

December 17, 2013

Mr. Lionel Rodriguez
U.S. Nuclear Regulatory Commission
Region III
2443 Warrenville Road
Suite 2010
Lisle, IL 60532-4351

SUBJECT: ORISE CONTRACT NO. DE-AC05-06OR23100
LETTER REPORT FOR ANALYTICAL RESULTS FOR FIVE SWIPE SAMPLES
FROM THE NORTHERN BIOMEDICAL RESEARCH FACILITY,
MUSKEGON, MICHIGAN
[DOCKET NO. 030-34005; LICENSE NO. 21-26687-01] (RFTA NO. 13-001)
DCN: 5230-LR-01-0

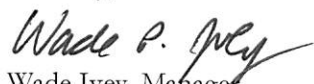
Dear Mr. Rodriguez:

Oak Ridge Associated Universities (ORAU), under the Oak Ridge Institute for Science and Education (ORISE) contract, received five swipe samples on December 10, 2013 from the Northern Biomedical Research Facility in Norton Shores, Michigan. The samples were analyzed for tritium and carbon-14 according to the NRC Form 303 supplied with the samples. The sample identification numbers are presented in Table 1 and the tritium and carbon-14 results are provided in Table 2. The pertinent procedure references are included with the data tables.

ORAU's Quality Control (QC) requirements were met for these analyses. 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/TWFFN 8A23

Electronic: S. Roberts, ORAU T. Vitkus, ORAU
File 5230

Distribution approval and concurrence:	Initials
Technical Review	DAK
Quality Review	AT
Group Manager Review	WPI

TABLE 1

**SAMPLE IDENTIFICATIONS
AND COLLECTION INFORMATION
NORTHERN BIOMEDICAL RESEARCH
MUSKEGON, MICHIGAN**

ORAU/ORISE Sample ID	NRC Sample ID	Collection Date	Collection Time
5230R0001	NBR-13-1-01	12/5/13	11:20
5230R0002	NBR-13-1-02	12/5/13	11:26
5230R0003	NBR-13-1-03	12/5/13	11:35
5230R0004	NBR-13-1-04	12/5/13	11:43
5230R0005	NBR-13-1-05	12/5/13	11:57

TABLE 2

**CONCENTRATIONS OF TRITIUM AND CARBON-14
IN SWIPE SAMPLES
BY LIQUID SCINTILLATION
AP2, REVISION 19, AP9, REVISION 5, AND CP4, REVISION 4
NORTHERN BIOMEDICAL RESEARCH
MUSKEGON, MICHIGAN**

ORAU/ORISE Sample ID	NRC Sample ID	Radionuclide Concentrations, TPU ^a , and MDCs ^b (dpm/swipe)	
		H-3	C-14
5230R0001	NBR-13-1-01	5.9 ± 4.4 , 7.1	1.9 ± 2.8 , 4.7
5230R0002	NBR-13-1-02	2.6 ± 4.2 , 7.1	-1.0 ± 2.6 , 4.7
5230R0003	NBR-13-1-03	4.1 ± 4.3 , 7.1	2.0 ± 2.8 , 4.7
5230R0004	NBR-13-1-04	4.8 ± 4.3 , 7.1	1.3 ± 2.7 , 4.7
5230R0005	NBR-13-1-05	0.7 ± 4.1 , 7.1	-0.5 ± 2.7 , 4.7

^aUncertainties represent the 95% confidence level based on counting statistics.

^bThe MDCs are after the comma.