Much progress has been made in this on-going PhD project, which started in November 2008. A total area of 11.5 hectares has been surveyed and 300 soil samples gathered during the 2010 fieldwork season. The project, currently at the geochemistry and soil characterisation stage, will finish at the end of 2011. This project has already benefited several on-going archaeological projects in Scotland, and its findings will greatly assist in evaluating the potential of geophysics across Scotland and beyond.

**The Challenges**

- Sites with difficult superficial deposits (e.g. wind blown sand).
- Sites with low magnetic contrast.
- Sites with variability in data quality

**The Questions**

- Which geophysical technique or combination of techniques gives results that are most useful for archaeological interpretation?
- What is the impact of the soil on the geophysical results and/or their variability? What are the specific soil factors involved in creating the contrast?
- Are there any strategies that can help us to plan a more confident geophysical survey strategy at these types of site?

**Case Study Sites**

- Prehistoric Cropmarks (Forteviot, Perthshire)
- Viking Settlement (Bay of Skail, Orkney)
- Medieval Site (Lochmaben, Dumfriesshire)
- Viking Settlement (Scalpsie, Bute)

**Methods**

- Geophysical survey over target
  - Gradometry
  - Magnetic Susceptibility
  - Earth Resistance
  - GPR & Conductivity
- Ground-truthing
- Sequential Soil Sampling & Geophysical Surveys
- Data integration & correlations

**Expected Outcomes**

- This should allow a more confident prediction of the most appropriate survey strategy at a given site.