

January 28, 2009

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

**SUBJECT:      ORISE CONTRACT NO. DE-AC05-06OR23100  
ANALYTICAL RESULTS FOR FOUR WIPE SAMPLES ASSOCIATED  
WITH WALMART IN SHELBYVILLE, INDIANA  
(DOCKET NO. 99990001; REPORT NO. 2008-014) [RFTA NO. 09-001]  
DCN: 1783-LR-01-0**

Dear Mr. LaFranzo:

The Oak Ridge Institute for Science and Education (ORISE) received two wipe samples and one blank wipe on January 6, 2009. Two additional blank wipes were received on January 19<sup>th</sup>. These samples were associated with the WalMart in Shelbyville, Indiana. At your request, the samples were analyzed for hydrogen-3 (H-3) with a detection limit of 100 dpm/wipe. The wipes were received dry. After adding 10 mL of scintillation cocktail and distilled water, the wipes were counted with a liquid scintillation analyzer (AP2, Revision 16; CP4, Revision 3). After the first count, each wipe was spiked with a known amount of tritium and recounted. The sample collection information is presented in Table 1. The tritium data are presented in Table 2.

A case narrative is included which discusses the internal non conformance that is associated with these samples.

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

Enclosures

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## CASE NARRATIVE:

A FedEx package from Michael LaFranzo was received on January 6, 2009. When the package arrived, ORISE was in the middle of a laboratory audit being conducted by the Department of Energy's Consolidated Audit Program. Since the established turnaround time for rush requests could still be met, the package was not opened until January 9, 2009. At that time, it was noted that the 303 Form did not have an inspection report number. ORISE has been instructed not to start any laboratory task assigned by the NRC until an inspection report number or a TAC number is received from the inspector.

The 303 form and the wipes were returned to the shipping container while ORISE waited to receive the inspection report number. The inspection report number was received on January 13, 2009. The task was then initiated in our tracking system and the samples were logged into the database. A work request was generated in the database.

When the analyst started the analysis on January 15, 2009, he found that the blank wipe for this sample set was missing. A thorough search of the laboratory was conducted, but the blank wipe was not found.

A non conformance, NC 2009-03 was initiated and Michael LaFranzo was contacted by phone on January 15, 2009 to inform him of situation. Mr. LaFranzo agreed to send another blank wipe.

After reviewing the situation, the most likely scenario is that the blank wipe was not removed from the shipping package after the task was assigned in the database and the wipe samples logged into the system. The laboratory staff is reviewing the sample receiving process to determine how best to strengthen the procedure and avoid a similar situation in the future.

To the best of our knowledge, this is the first sample that the laboratory failed to handle properly after sample receipt and before sample analysis.

**TABLE 1**

**SAMPLE IDENTIFICATIONS  
AND COLLECTION DATA  
WALMART  
SHELBYVILLE, INDIANA**

<b>ORISE Sample ID</b>	<b>NRC Region III Sample ID</b>	<b>Collection Date</b>	<b>Collection Time</b>
1783R0001-1	1	12/19/08	10:54 AM
1783R0001-2	2	12/19/08	10:55 AM
1783R0001-3 <sup>a</sup>	3	12/19/08	10:56 AM
1783R0002-1 <sup>b</sup>	1	1/15/09	2:04 PM
1783R0002-2 <sup>b</sup>	2	1/15/09	2:04 PM

<sup>a</sup>Sample 1783R0001-3, a blank, was lost before the analysis could be completed.

<sup>b</sup>Samples 1783R0002-1 and 1783R0002-2, blanks, were sent to replace 1783R0001-3.

**TABLE 2**

**CONCENTRATIONS OF TRITIUM  
IN WIPE SAMPLES  
BY LIQUID SCINTILLATION ANALYSIS  
AP2, REVISION 16; C4, REVISION 3  
WALMART  
SHELBYVILLE, INDIANA**

<b>ORISE Sample ID</b>	<b>NRC Region III Sample ID</b>	<b>Tritium Concentrations (pCi/wipe)</b>
1783R0001-1	1	20 ± 11 <sup>a</sup> , 16 <sup>b</sup>
1783R0001-2	2	22 ± 29 , 49
1783R0002-1	1	-5.9 ± 7.6 , 14.6
1783R0002-2	2	0.2 ± 8.0 , 14.5

<sup>a</sup>Uncertainties represent the 95% confidence level, based on total propagated uncertainties.

<sup>b</sup>MDCs are after the commas.