

September 18, 2007

Mr. James Webb  
Division of Decommissioning/Waste Management  
U.S. Nuclear Regulatory Commission  
Two White Flint North, Mail Stop: 78F5  
11545 Rockville Pike  
Rockville, MD 20852-2738

**SUBJECT: RADIOLOGICAL RESULTS FOR PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION SAMPLES 1706S039 TO 1706S049 AT THE MOLYCORP WASHINGTON REMEDIATION PROJECT, WASHINGTON, PENNSYLVANIA (DOCKET NO. 040-08778; TAC NO. L52062; RFTA NO. 06-007)**

Dear Mr. Webb:

The Oak Ridge Institute for Science and Education (ORISE) performed radiological analyses on eleven soil samples collected by Pennsylvania Department of Environmental Protection (PADEP) personnel at the MolyCorp Washington Remediation Project (MWRP) in Washington, Pennsylvania during the period of June 27 to July 20, 2007. These samples were collected from the road bed leading up to and surrounding the local Veterans of Foreign Wars (VFW) building. Radiological analyses for these samples were requested by the U.S. Nuclear Regulatory Commission (NRC). The radiological soil sample results, with average background concentrations subtracted, are provided in the attached table. These samples were analyzed by gamma spectroscopy (GS). The PADEP sample identifications are also listed in the attached table. Please note that the PADEP-collected sample identifications were incorrect; the fifth character in the sample identification should be an "S" and not a "5".

The pertinent analytical procedure reference is provided in the table. ORISE's Quality Control (QC) requirements were met for these analyses. The QC files are available for your review upon request. If you have any questions or comments, please direct them to me at 865.576.0065 or Sarah Roberts at 865.241.8893.

Sincerely,



Wade C. Adams  
Health Physicist/Project Leader  
Survey Projects

WCA:bf

Enclosure

c:	T. Carter, NRC/FSME/DWMEP/DD/SP T-8F5	L. Kauffman, NRC/Region I
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	J. Nicholson, NRC/Region I	S. Roberts, ORISE
	File/1706	

Distribution approval and concurrence:	Initials
Technical Management Team Member	
Laboratory Manager	
Quality Manager	

TABLE 1

**RADIONUCLIDE CONCENTRATIONS IN SOIL SAMPLES COLLECTED BY PADEP  
ORISE LABORATORY PROCEDURE CP1 – REVISION 15  
MOLYCORP WASHINGTON REMEDIATION PROJECT  
WASHINGTON, PENNSYLVANIA**

ORISE Sample ID	PADEP Sample ID <sup>a</sup>	Radionuclide Concentrations in Soil Samples (pCi/g)						
		Ra-226	Th-228	Th-232	Total Thorium <sup>b</sup>	U-235	U-238	Total Uranium <sup>c</sup>
<i>BKG Average</i>	<i>---</i>	$0.89 \pm 0.26^e$	$1.26 \pm 0.26$	$1.31 \pm 0.57$	$2.57 \pm 0.62$	$0.10 \pm 0.37$	$1.5 \pm 1.8$	$3.0 \pm 3.6$
<b>PADEP Samples<sup>f</sup></b>								
1706S0039	170650039	$0.15 \pm 0.27$	$0.19 \pm 0.28$	$0.41 \pm 0.61$	$0.60 \pm 0.67$	$0.02 \pm 0.39$	$0.2 \pm 2.0$	$0.4 \pm 3.9$
1706S0040	170650040	$0.21 \pm 0.28$	$0.16 \pm 0.28$	$0.38 \pm 0.62$	$0.54 \pm 0.68$	$0.03 \pm 0.40$	$-0.1 \pm 1.9$	$-0.1 \pm 3.9$
1706S0041	170650041	$0.16 \pm 0.27$	$0.06 \pm 0.27$	$0.24 \pm 0.61$	$0.30 \pm 0.67$	$0.11 \pm 0.39$	$0.4 \pm 1.9$	$0.8 \pm 3.8$
1706S0042	170650042	$0.05 \pm 0.27$	$-0.08 \pm 0.27$	$-0.11 \pm 0.60$	$-0.19 \pm 0.66$	$-0.11 \pm 0.38$	$0.0 \pm 2.0$	$-0.2 \pm 4.0$
1706S0043	170650042 Dup	$-0.21 \pm 0.27$	$-0.41 \pm 0.27$	$-0.35 \pm 0.58$	$-0.76 \pm 0.64$	$0.01 \pm 0.38$	$0.0 \pm 1.9$	$-0.1 \pm 3.8$
1706S0044	170650043	$0.02 \pm 0.27$	$0.15 \pm 0.27$	$0.15 \pm 0.60$	$0.30 \pm 0.66$	$0.01 \pm 0.40$	$0.5 \pm 1.9$	$0.9 \pm 3.9$
1706S0045	170650044	$0.41 \pm 0.28$	$3.89 \pm 0.40$	$4.19 \pm 0.75$	$8.08 \pm 0.86$	$0.04 \pm 0.40$	$2.0 \pm 2.1$	$4.0 \pm 4.1$
1706S0046	170650045	$0.06 \pm 0.27$	$0.39 \pm 0.28$	$0.51 \pm 0.61$	$0.90 \pm 0.68$	$-0.02 \pm 0.39$	$-0.3 \pm 2.0$	$-0.6 \pm 3.9$
1706S0047	170650046	$0.79 \pm 0.28$	$4.01 \pm 0.40$	$4.54 \pm 0.77$	$8.55 \pm 0.87$	$0.11 \pm 0.40$	$1.6 \pm 2.0$	$3.3 \pm 4.0$
1706S0048	170650047	$-0.06 \pm 0.28$	$0.15 \pm 0.28$	$0.19 \pm 0.61$	$0.34 \pm 0.67$	$0.04 \pm 0.39$	$-0.2 \pm 2.0$	$-0.4 \pm 4.0$
1706S0049	170650048	$-0.02 \pm 0.28$	$0.60 \pm 0.29$	$0.47 \pm 0.64$	$1.07 \pm 0.70$	$-0.10 \pm 0.40$	$0.3 \pm 2.0$	$0.4 \pm 4.1$

<sup>a</sup>Sample identification provided by PADEP personnel. Sample locations were not provided.

<sup>b</sup>Total thorium calculated by adding Th-228 to Th-232 concentrations.

<sup>c</sup>Total uranium calculated by doubling the U-238 concentration and adding the U-235 concentration.

<sup>d</sup>Six samples were collected by ORISE on a previous survey trip to determine the average background concentration for each radionuclide of concern.

<sup>e</sup>Uncertainties represent the 95% confidence level based on total propagated uncertainties.

<sup>f</sup>Average background concentrations for each radionuclide were subtracted from the PADEP-collected soil samples.

<sup>g</sup>Zero values are due to rounding.