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**RADIATION SURVEILLANCE ASSOCIATES, INC.**

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January 4, 1993

Mr. Chad Glen, Project Manager  
U. S. Nuclear Regulatory Commission  
Decommissioning and Regulatory Issues Branch  
Division of Low-Level Waste Management and Decommissioning  
11555 Rockville Pike  
Rockville, MD 20852

Dear Mr. Glen:

Enclosed is an unbound single copy of the final RSA report dated December 30, 1992, responding to the issues raised by the NRC staff in your memorandum transmitted October 29, 1992 entitled, "Comments on Subsurface Survey for Thorium Content at MolyCorp's Site in Washington, Pennsylvania." Please destroy the draft copy sent to you by express mail on 12/29/92 which has been superseded.

The report points out that subsurface gamma measurements integrate the  $^{232}\text{Th}$  content over much larger volumes than single soil samples or core samples and, therefore, the concentrations determined by gamma measurements are less variable than concentrations estimated from measurements of single soil samples. Accordingly, less uncertainty will be propagated with dose estimates based on gamma measurements than dose estimates based on results of soil sample analysis.

We hope you and the NRC staff find the technical material we have submitted to be sufficiently convincing to accept our technique and calibration. If necessary I suggest we have a meeting together to resolve this and other technical issues. Please feel free to call me at 801-974-0132 if you have any questions whatsoever about the report.

Sincerely yours,

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*McDonald E. Wren*  
McDonald E. Wren, Ph.D.

cc. Barbara Dankmyer  
Encl.

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