Geophysical Survey Report - Mound on Brean Down, National Trust HBSMR no.118922

Summary

This report details the results and interpretation of a geophysical survey conducted on Brean Down in February of 2014, in order to determine the archaeological potential of a large mound on the easternmost end of the headland. In particular, the project sought to

Figure 1: Map showing the location of Brean Down (after: Magic Map 2014).

determine whether the mound could be the remains of a Romano-British navigational beacon, a Bronze Age round barrow, spoil from the adjacent quarry, or something else entirely. The results, while inconclusive, suggest a large earthen platform or mound with frequent stone inclusions, possibly a Bronze Age hut platform, round barrow, or the robbed out remains of a later period structure.

Introduction

The survey was conducted by the author, Mark Calrissian, and his wife, Felicia Calrissian, both of Weston-super-Mare. The survey was undertaken as part of the author's

undergraduate dissertation in Archaeological Studies, at the University of Bristol, and was conducted in agreement with, and on behalf of the National Trust.

The mound, designated 118922, lies at the easternmost end of Brean Down overlooking the mouth of the River Axe at the point where it meets the Bristol Channel. The mound is roughly circular and approximately 10.5m in diameter and stands approximately 1m higher than the underlying topography. The underlying geology is Carboniferous Limestone, and in the vicinity of 118922 the bedrock is very close to the surface, often emerging from the colluvial soil in the form of jutting outcrops. The mound is situated on a fairly steep incline that slopes away toward the north and reaches a rocky peak to the south before falling away at a sheer cliff on the southern side of Brean Down. The mound faces Weston Bay and is immediately adjacent to an abandoned quarry that forms the easternmost extent of Brean Down.

Nick Hanks, a Data Co-ordintor for English Heritage, and the leading expert on the archaeology of Brean Down, has suggested that the mound may be a navigational beacon from the Roman period (Hanks 2000) based on its morphological similarity to a mound on Steep Holm, which was inspected by Rev. Skinner in 1832. Skinner found Roman coins and pottery within the rubble of the Steep Holm mound, which led local historian, Robert Legg to suggest that it may be one of a number of navigational beacons established along the Severn Estuary (Legg 1993, 45-9). The placement of the mound is counter to what one would expect for a Bronze Age round barrow, in that it is situated upon steeply rising ground which precludes its visibility from the south, and provides no vantage from the north, east or west by which the mound might appear false-crested. However, its position does provide a commanding view of the River Ax, and in much of Britain, the siting of barrows in view of rivers seems to be as important a factor in their placement as false-cresting against a hilltop (Woodward 2000).

Aims and Objectives

The geophysical survey's aim was to determine if the remains of a structure were present beneath the mound. If the mound is indeed a Roman structure, similar to the one identified by Skinner on Steep Holm, then one might expect to see higher resistance around its circumference, where the foundations of walls might survive. Conversely, if the mound were a round barrow, then one would expect a fairly uniform make-up of low resistance material. Lastly, if the mound was formed from spoil from the adjacent quarry, then one

would expect a uniform and irregular area of high resistivity on account of the deposited boulders and scree.

Methodology

Given the project's aim to identify whether the mound was constituted by the remains of a Roman structure, it was determined that a resistivity survey would be the most appropriate means to identify whether the mound concealed solid features, such as an outer wall. A GeoScan RM15-D Resistance Meter was used in conjunction with a PA20 Multi-Probe Array, configured to use twin probes. The twin probe configuration was chosen because it allowed for rapid coverage of the survey area and does not rely on consistent insertion depths to provide accurate results; something that was important given the highly variable soil depth on Brean Down.

The resistivity survey was conducted on Sunday, February 16th, 2014. The weather was sunny and dry, although the ground retained a high degree of moisture after consistent rain for a number of days, following the wettest winter in the southwest of Britain since records began. The survey was conducted by measuring a 20 metre square grid using tape measures. The grid was aligned to the cardinal points, such that the traverses ran along a north-south axis. The mobile probe array was walked across the grid in a zig-zag pattern starting from the south-westernmost grid square, and walking from south to north then north to south on alternating traverses of the grid. Readings were taken every meter within the grid resulting in 400 individual readings. The results are shown below both in their raw format and after processing via the GeoScan Geoplot v.3.0 software. The processing algorithms applied in creating the final image were: Despike, low pass filter, high pass filter and Interpolate.

Results

The results of the resistivity survey are shown below in plate 1. It was noted during the course of the survey that the bedrock was very close to the surface in the area that formed the southern side of the grid, with a greater depth of soil apparent on the northern side of the survey area. Whilst scanning the mound itself, the probes frequently made contact with stone suggesting that a sizeable quantity of stone does reside within the mound's matrix; albeit not in so dense a configuration as to show up markedly in the scan image.

