

ESTCP PROJECT OF THE YEAR

VALIDATION OF SAMPLING PROTOCOL AND PROMULGATION OF METHOD MODIFICATIONS FOR THE CHARACTERIZATION OF ENERGETIC RESIDUES ON MILITARY TRAINING RANGES

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The use of munitions during live-fire training exercises on DoD ranges presents a risk of contaminants leaching into the soil and groundwater and potentially migrating to areas outside of the range. To determine the likelihood of that risk, the military needs methods that provide accurate estimates of the amount and type of contaminants in soil. Traditional sampling techniques have proven inaccurate and expensive.

Mr. Alan Hewitt and his project team documented scientifically defensible sampling and sample processing protocols for the characterization of energetic residues on military training ranges. Method 8330B, now posted on the U.S. EPA web site, was based on experiences gained through more than 50 training range studies conducted by ERDC-CRREL and DRDC Valcartier under programs sponsored by SERDP, U.S. Army Garrison Alaska, and the Corps of Engineers' Distributed Source Program. Under these programs, Method 8330B addressed the uncertainty from the heterogeneity of energetic residues on military training ranges as well as in the samples collected to establish the presence and amount of these potentially hazardous constituents. This ESTCP project increased public awareness of the multi-increment sampling (MIS) protocol and necessity to thoroughly process samples to achieve reproducible and unbiased estimates.

Hawai'i and Alaska have already incorporated MIS or Method 8330B procedures in guidance documents for their environmental investigations. The DoD Environmental Data Quality Workgroup and U.S. Army Corps of Engineers Environmental and Munitions Center of Expertise have published guidance on implementing Method 8330B and MIS. The Interstate Technology Regulatory Council is developing technical/regulatory guidelines. Military organizations developing or issuing guidance for Method 8330B and MIS include AEC, the U.S. Army Military Munitions Response Program, and the U.S. Navy.

These new techniques will enable range managers to make sound risk management decisions for ranges that will enhance DoD's ability to meet or exceed environmental stewardship requirements while maintaining training activities. Cost savings for sample handling, processing, and analysis using these techniques are estimated at 50-80%.

For more specific information about this project, stop by Poster #167.