMENDATIONS**

The surveys have not shown any significant features additional to those observable at the ground surface, but do give an indication that the structure of the barrow is different from the ground it is sitting on. There is a need to excavate both barrows to confirm their structure.

## **ACKNOWLEDGEMENTS**

We acknowledge the help and guidance given by George Anelay and Stuart Needham as directors of the project.

We acknowledge the huge effort by the Friends of Petersfield Heath led by John and Vivien Pike 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, English Heritage, 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.

We thank our experienced surveyors who carried out this survey:- Peter Harding, Chris Newbery, Lyn Pease, Peter Ross, Sabine Stevenson, Chris Wilkins and Geraldine Wood.

## **BIBLIOGRAPHY**

1. L.V.Grinsell Proceedings of the Hampshire Field Club **XIV**, (1939)
2. 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)
3. M.I.Haskins and N.J.Haskins People of the Heath: Understanding and Conserving Petersfield's Prehistoric Barrows. Geophysical Survey June 2014.

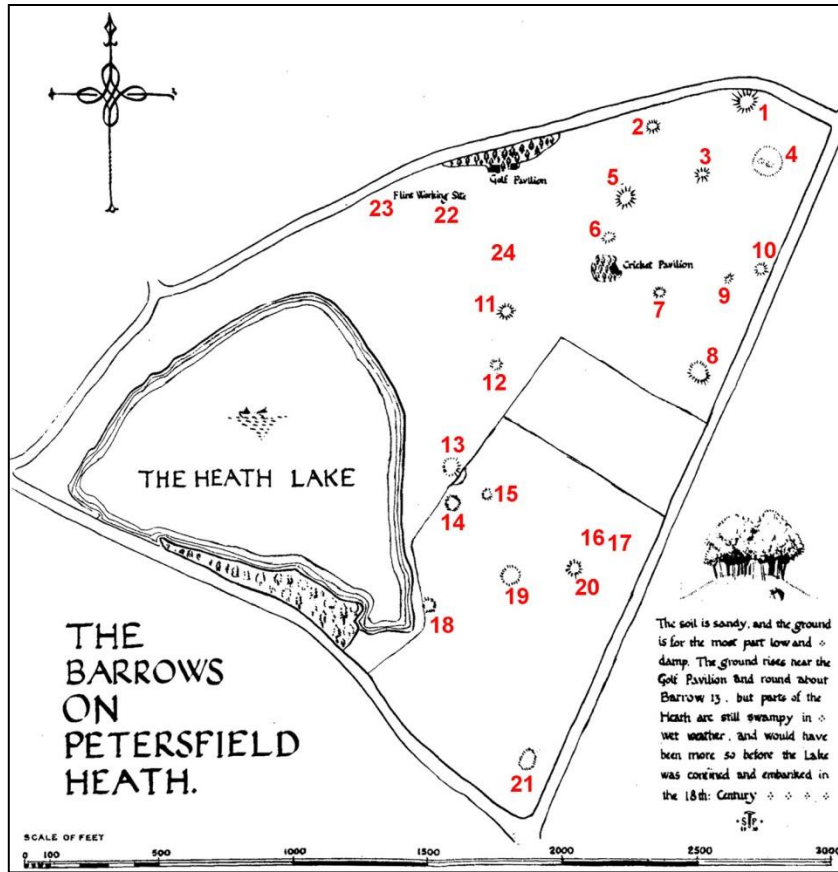


Figure 1: Piggott's plan of the heath and his numbering system.

