

A NEW GENERATION, PORTABLE, TIME-DOMAIN EM PROFILING SYSTEM

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Loupe is a new, portable time-domain electromagnetic system specifically designed for rapid reconnaissance and near-surface conductivity measurements. The receiver and transmitter are each carried by one person on a back-pack. Loupe incorporates a 3-component coil sensor with 100 kHz bandwidth, a fast-switching transmitter loop, a simple user-interface and the ability to navigate and recover position using RTK GPS. We believe that the ability to rapidly measure conductivity distribution in 3-D in the near-surface using a rapid acquisition system will change how many geotechnical and mineral exploration programmes are conducted.

We anticipate that the paper will present examples of data from a geotechnical investigation, an iron ore mine and a base metal sulphide deposit. Results will be compared against other techniques to illustrate the increase in near-surface resolution and speed of data collection.