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Pat Sosinski

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To: Jim Feeney/R3/USEPA/US@EPA

cc:

Subject: Foote Mineral -- Request for Analytical methods for Bromide and Bromate in soil

We did not have great success with our search for analytical methods for Bromide and Bromate in soil in support of Foote Mineral. Our librarian did a number of searches, and I sent the question to the Laboratory Technical Information Group which consists of scientists from all 10 EPA Regions, RCRA, and NEIC.

There was no information or suggestions concerning bromate in soils.

There are two SW-846 methods that list bromide on the analyte list. Both require use of methods to get the soil bromide into solution prior to analysis:

Method 9211; Potentiometric Determination of Bromide in Aqueous Samples with Ion-Selective Electrode

1.0 SCOPE AND APPLICATION

1.1 This method can be used for measuring total solubilized bromide in drinking waters, natural surface waters, groundwaters, domestic and industrial wastewaters, and in soil extracts (ASTM methods D4646-87, D5233-92 or D3987-85). NOTE: This method is for the analysis of simple bromide ion rather than total bromide, as analysis using the ion-selective electrode is not preceded by a distillation step.

Method 9056; Determination of Inorganic Anions by Ion Chromatography

1.0 SCOPE AND APPLICATION

1.1 This method addresses the sequential determination of the anions chloride, fluoride, bromide, nitrate, nitrite, phosphate, and sulfate in the collection solutions from the bomb combustion of solid waste samples, as well as all water samples.

Method 9056 does not include performance information for bromide in soils. Method 9211 has information on the spike performance from one spike in a soil in single lab study. There is not sufficient information to evaluate how robust these methods are for the proposed use. Methods 9056 and 9211 can be found in SW-846 On Line at the following web address:

<http://www.epa.gov/epaoswer/hazwaste/test/main.htm>

Sorry, Jim, but the information that we need just doesn't seem to be out there.

If you have additional questions, please contact me by e-mail or call me at 410/305-2667.

Thank you!

Pat

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