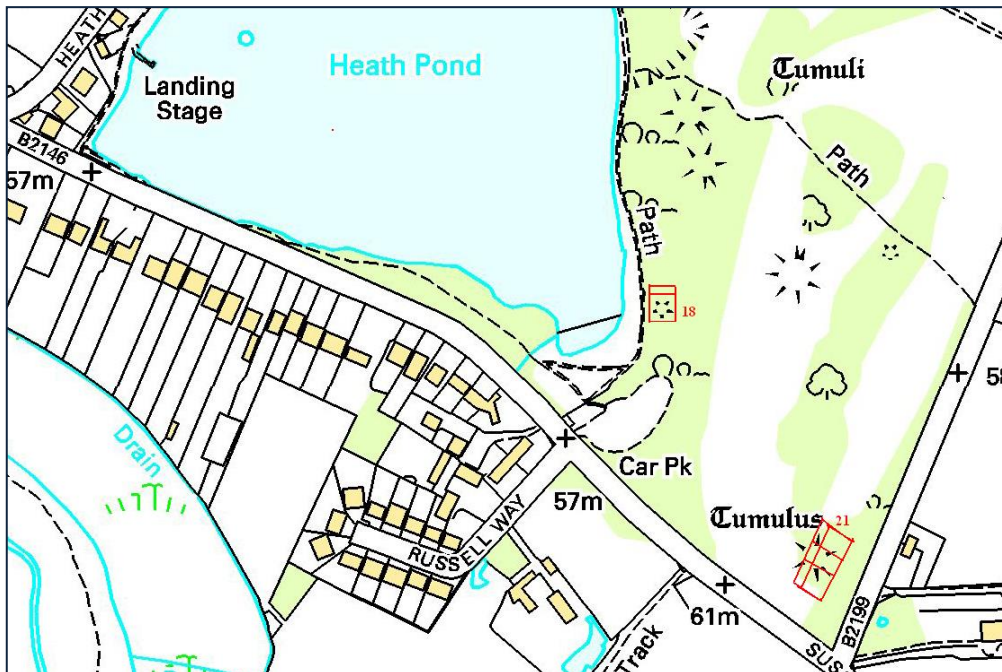


Figure 2: The survey grids used for the project.

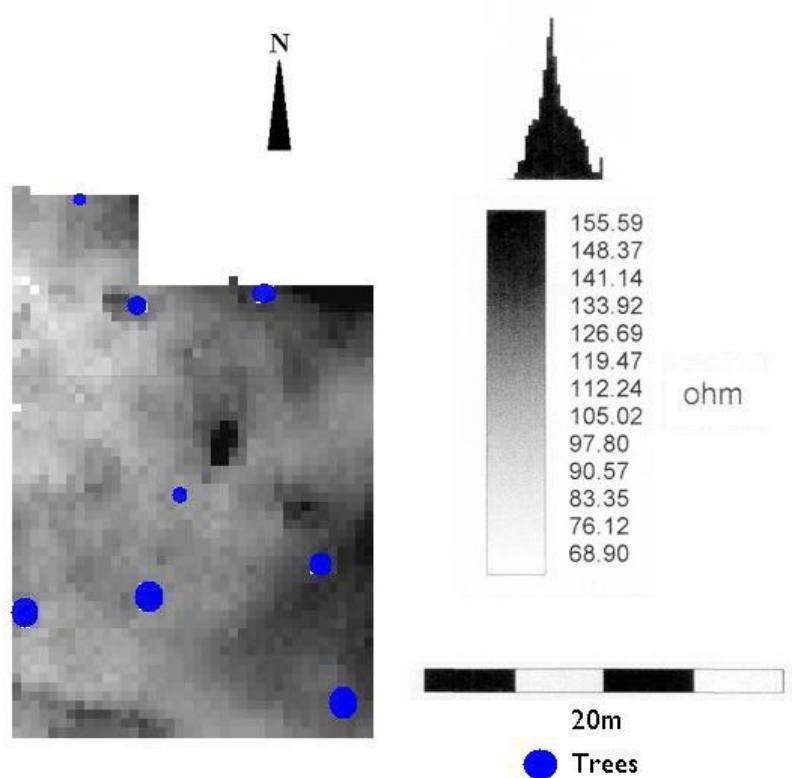


Figure 3: Geophysical survey of Barrow 18.

