The Lochbrow Landscape Project 2012

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Summary

Building on the result of two previous seasons, gradiometer and resistance surveys were undertaken in September 2012 across the locations of an early Neolithic–Bronze Age monument complex, comprising a timber cursus, timber circles and round barrows (Figure 1), and Iron Age settlement enclosures recorded as cropmarks at Lochbrow, near Lockerbie, Dumfries and Galloway. Utilizing geophysical survey techniques, the aerial photographic record, predictive modelling, fieldwalking, and by engaging with local community volunteers, this project aims to investigate the nature and extent of these sites and monuments within their wider context and topographic location. The surveys have so far identified several anomalies of interest, including some possible post-pits of a cursus and a round barrow complex, and have enhanced the aerial photographic record.

Methodology and Results

The 2012 gradiometry survey was carried out with a Bartington fluxgate gradiometer in grids of 30 x 30m, at a resolution of 0.5 x 0.125m (giving a total of 14,400 sample measurements per grid). Fifty-three grids were completed, which, added to the previous year’s survey, covered a total area of 8.5 hectares (Figure 2a). The targeted resistance survey used Geoscan RM15 resistance meters with standard 0.5m twin probe arrays. Twenty-four grids of 20 x 20m, with samples at 0.5 x 0.5m metres were completed (0.96ha).

The magnetic results (Figure 2b) show a lot of disturbance, evident from the many small dipoles. In this context it is difficult to ascertain whether the anomalies are modern agricultural debris, or relate to burning events from the cursus and related features. A general NNW-SSE trend across the majority of the data reflects the dominant direction of modern ploughing, and the large linear dipole running NW-SE relates to a modern overhead cable. However, there are also many older features, some of which complement the aerial photo survey. These include a newly-discovered round barrow in the north east of the northern field, a possible plough-damaged barrow to the north-west, as well as a rectangular anomaly of uncertain origin in the northernmost area (Figure 3a). Targeted resistance has not elucidated these further, though there are anomalies that may reflect geological activity. It is currently unclear whether the many small low resistance pits are natural or anthropogenic.

The resistance proved effective at detecting the low resistance ditches associated with what are most probably a cluster of round barrows in the south end of the field (Figure 4a). Two were known from the aerial survey, but this work has shown that the central burial of one appears intact, and there may be a third, damaged barrow immediately to the north-east. Comparing these results with the gradiometry (Figure 4b), it is clear that gradiometry is not showing these strongly, and that a number of other similar faint signatures are therefore worthy of further investigation.

The exploratory gradiometry survey in the southern field has also proved successful, with the nature of the Iron Age settlement features elucidated and additional detail added to that known from cropmarks (Figures 6a and b). Further work is needed to complete this.
Figure 1. Aerial photo transcription of the Neolithic-Bronze Age monument complex, the initial focus of the Lochbrow Landscape Project.

Figure 2. a) Location of geophysical surveys at 1:3,000; b) Full gradiometry results from the north field at 1:2000 (Background map © Crown Copyright/database right 2012. An Ordnance Survey/EDINA supplied service)
Figure 3. Northern area showing a) gradiometry survey and b) resistance

Figure 4. Southern area showing a) resistance survey and b) gradiometry
Figure 5. South field showing aerial photo transcription and gradiometry results of the Iron Age settlement enclosures

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