The resulting scan image shows the mound in light relief against a darker natural context. The bedrock can bee seen as dark grey and black areas in the lower portion of the images, correlating to the southern end of the grid. The mound appears to be roughly circular, with the suggestion of a square or rectilinear platform. While no obvious walls are apparent in the image, there is a hint of more resistant material around the periphery of the mound; particularly on the western side. There is also a 4m square section of high resistivity within the south-west quadrant of the mound. On the north-west edge of the mound some step-like stones protruded from the earth and appeared to descend away from the mound towards the River Ax. On the image, this area appears as a linear stretch of higher resistance material than the surrounding soil.

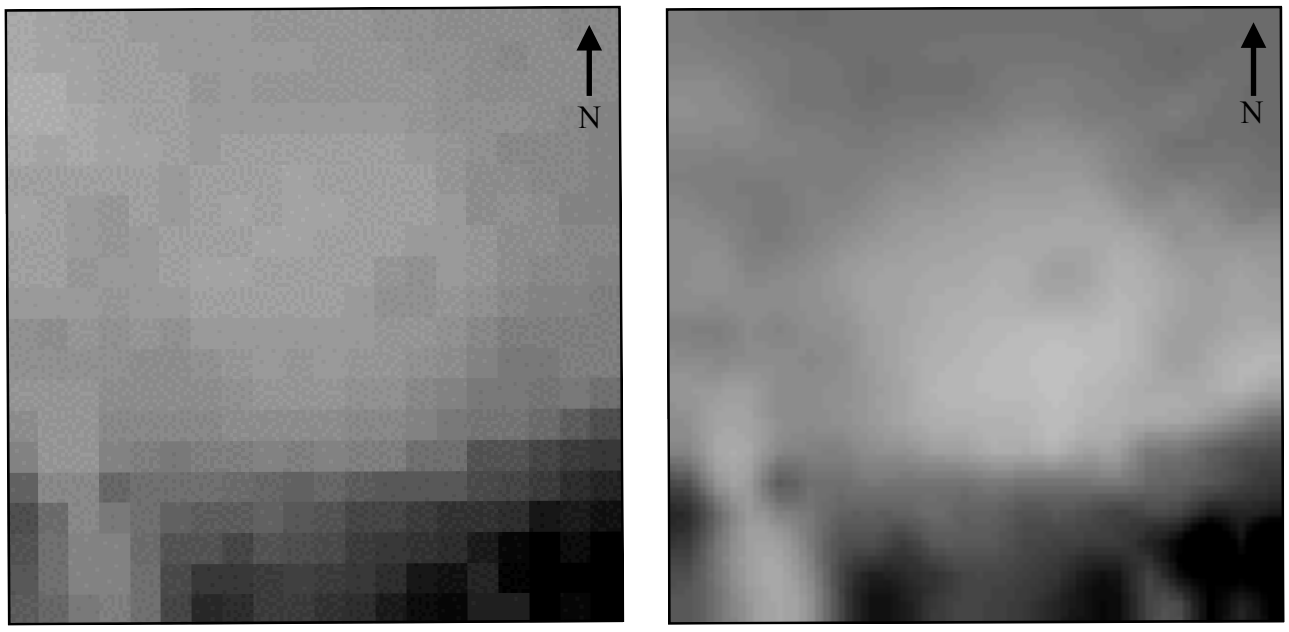


Plate 1: Results of the resistivity scan. On the left is the raw image of the results and on the right is the image after processing and enhancement (source: author using Geoplot software).

Conclusion

While no clear structural remains are evidenced from the scan results, it is possible that a rectilinear structure once existed on the site and has since been robbed of its walls. The general low resistivity of the mound itself suggests a mostly earthen composition, but with many stone inclusions, as detected by the probes. This could suggest that the mound is a prehistoric round barrow, but there are other complexities that challenge this interpretation; such as its position in the landscape and the apparent linear feature running north-east

