



At a Glance

Catalyst for Improving the Environment

Why We Did This Review

We initiated this evaluation to assess whether the U.S. Environmental Protection Agency (EPA), Office of Inspector General, can use hyperspectral imaging data as a feasible oversight tool to assess the effectiveness of prior Superfund remediations, or to target areas for assessment.

Background

The Office of Inspector General entered into an interagency agreement with the U.S. Geological Survey, Eastern Geographic Science Center, to develop and test hyperspectral remote sensing technologies for the detection of fugitive and residual contamination at deleted Superfund waste sites. Subsequently, the U.S. Geological Survey entered into an interagency agreement with the U.S. Air Force Civil Air Patrol to use its remote sensing system to collect hyperspectral imagery at five deleted former National Priorities List sites in Maryland and Virginia.

For further information, contact our Office of Congressional, Public Affairs and Management at (202) 566-2391.

The full report is at:
www.epa.gov/oig/reports/2011/20110803-11-P-0433.pdf

Observed Conditions at Five Deleted Superfund Sites

What We Found

Conditions at two of the five sites we visited in EPA Region 3, which had been remediated and deleted from the National Priorities List, may warrant additional attention from EPA. Hyperspectral imaging data, on-site testing, and/or soil samples revealed issues at the Middletown Road Dump site in Annapolis, Maryland, and the Matthews Electroplating site in Roanoke County, Virginia. We do not believe conditions at the other three sites visited warrant additional consideration from EPA.

The Middletown Road Dump site, formerly a dump for construction waste, was found to have expanded in size since EPA's latest Five-Year Review. Hyperspectral imaging data identified an anomaly that proved to be leachate coming from the landfill. Our on-site testing also indicated hydrocarbons pooling in surface waters, and soil samples collected at the site contained arsenic, chromium, mercury, and antimony at levels exceeding established residential risk-based concentrations.

The Matthews Electroplating site, formerly a chrome-plating operation, contained waste metal, empty drums, and containers. Soil samples taken at the site contained arsenic, nickel, and antimony at levels exceeding EPA's established risk-based concentrations for residential areas. We also observed that the current landowner had started building a residence on the site.

We did not make any conclusions regarding potential health risks or the effectiveness of EPA's prior remediation efforts, or the usefulness of hyperspectral imaging data as an oversight tool. We are presenting our results in this early warning report so Region 3 can review the information on the sites and take further action if appropriate. Additional work is ongoing to assess the usefulness of remote sensing technology as an OIG oversight tool.

What We Recommend

We recommend that EPA Region 3's Office of Superfund Site Remediation add the information in this report to the appropriate site-specific case files and assess whether any additional action is warranted for the Matthews Electroplating and Middletown Road Dump sites. The Agency agreed with our recommendations, stating that it has added the information to the case files and requested more detailed sampling information to assist it in evaluating the two deleted sites. The region's ongoing and planned actions meet the intent of our recommendations.