EVALUATION OF DETECTION SURVEY ANOMALY AMPLITUDES AND ADVANCED CLASSIFICATION RESULTS OF UNEXPLODED ORDNANCE GEOPHYSICAL SURVEYS

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Abstract: Recent studies show the ability of next generation time domain electromagnetic (TDEM) instruments, such as Geometrics’ MetalMapper, to discriminate unexploded ordnance (UXO) from non-hazardous clutter. However, the success of next generation instruments and their requisite advanced classification techniques rely on initial detection surveys using state of practice instruments. These detection instruments, such as Geonics’ EM61-MK2, have certain detection limits as a function of UXO size and depth. It is less certain how advanced classification techniques successfully discriminate anomalies at the lower limit of detection.

This paper evaluates advanced classification results as a function of detection survey anomaly amplitudes. Intrusive results from the Environment Security Technology Certification Program’s (ESTCP) continuing Live Site Demonstration program were reviewed with respect to detection survey anomaly amplitudes and their advanced classification-based dig decisions. The purpose of this study is to evaluate the relationship between detection survey anomaly amplitudes and the reliability of advanced classification results.

No full paper available.