

March 25, 2005

Mr. Gene Bonano U.S. Nuclear Regulatory Commission Region III 801 Warrenville Road Lisle, IL 60532-4351

**SUBJECT:** 

ANALYTICAL RESULTS FOR SOIL SAMPLES FROM THE JN-4 GROUNDS AT THE BATTELLE WEST JEFFERSON SITE, COLUMBUS, OHIO JTAC NO. 070-00008/2005-001] (RFTA NO. 05-001)

Dear Mr. Bonano:

The Environmental Survey and Site Assessment Program (ESSAP) of the Oak Ridge Institute for Science and Education (ORISE) received eleven soil samples on March 4, 2005 that were collected at the Battelle West Jefferson Site JN-4 Grounds in Columbus, Ohio between the dates of November 8, 2004 and February 23, 2005. The samples were analyzed by gamma spectroscopy for cesium-137, cobalt-60, the thorium series, and the uranium series (Procedure CP1, Revision 14). The gamma spectroscopy results are presented in Table 1.

ESSAP'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, please call me at (865) 241-3242 or Wade Ivey at (865) 576-9184.

Sincerely,

Dale Condra

Laboratory Manager

Environmental Survey and

Site Assessment Program

RDC:WPI:ar

Enclosure

cc: T. McLaughlin, NRC/NMSS/TWFN 7F27

E. Knox-Davin, NRC/NMSS/TWFN T8A23

E. Abelquist, ORISE/ESSAP T. Vitkus, ORISE/ESSAP

File 1653

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

## **ORISE TABLE 1**

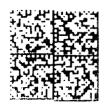
## CONCENTRATIONS OF SELECTED GAMMA EMITTING RADIONCULIDES IN SOIL SAMPLES BY GAMMA SPECTROSCOPY CP1, REVISION 14 BATTELLE WEST JEFFERSON SITE JN-4 GROUNDS COLUMBUS, OHIO

ESSAP	NRC Region III Sample ID	Radionuclide Concentrations (pCi/g dry weight) <sup>a</sup>					
Sample ID		Co-60	Cs-137	Th-228 by Pb-212	Th-232 by Ac-228	U-235	U-238 by Th-234
1653S0001	NRC-1	$0.05 \pm 0.06^{b}$	$0.23 \pm 0.04$	$0.84 \pm 0.08$	$1.05 \pm 0.18$	$0.07 \pm 0.12$	$1.70 \pm 0.58$
1653S0002	NRC-2	$0.00^{\circ} \pm 0.03$	$0.20 \pm 0.04$	$0.82 \pm 0.07$	$1.05 \pm 0.19$	$0.16 \pm 0.14$	$1.65 \pm 0.58$
1653S0003	NRC-3	$0.00 \pm 0.02$	$0.01 \pm 0.02$	$0.26 \pm 0.04$	$0.24 \pm 0.08$	$0.08 \pm 0.08$	$0.92 \pm 0.34$
1653S0004	NRC-4	$0.01 \pm 0.01$	$0.11 \pm 0.03$	$0.24 \pm 0.03$	$0.25 \pm 0.09$	$0.08 \pm 0.10$	$0.58 \pm 0.42$
1653S0005	NRC-5	$0.00 \pm 0.04$	$0.19 \pm 0.05$	$0.98 \pm 0.12$	$1.22 \pm 0.22$	$0.21 \pm 0.19$	$1.60 \pm 0.86$
1653S0006	NRC-6	$-0.01 \pm 0.02$	$0.00 \pm 0.02$	$0.72 \pm 0.06$	$0.79 \pm 0.12$	$0.05 \pm 0.07$	$0.76 \pm 0.40$
1653S0007	NRC-7	$-0.01 \pm 0.03$	$0.02 \pm 0.03$	$0.55 \pm 0.05$	$0.42 \pm 0.13$	$0.08 \pm 0.08$	$0.76 \pm 0.47$
1653S0008	NRC-8	$0.01 \pm 0.03$	-0.01 ± 0.02	$0.47 \pm 0.06$	$0.56 \pm 0.14$	$0.02 \pm 0.08$	$1.08 \pm 0.49$
1653S0009	NRC-9	$0.00 \pm 0.02$	$0.04 \pm 0.02$	$0.74 \pm 0.07$	$0.82 \pm 0.14$	$0.11 \pm 0.10$	$1.24 \pm 0.46$
1653S0010	NRC-10	$-0.03 \pm 0.03$	$0.07 \pm 0.03$	$0.87 \pm 0.08$	$0.97 \pm 0.18$	$0.12 \pm 0.10$	$1.17 \pm 0.61$
1653S0011	NRC-11	$0.01 \pm 0.03$	$0.12 \pm 0.05$	$0.86 \pm 0.11$	$0.89 \pm 0.22$	$0.05 \pm 0.11$	$1.86 \pm 0.59$

<sup>&</sup>quot;The average MDCs for a one hour count of soil in a 0.5L Marinelli for these data range from 0.03 pCi/g for Cs-137 to 0.54 pCi/g for U-238.

<sup>&</sup>lt;sup>t</sup>Uncertainties represent the 95% confidence level, based on total propagated uncertainties.

<sup>&</sup>quot;Zero values are due to rounding.



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