

**Improvements in Methodology for the Measurement of Radiostrontium
in Environmental Samples by Extraction Chromatography**

Hewitt W. Jeter

Teledyne Brown Engineering
Environmental Services
Westwood, New Jersey 07675

Preliminary Abstract: The 42nd Annual Conference on Bioassay,
Analytical, and Environmental Radiochemistry

The method for radiostrontium analysis which was presented at three previous Bioassay Conferences has been further developed to permit analysis of larger samples and to simplify the procedure. Following sample preparation and initial precipitations, strontium is isolated by absorption on an extraction chromatography column containing 3 grams of crown ether material. The purified strontium is eluted from the column, then allowed to stand for 5 days or more for ingrowth of ^{90}Y . Strontium and yttrium are then separately precipitated and counted on low-level beta detectors.

Interferences from elements and nuclides found in nature are discussed. Examples of radiostrontium analyses in various sample types are used to illustrate accuracy of the method.