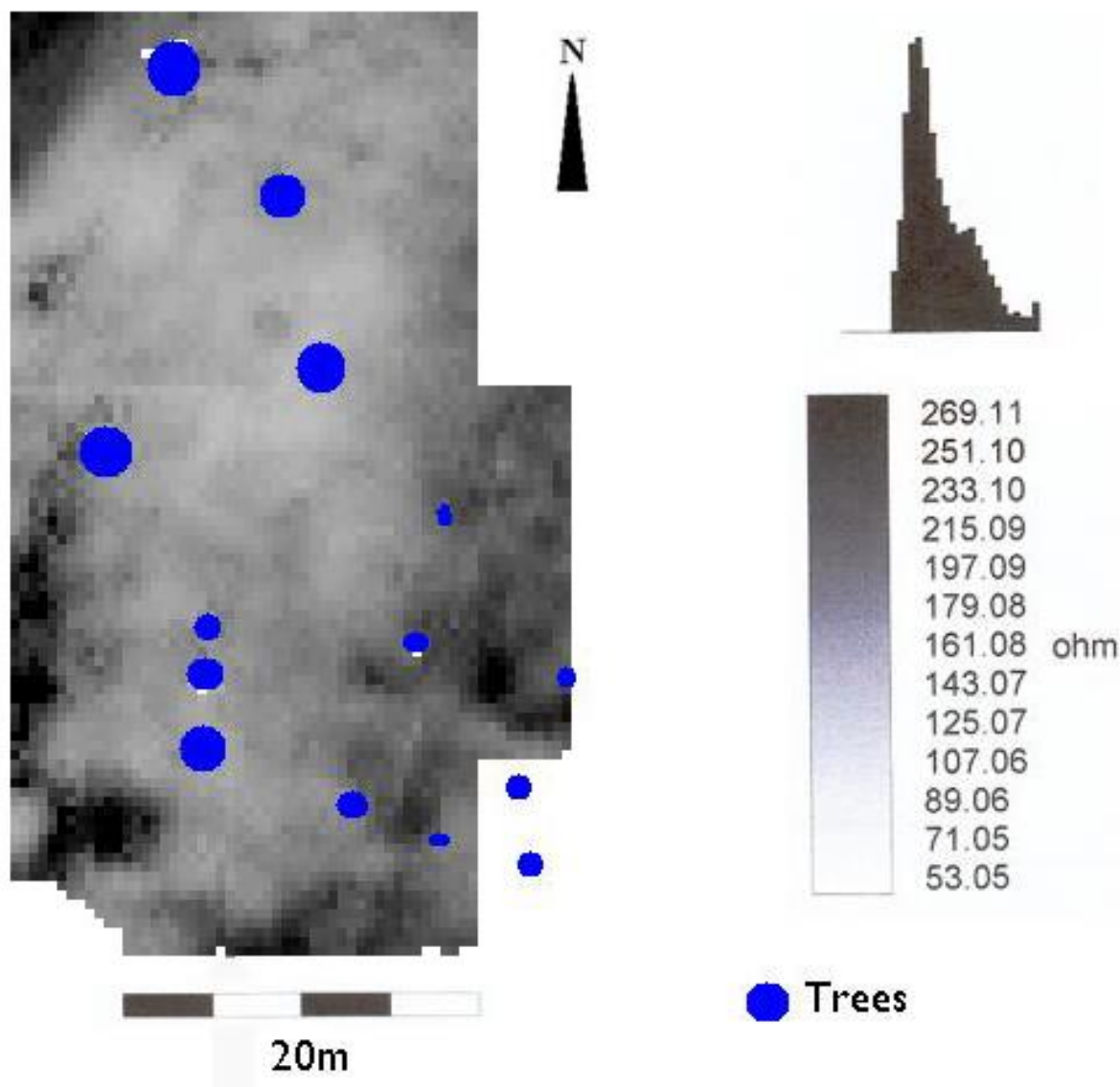


Figure 4: Geophysical survey of Barrow 21