

The Present Status of the US Transuranium and Uranium Registries' Analytical Methods for the Determination of Pu and Am in Biological Samples

Dot Stuit¹, Sam Glover¹, Hongguo Qu¹, Scott Grytdal¹, Cathy Grimm², Roy Filby³

¹U.S. Transuranium and Uranium Registries, and ²Nuclear Radiation Center, and ³Dept. of Chemistry, Nuclear Radiation Center, Washington State University, Pullman WA 99164-1300.

The US Transuranium and Uranium Registries (USTUR) is a unique organization which studies the distribution, biokinetics, and effects of actinides in persons accidentally exposed during their lifetimes typically at US Department of Energy facilities. The accurate and precise radiochemical analysis of human tissues is of fundamental importance to completion of the mission of the USTUR. Los Alamos National Laboratory (LANL) provided these services prior to transfer of the USTUR program to Washington State University in 1992 and responsibility for the radiochemistry was transferred to WSU in 1994. While the analytical methods utilized by LANL were initially adopted by WSU to expedite this transfer, one of the major goals of the Radiochemistry Group has been to develop new and improved methods of analysis. Historic and newly implemented methods will be discussed and compared. Results from method validation for these methods will be presented.