

May 1, 2009

Ms. Katherine Streit
U.S. Nuclear Regulatory Commission
Region III
2443 Warrenville Road
Lisle, IL 60532-4351

SUBJECT: ORISE CONTRACT NO. DE-AC05-06OR23100
ANALYTICAL RESULTS FOR 24 SWIPE SAMPLES ASSOCIATED WITH
THE UNIVERSITY OF MICHIGAN, ANN ARBOR, MICHIGAN
(INSPECTION REPORT #030-01988/09-001) [RFTA NO. 09-002]
DCN: 1793-LR-01-0

Dear Ms. Streit:

The Oak Ridge Institute for Science and Education (ORISE) received 24 swipe samples from the University of Michigan in Ann Arbor, Michigan on April 14, 2009. At your request, the samples were analyzed for tritium (H-3) and carbon-14 (C-14) contamination with a requested detection limit of 100 dpm per swipe for each radionuclide. The swipes were received dry. After adding 10 mL of scintillation cocktail and distilled water, the swipes were counted on a liquid scintillation analyzer (AP2, Revision 16; AP9, Revision 4; CP4, Revision 3). The sample collection information is presented in Table 1. The H-3 data are presented in Table 2. The C-14 data are presented in Table 3.

ORISE'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 Wade Ivey at 865.576.9184 with any questions or comments.

Sincerely,



Dale Condra, Manager
Laboratory

RDC/WPI:ar

c: T. Carter, NRC/FSME/DWMEP T-8F5
 T. Patterson, NRC/FSME/TWFN 8D42
 File 1793

E. Abelquist, ORISE
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Distribution approval and concurrence:	Initials
Technical Review	TG
Quality Review	ATP

TABLE 1

**SAMPLE IDENTIFICATIONS
AND COLLECTION DATA
UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN**

ORISE Sample ID	NRC Region III Sample ID	Collection Date	Collection Time
R0001-1	KR-K1-01	4/8/09	7:50 AM
R0001-2	KR-K1-02	4/8/09	7:55 AM
R0001-3	KR-K1-03	4/8/09	8:00 AM
R0001-4	KR-K1-04	4/8/09	8:25 AM
R0001-5	KR-K1-05	4/8/09	8:30 AM
R0001-6	KR-K1-06	4/8/09	8:35 AM
R0001-7	KR-K1-07	4/8/09	9:00 AM
R0001-8	KR-K1-08	4/8/09	9:00 AM
R0001-9	KR-KH-09	4/8/09	9:30 AM
R0001-10	KR-KH-10	4/8/09	9:30 AM
R0001-11	KR-KH-11	4/8/09	9:30 AM
R0001-12	KR-KH-12	4/8/09	10:00 AM
R0001-13	KR-KH-13	4/8/09	10:00 AM
R0001-14	KR-KH-14	4/8/09	10:00 AM
R0001-15	KR-K1-15	4/9/09	10:00 AM
R0001-16	KR-K1-16	4/9/09	10:00 AM
R0001-17	KR-K1-17	4/9/09	10:00 AM
R0001-18	KR-K1-18	4/9/09	10:30 AM
R0001-19	KR-K1-19	4/9/09	10:30 AM
R0001-20	KR-K1-20	4/9/09	10:40 AM
R0001-21	KR-K1-21	4/9/09	10:40 AM
R0001-22	KR-K1-22	4/9/09	11:15 AM
R0001-23	KR-K1-23	4/9/09	11:15 AM
R0001-24	KR-K1-24	4/9/09	11:15 AM

TABLE 2

**CONCENTRATIONS OF TRITIUM
IN SWIPE SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP2, REVISION 16; C4, REVISION 3
UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN**

