ADVANCED GEOPHYSICAL CLASSIFICATION

Parsons is a leader in advanced classification for munitions response, integrating innovative discrimination and geophysical mapping technologies to reduce costs and expedite site closures.

Advanced Classification Is the Next Step in Munitions Cleanup

What? Advanced classification is used to distinguish between potentially hazardous munitions and explosives of concern (MEC) and non-MEC metal debris.

Why? Removal of harmless metal debris (non-MEC) constitutes the largest cost for remediation of former munitions sites.

How? Advanced classification uses diagnostic data generated by the advanced electromagnetic induction (EMI) sensors and compares it to a library of known objects.

Advanced Classification EMI Sensors

MetalMapper

- Best used in open areas
- Requires heavy equipment
- Complex to ship and set up
- Can run in “dynamic mode,” eliminating need for initial EM61 survey
- Navigation time savings in open areas
- Extensively field tested
- Acquires data quickly
- No reacquisition needed
- More effective detecting small UXO than EM61
- One-person operation

TEMTADS/ MetalMapper 2x2

- Can be used on rough terrain
- Can be deployed with or without heavy equipment
- Complex to ship and setup
- Can run in “dynamic mode,” eliminating need for initial EM61 survey
- Allows real-time field QC
- Requires anomaly reacquisition

MPV

- Can be used on very rough terrain and in wooded or developed areas
- Requires no heavy equipment
- Easy to transport and set up
- Can run in “dynamic mode,” eliminating need for initial EM61 survey
- Allows real-time field QC
- Requires anomaly reacquisition

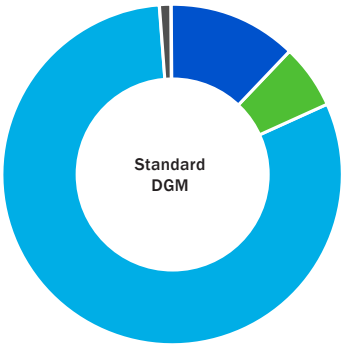
Advanced classification can eliminate excavation of up to

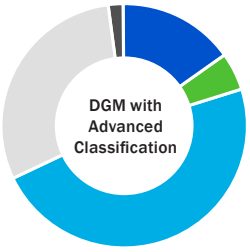
90%

of detected geophysical anomalies, resulting in significant cost savings.

Cost Savings

(circle size indicates total project cost)





- Site Preparation
- Detection Survey
- Cued Data
- Dig Clutter
- Dig UXO & Seeds

Parsons Is a Leader in Advanced Classification

Parsons has extensive expertise with the development of advanced classification from its early stages and is recognized as a national leader in the technology. Parsons has participated in numerous demonstration projects since 2009 and has successfully completed several remedial actions using advanced classification. Parsons was the first company to attain accreditation under the US Department of Defense (DoD) Advanced Geophysical Classification Accreditation Program (DAGCAP) in March 2017.

Parsons Advanced Classification Project Locations

Accreditation Assures High Quality Work

The DoD and regulatory agencies developed DAGCAP to give the government, regulators, and public confidence that the new technology is being implemented correctly and by qualified and experienced organizations. Effective January 1, 2017, the DoD required all companies performing advanced classification to be accredited under DAGCAP. Parsons' management system for DAGCAP, which has already been approved by the external accreditation body, will ensure the quality and technical excellence of our advanced classification work.

Using advanced classification to reduce unnecessary digs can achieve estimated cost savings of up to

50%

Advanced Classification Projects

Former Camp Sibert Remedial Action (RA). Alabama

Completed cued MetalMapper classification of 8,000 anomalies on 4.2-inch mortar range

Received regulator approval for first implementation of advance classification on a full-scale project

All MEC items correctly classified

Clutter digs reduced by 91%

Reduced costs by avoiding more than 6,000 anomaly digs

Former Lowry Bombing and Gunnery Range RA, Colorado

Dynamic MetalMapper data (40 acres) in high-density area and 160 acres of EM61 data in low-density area

Initial classification of MetalMapper data reduced the required cued data collection

DGM performed with MetalMapper under high-voltage powerlines where the EM61 and Schonstedts could not meet detection requirements

One of the first advanced geophysical classification QAPPs performed as a beta-test of the AGC-QAPP template

More than 200 QC and validation seed items detected and classified correctly

Clutter digs reduced by approximately 94%

Reduced costs by avoiding more than 5,700 digs

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