

February 29, 2008

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

**SUBJECT: LETTER REPORT FOR ANALYTICAL RESULTS FOR WIPE AND SOIL  
SAMPLES FROM AMERICAN RADIOLABELED CHEMICALS  
CORPORATION, ST. LOUIS, MISSOURI  
[030-20562/08-001] (RFTA NO. 08-001)  
DCN: 1762-LR-01-0**

Dear Mr. McCann:

The Oak Ridge Institute for Science and Education (ORISE) received 18 wipe tests, 2 wet wipes and 3 soil samples on January 25, 2008 from the American Radiolabeled Chemicals Corporation in St. Louis, Missouri. During the routine checking of samples upon receipt, it was found that the 2 wet wipe samples had leaked out of the containers. Since the integrity of the samples had not been maintained, your request for quantitative analysis could not be met. As an alternative, a qualitative gross beta analysis was performed to determine if tritium and/or carbon-14 (C-14) were present in each sample. The qualitative analysis identified tritium and C-14 as being present in each sample. The wipe tests and soil samples were analyzed according to the instructions on the 303 form which accompanied the samples. The sample identifications are presented in Table 1. The gross beta results for the wipe tests are presented in Table 2. The tritium results for the soil samples are presented in Table 3. The C-14 results for the soil samples are presented in Table 4. The pertinent procedure references are in the data tables.

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,

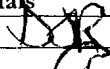



Dale Condra, Manager  
Laboratory

RDC:WPI:bf

Enclosures

c: T. Carter, NRC/FSME/DWMEP T-8F5 E. Abelquist, ORISE  
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File 1762

Distribution approval and concurrence :	Initials
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# ORISE TABLE 1

## SAMPLE IDENTIFICATIONS AND COLLECTION DATA AMERICAN RADIOLABELED CHEMICALS CORPORATION ST. LOUIS, MISSOURI

ORISE Sample ID	NRC REG 3 Sample ID	Collection Date	Collection Time
1762R0001-1	ARC08-1-001 DW	01/23/08	3:00 PM
1762R0001-2	ARC08-1-03 DW	01/23/08	3:00 PM
1762R0001-3	ARC08-1-04 DW	01/23/08	3:00 PM
1762R0001-4	ARC08-06 DW	01/23/08	3:00 PM
1762R0001-5	ARC08-07 DW	01/23/08	3:00 PM
1762R0001-6	ARC08-1-08 DW	01/23/08	3:00 PM
1762R0001-7	ARC08-1-09 DW	01/23/08	3:00 PM
1762R0001-8	ARC08-1-11 DW	01/24/08	9-11AM
1762R0001-9	ARC08-1-12 DW	01/24/08	9-11AM
1762R0001-10	ARC08-1-13 DW	01/24/08	9-11AM
1762R0001-11	ARC08-1-14 DW	01/24/08	9-11AM
1762R0001-12	ARC08-1-15 DW	01/24/08	9-11AM
1762R0001-13	ARC08-1-16 DW	01/24/08	9-11AM
1762R0001-14	ARC08-1-24	01/24/08	9:00 AM
1762R0001-15	ARC08-1-25	01/24/08	9:00 AM
1762R0001-16	ARC08-1-26	01/24/08	9:00 AM
1762R0001-17	ARC08-1-27	01/24/08	9:00 AM
1762R0001-18	ARC08-1-28	01/24/08	9:00 AM
1762R0002-1	ARC08-002 WW	01/23/08	3:00 PM
1762R0002-2	ARC08-05 WW	01/23/08	3:00 PM
1762S0001	ARC08-1-29SS	01/24/08	11AM to 4PM
1762S0002	ARC08-1-30SS	01/24/08	11AM to 4PM
1762S0003	ARC08-1-31SS	01/24/08	11AM to 4PM

## ORISE TABLE 2

**GROSS BETA ACTIVITY  
IN WIPE SAMPLES BY  
LOW BACKGROUND BETA COUNTING  
CP3, REVISION 2  
AMERICAN RADIOLABELED CHEMICALS CORPORATION  
ST. LOUIS, MISSOURI**

ORISE Sample ID	NRC REG 3 Sample ID	DPM/ Wipe <sup>a</sup>
1762R0001-1	ARC08-1-001 DW	3
1762R0001-2	ARC08-1-03 DW	300
1762R0001-3	ARC08-1-04 DW	470
1762R0001-4	ARC08-06 DW	660
1762R0001-5	ARC08-07 DW	480
1762R0001-6	ARC08-1-08 DW	880
1762R0001-7	ARC08-1-09 DW	3
1762R0001-8	ARC08-1-11 DW	14
1762R0001-9	ARC08-1-12 DW	96
1762R0001-10	ARC08-1-13 DW	190
1762R0001-11	ARC08-1-14 DW	28
1762R0001-12	ARC08-1-15 DW	56
1762R0001-13	ARC08-1-16 DW	3
1762R0001-14	ARC08-1-24	82
1762R0001-15	ARC08-1-25	370
1762R0001-16	ARC08-1-26	130
1762R0001-17	ARC08-1-27	370
1762R0001-18	ARC08-1-28	150

<sup>a</sup>The MDC for gross beta on a smear is 15 dpm/wipe.

# ORISE TABLE 3

## TRITIUM CONCENTRATIONS IN SOIL SAMPLES AP6, REVISION 16; CP4, REVISION 3 AMERICAN RADIOLABELED CHEMICALS CORPORATION ST. LOUIS, MISSOURI

ORISE Sample ID	NRC REG 3 Sample ID	Concentrations, TPUs, and MDCs <sup>a</sup> (pCi/g wet weight)			
1762S0001	ARC08-1-29SS	525	±	71 <sup>b</sup>	, 4
1762S0002	ARC08-1-30SS	182	±	25	, 4
1762S0003	ARC08-1-31SS	484	±	66	, 4

<sup>a</sup>MDCs are after the comma.

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

# ORISE TABLE 4

## CARBON-14 CONCENTRATIONS IN SOIL SAMPLES AP6, REVISION 16; CP4, REVISION 3 AMERICAN RADIOLABELED CHEMICALS CORPORATION ST. LOUIS, MISSOURI

ORISE Sample ID	NRC REG 3 Sample ID	Concentrations, TPUs, and MDCs <sup>a</sup> (pCi/g wet weight)			
1762S0001	ARC08-1-29SS	63.0	±	9.3 <sup>b</sup>	, 4.5
1762S0002	ARC08-1-30SS	19.4	±	3.6	, 3.7
1762S0003	ARC08-1-31SS	25.2	±	3.7	, 1.8

<sup>a</sup>MDCs are after the comma.

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