

August 18, 2005

Mr. Gene Bonano
 U.S. Nuclear Regulatory Commission
 Region III
 2443 Warrenville Road
 Lisle, IL 60532-4351

**SUBJECT: ANALYTICAL RESULTS FOR TWO SOIL SAMPLES FROM THE
 NAVAL STATION AT GREAT LAKES, ILLINOIS
 [INSPECTION REPORT NO. 040-08306/2005-001] (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 two soil samples on August 3, 2005 that were collected at the Naval Station at Great Lakes, Illinois on July 29, 2005. The samples were analyzed by gamma spectroscopy (Procedure SP3, Revision 4 & Procedure CP1, Revision 15). 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/T-7E18 E. Abelquist, ORISE/ESSAP
 E. Knox-Davin, NRC/NMSS/TWFN T8A23 A. Boerner, ORISE/ESSAP
 File 1667

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AUG 25 2005

ORISE TABLE 1

**CONCENTRATIONS OF THORIUM
GAMMA EMITTING RADIONUCLIDES
IN SOIL SAMPLES
BY SAMPLE PREPARATION SP3, REVISION 4
AND GAMMA SPECTROSCOPY CP1, REVISION 15
NAVAL STATION
GREAT LAKES, ILLINOIS**

ESSAP Sample ID	NRC Region III Sample ID	Radionuclide Concentrations (pCi/g dry weight) ^a		
		Th-228 by Pb-212	Th-232 by Ac-228	Total Th ^b
1667S0006	NRC-1	0.99 ± 0.07 ^c	1.22 ± 0.18	2.21 ± 0.19
1667S0007	NRC-2	0.92 ± 0.08	1.05 ± 0.20	1.97 ± 0.22

^aThe average MDCs for these radionuclides are 0.04 pCi/g for Th-228 by Pb-212 to 0.12 pCi/g for Th-232 by Ac-228.

^bTotal thorium is the sum of Th-228 and Th-232.

^cUncertainties represent the 95% confidence level, based on total propagated uncertainties.



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