ORISE Sample ID	NRC Region III Sample ID	Tritium Concentrations, TPUs, and MDCs (pCi/swipe)
R0001-1	KR-K1-01	-8 ± 16 ^a , 32 ^b
R0001-2	KR-K1-02	5 ± 19 , 32
R0001-3	KR-K1-03	-3 ± 17 , 32
R0001-4	KR-K1-04	-1 ± 18 , 32
R0001-5	KR-K1-05	-2 ± 17 , 32
R0001-6	KR-K1-06	-3 ± 17 , 32
R0001-7	KR-K1-07	1 ± 18 , 32
R0001-8	KR-K1-08	-6 ± 16 , 32
R0001-9	KR-KH-09	-2 ± 17 , 32
R0001-10	KR-KH-10	1 ± 18 , 32
R0001-11	KR-KH-11	2 ± 18 , 32
R0001-12	KR-KH-12	0 ^c ± 18 , 32
R0001-13	KR-KH-13	3 ± 18 , 32
R0001-14	KR-KH-14	1 ± 18 , 32
R0001-15	KR-K1-15	10 ± 20 , 32
R0001-16	KR-K1-16	0 ± 18 , 32
R0001-17	KR-K1-17	-2 ± 17 , 32
R0001-18	KR-K1-18	0 ± 18 , 32
R0001-19	KR-K1-19	3 ± 18 , 32
R0001-20	KR-K1-20	75 ± 29 , 32
R0001-21	KR-K1-21	7 ± 19 , 32
R0001-22	KR-K1-22	25 ± 22 , 32
R0001-23	KR-K1-23	360 ± 54 , 32
R0001-24	KR-K1-24	21 ± 22 , 32

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

^bMDCs are after the commas.

^cZero values are due to rounding.

TABLE 3

CONCENTRATIONS OF CARBON-14

IN SWIPE SAMPLES

BY LIQUID SCINTILLATION ANALYSIS

AP9, REVISION 4; C4, REVISION 3

UNIVERSITY OF MICHIGAN

ANN ARBOR, MICHIGAN

ORISE Sample ID	NRC Region III Sample ID	C-14 Concentrations, TPU's, and MDCs (pCi/swipe)
R0001-1	KR-K1-01	-1.1 ± 6.6 ^a , 12.0 ^b
R0001-2	KR-K1-02	3.9 ± 7.0 , 12.0
R0001-3	KR-K1-03	3.1 ± 6.9 , 12.0
R0001-4	KR-K1-04	5.6 ± 7.1 , 12.0
R0001-5	KR-K1-05	3.4 ± 6.9 , 12.0
R0001-6	KR-K1-06	3.6 ± 6.9 , 12.0
R0001-7	KR-K1-07	12.8 ± 7.6 , 12.0
R0001-8	KR-K1-08	1.7 ± 6.8 , 12.0
R0001-9	KR-KH-09	3.9 ± 7.0 , 12.0
R0001-10	KR-KH-10	-0.8 ± 6.6 , 12.0
R0001-11	KR-KH-11	3.1 ± 6.9 , 12.0
R0001-12	KR-KH-12	2.2 ± 6.8 , 12.0
R0001-13	KR-KH-13	-2.8 ± 6.4 , 12.0
R0001-14	KR-KH-14	3.4 ± 6.9 , 12.0
R0001-15	KR-K1-15	76 ± 11 , 12
R0001-16	KR-K1-16	5.6 ± 7.1 , 12.0
R0001-17	KR-K1-17	3.4 ± 6.9 , 12.0
R0001-18	KR-K1-18	183 ± 16 , 12
R0001-19	KR-K1-19	5.3 ± 7.1 , 12.0
R0001-20	KR-K1-20	132 ± 14 , 12
R0001-21	KR-K1-21	3.9 ± 7.0 , 12.0
R0001-22	KR-K1-22	0.3 ± 6.7 , 12.0
R0001-23	KR-K1-23	10.6 ± 7.5 , 12.0
R0001-24	KR-K1-24	4.2 ± 7.0 , 12.0

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

^bMDCs are after the commas.