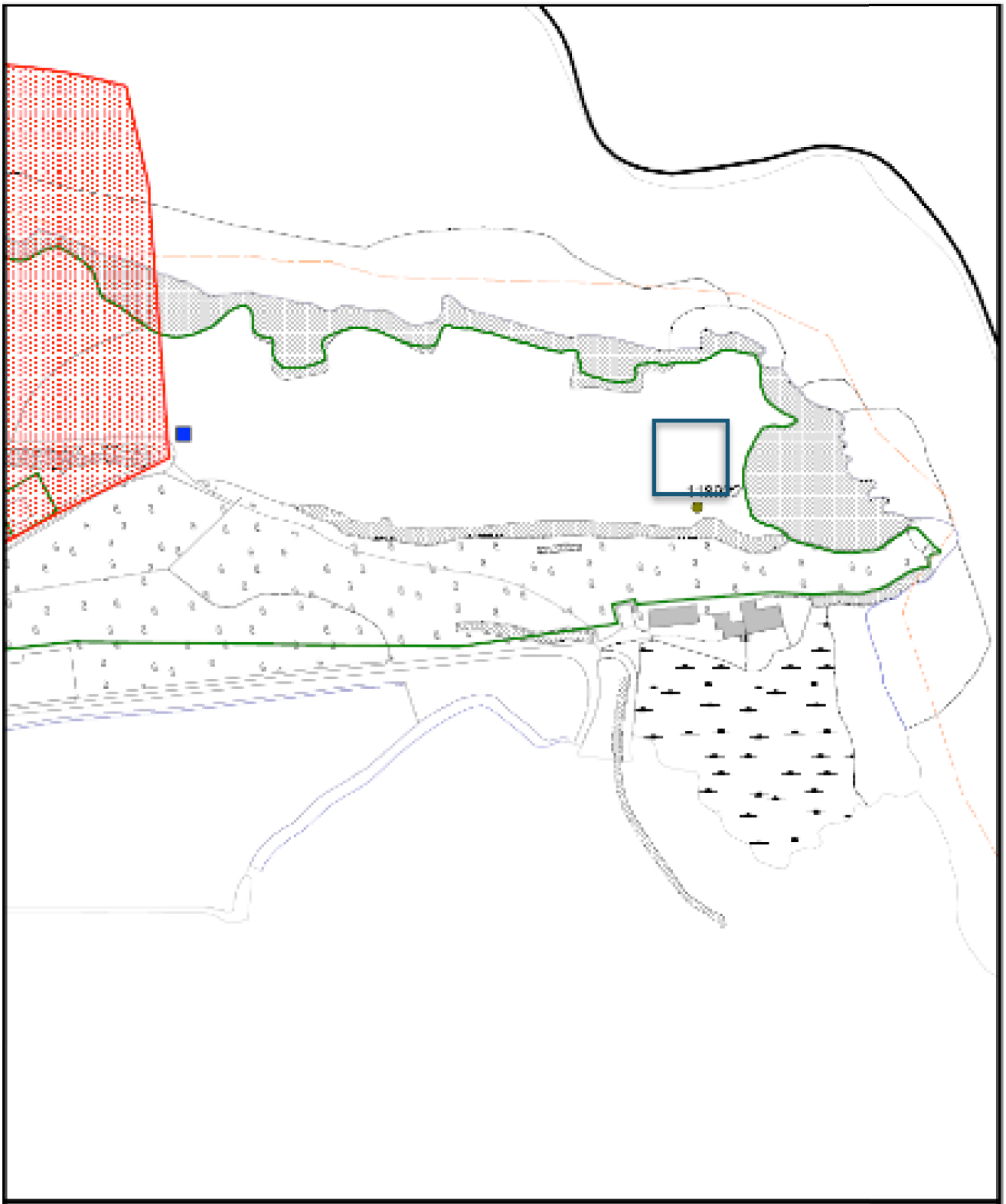
from the mound. It is also possible that the mound represents the platform upon which a Bronze Age hut could have stood. such huts were discovered on the southern slopes of Brean Down by Martin Bell (Bell 1990).

In order to truly determine the nature of 118922, limited excavation is recommended, in accordance with the original project plan. Two 1m test pits should be cut, one into the north-eastern side of the mound to determine its exterior nature in the vicinity of the linear feature, and another should be cut centrally so as to overlay the apparent solid object evidenced within the scan; thereby revealing both the central makeup of the mound and the cause of the singular anomaly within its makeup.

Appendix A - Survey Grid location (1:2500)

