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INTERLABORATORY EVALUATION OF STANDARD REFERENCE MATERIALS FOR TRACE ELEMENTS IN COAL, FLY ASH, FUEL OIL, AND GASOLINE - Darryl J. von Lehmden (1), Philip D. La Fleur (2), and Gerald G. Akland (1), (1) Environmental Protection Agency, National Environmental Research Center, Research Triangle Park, North Carolina 27711, and (2) U. S. Department of Commerce, National Bureau of Standards, Washington, D. C. 20234

The Environmental Protection Agency and the National Bureau of Standards have jointly conducted an interlaboratory comparison program for trace elements in four standard reference materials. The concentration of fifteen chemical elements was certified by the National Bureau of Standards concurrent with the interlaboratory comparison program. The standard reference materials include coal, fly ash, residual fuel oil and gasoline. The concentrations were certified in these materials for the following elements; mercury, beryllium, lead, cadmium, vanadium, manganese, nickel, chromium, arsenic, selenium, zinc, sulfur, phosphorous, fluorine, and uranium. Over fifty laboratories participated in the interlaboratory comparison program. Chemical element concentrations are reported using neutron activation analysis (radio chemical and instrumental), atomic absorption spectrometry, spark source mass spectrometry (isotope dilution and general scan), X-ray fluorescence, optical emission spectroscopy, and a variety of colorimetric and gravimetric methods. Precision results are reported based on replicate analysis. Accuracy results are reported based on the certified values. Preliminary grouping of the "best" analytical methods for each chemical element in each samples matrix will be described.