

TCLP INVESTIGATIONS: THE DEVELOPMENT OF A RAPID SCREENING FIELD ASSESSMENT TEST¹

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Abstract: A common procedure to determine the potentially leachable metal concentrations in mine-waste piles is the Toxicity Characteristic Leaching Procedure (TCLP), Method 1311, developed by the US Environmental Protection Agency (USEPA). This test takes considerable time (> 18 hours) and sample amount (> 100 grams) thus hindering the remediation process by slowing down the initial assessments. The proposed Citizen's TCLP is a modified version of the EPA TCLP that will utilize everyday compounds such as baking soda, vinegar, and bottled water. The test also used volumetric measurements to eliminate the need for weighing in the field. Three different amounts of sediment are being tested; 1 tsp, 2 tsp, and 3 tsp. Leachate samples were taken at varying time intervals during the field TCLP; 1, 2, and 3 hour intervals. By varying the sediment:solution ratio and the reaction time an approximation of the standard TCLP should be approached.

Mining impacted sediments (MIS) and samples collected from New Orleans following Hurricane Katrina, are being used in the development of this leach test. Further testing is needed to determine the correct sediment:solution ratio and the length of reaction time. Results could be obtained in hours instead of weeks. This scaled-down version of the TCLP may provide a rapid screening assessment tool that will speed up remediation decisions.

Additional Key Words: mine-waste piles, leachate, mining impacted sediments.

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