October 7, 2013

Mr. Mark Roberts
U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Blvd, Suite 100
King of Prussia, PA 19406-2713

**SUBJECT: ORISE CONTRACT NO. DE-AC05-06OR23100
LETTER REPORT FOR ANALYTICAL RESULTS FOR TWO CONCRETE AND
THREE SOIL SAMPLES ASSOCIATED WITH THE WORCESTER
POLYTECHNIC INSTITUTE, IN WORCESTER, MASSACHUSETTS
[DOCKET NO. 050-00134] (RFTA NO. 13-001)
DCN: 5225-LR-01-0**

Dear Mr. Roberts:

Oak Ridge Associated Universities (ORAU), under the Oak Ridge Institute for Science and Education (ORISE) contract, received two concrete core and three soil samples on August 26, 2013 from the Worcester Polytechnic Institute in Worcester, Massachusetts. The samples were received in good condition. The samples were analyzed for activation and fission products by gamma spectrometry. The sample collection data and identification numbers are presented in Table 1 and the gamma spectrometry data are presented in Table 2. The pertinent procedure reference is included with the data table.

ORAU's Quality Control (QC) requirements were met for this analysis. The QC files are available for your review upon request.

My contact information is listed below. You may also contact Forrest Smith at 865.574.9802 with any questions or comments.

Sincerely,

Wade Ivey, Manager
Laboratory
WPI:km

Enclosures

c: T. Carter, NRC/FSME/DWMEP T-8F5
S. Nesmith, NRC/FSME/PBPA/TWFN 8A23

Electronic: S. Roberts, ORAU T. Vitkus, ORAU File 5225

Distribution approval and concurrence:	Initials
Technical Review	PCW
Quality Review	KB
Group Manager Review	WPI

TABLE 1

**SAMPLE IDENTIFICATIONS
AND COLLECTION INFORMATION
WORCESTER POLYTECHNIC INSTITUTE
WORCESTER, MASSACHUSETTS**

ORAU/ORISE Sample ID	NRC Sample ID	Collection Date	Collection Time
5225M0001	NRC #2	8/22/13	12:00
5225M0002	NRC #2A	8/22/13	NR ^a
5225M0003	NRC #4	8/22/13	12:00
5225M0004	NRC #4A	8/22/13	12:00
5225S0001	#1	8/13/13	NR
5225S0002	#2	8/13/13	NR
5225S0003	#3	8/13/13	NR

^aNR=Data not provided on NRC FORM 303

TABLE 2

**CONCENTRATIONS OF SELECTED GAMMA EMITTERS
IN CONCRETE AND SOIL SAMPLES
BY GAMMA SPECTROMETRY
CP1, REVISION 17
WORCESTER POLYTECHNIC INSTITUTE
WORCESTER, MASSACHUSETTS**

ORAU/ORISE Sample ID	NRC Sample ID	Radionuclide Concentrations, TPU ^a , and MDCs ^b (pCi/g)			
		Co-60	Eu-152	Eu-154	Cs-137
5225M0001	NRC #2	0.11 ± 0.03 , 0.04	0.89 ± 0.09 , 0.11	0.05 ± 0.11 , 0.31	0.01 ± 0.02 , 0.07
5225M0002	NRC #2A	0.02 ± 0.02 , 0.03	0.10 ± 0.04 , 0.08	-0.07 ± 0.08 , 0.20	-0.01 ± 0.02 , 0.04
5225M0003	NRC #4	0.13 ± 0.03 , 0.03	0.46 ± 0.06 , 0.08	-0.14 ± 0.13 , 0.22	0.00 ^c ± 0.03 , 0.04
5225M0004	NRC #4A	0.05 ± 0.02 , 0.06	0.16 ± 0.04 , 0.07	-0.23 ± 0.10 , 0.19	0.01 ± 0.02 , 0.04
5225S0001	#1	0.11 ± 0.03 , 0.04	0.45 ± 0.06 , 0.09	-0.23 ± 0.12 , 0.26	0.00 ± 0.03 , 0.05
5225S0002	#2	0.09 ± 0.03 , 0.06	0.65 ± 0.08 , 0.12	-0.08 ± 0.18 , 0.38	-0.05 ± 0.05 , 0.07
5225S0003	#3	0.15 ± 0.03 , 0.04	0.81 ± 0.08 , 0.10	-0.26 ± 0.13 , 0.28	0.00 ± 0.03 , 0.05

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

^bThe MDCs are after the comma.

^cZero values is due to rounding.