The Lochbrow Landscape Project 2013

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Summary

Building on the results of three previous seasons, gradiometer, resistance surveys and a pilot ground penetrating radar survey were undertaken in September 2013 across the locations of an early Neolithic–Bronze Age monument complex, and Iron Age settlement enclosures recorded as cropmarks at Lochbrow, near Lockerbie, Dumfries and Galloway. Utilizing a range of techniques (including geophysical survey, the aerial photographic record, predictive modelling, and sediment coring), 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. Results have been promising, showing a number of interesting anomalies, as well as enabling the reinterpretation of the pre-existing aerial photographic survey.

Methodology and Results

The 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. The previous surveys had covered an area of 8.5 hectares (Figure 1a), and this was substantially augmented this season, with an additional 58 grids (5.2 hectares), completing the northern field, as well as 40 grids in the southern field (3.6 hectares). Although the main focus was the gradiometry, targeted resistance survey also took place, with nine 20m grids surveyed across the area of the barrow complex, and four grids focused on the junction between the two Iron Age enclosures in the southern field. Two Geoscan RM15 resistance meters with standard 0.5m twin probe arrays were used, with samples taken at 0.5 x 0.5m metres.

Ground penetrating radar using a Noggin 500Mhz antenna was also trialed, with two areas surveyed: the area of the barrow complex, as well as the square anomaly in the far north of the northern field. Unfortunately adverse conditions meant that the GPR survey could not be completed, and it is hoped that additional work will take place in 2014.

In addition to the geophysical surveys, a programme of sediment coring was also initiated, and a short trial of an experiential methodology undertaken. Both were undertaken on a small scale, but have provided promising results and it is planned to further expand both in 2014.
The completion of the northern field has revealed a number of interesting results. In addition to the anomalies captured in previous years (see report 2012) a number of new features have been discovered (Figure 2). The impact of the underlying geology is strong in this region, which serves to obscure the archaeology in many areas: the most obvious anomaly relates to the course of the relict stream channel running NE-SW across the field, but there are also a number of sinuous and faint features that most likely relate to glacial activity. There are, however, still archaeological features apparent. An important feature is the linear trends which show in the small area surveyed in the adjacent field, which lies on the same plateau. This most probably represents medieval ridge and furrow, which can – with the eye of faith – be extrapolated in certain areas into the main field. This indicates that deep ploughing in the main field is likely to have had a serious impact on the visibility or survival of archaeological remains, and may go some way towards explaining why the timber cursus features may only be appearing as faint trends. The other main area of interest is the centre-south-east corner, where there are a number of strong circular anomalies which appear to be associated with a faint rectilinear feature.
Figure 2. Full gradiometry results from the north field. The red boxes indicate areas referred to in text, whilst the orange box shows the area of correspondence between resistance features in Figure 3.
In the resistance data it is equally hard to distinguish the archaeology amongst the very strong geological activity. However, in addition to the barrow features discovered in the previous season, a circular anomaly approximately 30m to the east may represent an additional barrow not known from aerial survey. Large low resistance features in the easternmost grids also correspond with highly magnetic features in the gradiometry data (see orange boxed area in Figure 2). Finally, a low resistance linear trend is evident (arrowed), extending west. On re-inspection of the aerial survey this is visible, but it is unclear whether this represents modern activity.

Survey in the southern field, piloted in 2012, was carried out in earnest in 2013. The areas over the known Iron Age enclosures as well as a known barrow were targeted. The ditches associated with the enclosures and probable medieval ploughing had already been surveyed (see report 2012), and again, the topographic variation and strong geology has served to obscure much of the archaeology, but a few anomalies are still apparent, including a small, strong anomaly directly to the north of the enclosures, and some which may represent pits directly south-east of the enclosures. There are also some strong circular anomalies in the vicinity of the barrow (location marked by a star in Figure 4), as well as some faint linear features (though these may represent periglacial frost cracking patterns). These areas require more targeted survey.
Figure 4. Gradiometry results for the south field. The red boxes refer to anomalies discussed in text, whilst the orange box shows the approximate location of the resistance survey.

A small resistance survey was carried out at the junction of the two Iron Age enclosures (Figure 5). As the area covered was only small, this has not helped elucidate any of the known features, simply showing a series of high and low resistance features dotted across the area which correspond to some strong magnetic anomalies in the gradiometry survey. However, a larger survey in 2014 may help to show the bigger picture.

Figure 5. Resistance Survey in the south field. Enclosures are marked in red.

In summary, development in achieving a coherent, large-scale landscape survey of this area is making excellent progress. The archaeology in this area is highly dispersed, and the geology challenging to deal with. However, we have identified a number of interesting new features worthy of further attention.
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