Are Cued AGC Surveys Necessary?

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AGC sensors capable of one-pass classification surveying can provide distinct advantages over a two-pass classification approach. The elimination of the cued surveying phase can significantly reduce the geophysical survey time and cost versus a two-pass classification approach. One-pass classification also eliminates potential issues with the selection of appropriate and representative background locations for cued classification which can be especially challenging for sites with variable geology. As additional AGC one-pass sensor form factors become available, one-pass surveying in a wider range of terrains and environments is possible, reducing the need for two-pass surveys.

There are also advantages in two-pass surveys using cued data for classification. Cued data can be acquired over longer time windows with increased stacking and with a stationary sensor, providing higher SNR data for classification.

In this presentation, we investigate whether cued surveying is necessary for classification given the current capabilities of one-pass classification sensors. We use data collected over increasingly complicated target scenarios with UltraTEM sensors operating in both a dynamic one-pass classification mode as well as a cued classification mode. We demonstrate that even for complicated target scenarios, one-pass classification data is sufficient for successful classification and investigate the advantages and limitations of dynamic one-pass and cued classification.