THE NATIONAL TRUST
HISTORIC BUILDINGS, SITES AND MONUMENTS RECORD
ARCHAEOLOGY SECTION
CONSERVATION DIRECTORATE

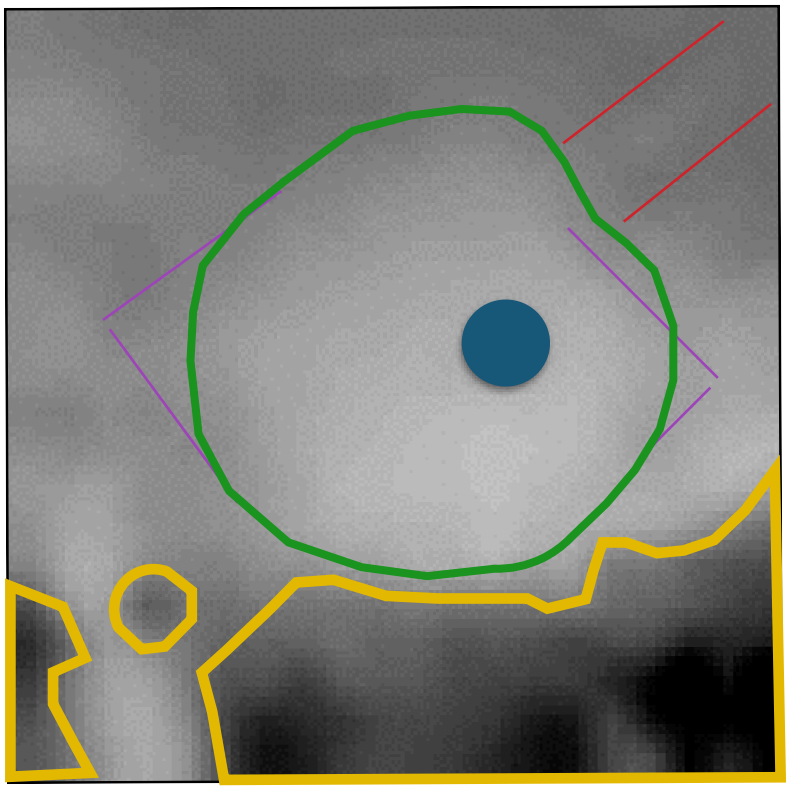
TITLE	Brean Down East 118922
PROPERTY	Brean Down, Somerset
SCALE	Scale 1:2500
COMPILED BY	M. Papworth
DATE	10 January 2014



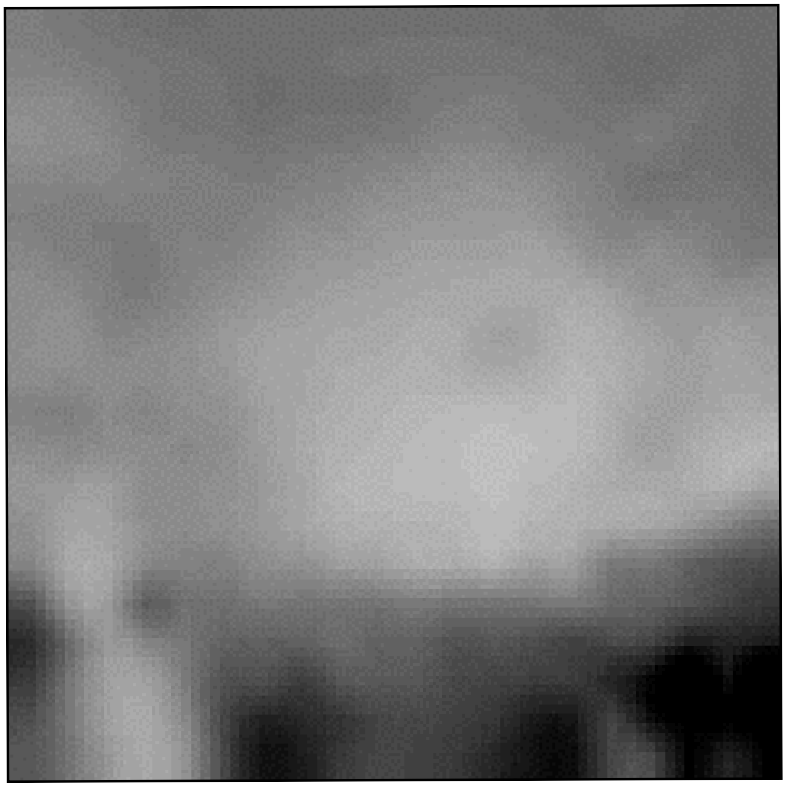
Appendix B - Plot of minimally processed data (1:1000)

Appendix C - Plot of enhanced data (1:1000)

Appendix D - Interpretation Diagram



Key	
Green =	outline of mound
Red =	Linear feature leading from mound
Blue =	Solid object - 4m in diameter
Yellow =	Bedrock
Purple =	Potential rectilinear structure



Original image for comparison with the interpretation above.

Bibliography

Bell, M. (1990) *Brean Down excavations 1983-1987* (London: English Heritage).

Hanks, N. (2000) *Archaeological Survey, Brean Down, Somerset* (National Trust Archaeological Report - unpublished).

Legg, R. (1993) *Steep Holm Legends and History* (Wincanton: Dorset Publishing Co.)

Woodward, A. (2000) *British Barrows: A Matter of Life and Death* (Stroud: Tempus)