

March 5, 2008

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

SUBJECT: LETTER REPORT FOR NINE SOIL SAMPLES FROM THE FORT MIMS SITE, MARYLAND HEIGHTS, MISSOURI [TAC NO. JI3214] (RFTA NO. 08-001) DCN: 1765-LR-01-0

Dear Mr. McCann:

The Oak Ridge Institute for Science and Education (ORISE) received nine soil samples associated with the Fort Mims Site in Maryland Heights, Missouri on February 5, 2007. The samples were analyzed for tritium (H-3) and carbon-14 (C-14) using a liquid scintillation analyzer per the request on the 303 form. The analyses were delayed because the tritium cocktail vendor is no longer supplying the tritium cocktail used in this procedure. ORISE had to purchase the required chemicals. We then had to make and test our own tritium cocktail. Once the tests on the new cocktail were completed, the analyses were completed.

The sample identifications and collection data are presented in Table 1. The H-3 and C-14 data are presented in Tables 2 and 3, respectively. The pertinent procedure references are provided in the specific 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:km

Enclosures

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TABLE 1
SAMPLE IDENTIFICATIONS
AND COLLECTION DATA
FORT MIMS SITE
MARYLAND HEIGHTS, MISSOURI

ORISE Sample ID	NRC Region III Sample ID	Collection Date	Collection Time
1765S0001	SA-08-1-01-S	1-31-08	0943
1765S0002	SA-08-1-02-S	1-31-08	0950
1765S0003	SA-08-1-03-S	1-31-08	1005
1765S0004	SA-08-1-04-S	1-31-08	1027
1765S0005	SA-08-1-05-S	1-31-08	1017
1765S0006	SA-08-1-06-S	1-31-08	1035
1765S0007	SA-08-1-07-S	1-31-08	1040
1765S0008	SA-08-1-08-S	1-31-08	1050
1765S0009	SA-08-1-09-S	1-31-08	1056

TABLE 2
TRITIUM CONCENTRATIONS
IN SOIL SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP6, REVISION 16 AND CP4, REVISION 3
FORT MIMS SITE
MARYLAND HEIGHTS, MISSOURI

ORISE Sample ID	NRC Region III Sample ID	Concentrations, TPU, and MDCs^a (pCi/g wet weight)
1765S0001	SA-08-1-01-S	11.1 ± 3.3 ^b , 4.5
1765S0002	SA-08-1-02-S	14.2 ± 3.4 , 4.1
1765S0003	SA-08-1-03-S	8.4 ± 3.0 , 4.3
1765S0004	SA-08-1-04-S	58.0 ± 9.2 , 4.5
1765S0005	SA-08-1-05-S	28.8 ± 4.9 , 3.4
1765S0006	SA-08-1-06-S	83 ± 13 , 5
1765S0007	SA-08-1-07-S	36.0 ± 6.0 , 3.9
1765S0008	SA-08-1-08-S	20.9 ± 4.1 , 3.9
1765S0009	SA-08-1-09-S	10.2 ± 3.2 , 4.3

^aMDCs are after the comma.

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

TABLE 3

**CARBON-14 CONCENTRATIONS
IN SOIL SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP6, REVISION 16 AND CP4, REVISION 3
FORT MIMS SITE
MARYLAND HEIGHTS, MISSOURI**

ORISE Sample ID	NRC Region III Sample ID	Concentrations, TPUs, and MDCs^a (pCi/g wet weight)
1765S0001	SA-08-1-01-S	62.9 ± 9.0 ^b , 2.9
1765S0002	SA-08-1-02-S	38.5 ± 5.7 , 2.7
1765S0003	SA-08-1-03-S	23.3 ± 3.8 , 2.8
1765S0004	SA-08-1-04-S	1.9 ± 1.8 , 2.9
1765S0005	SA-08-1-05-S	3.2 ± 1.4 , 2.2
1765S0006	SA-08-1-06-S	36.6 ± 5.6 , 3.3
1765S0007	SA-08-1-07-S	18.7 ± 3.1 , 2.5
1765S0008	SA-08-1-08-S	20.6 ± 3.4 , 2.6
1765S0009	SA-08-1-09-S	15.3 ± 2.8 , 2.8

^aMDCs are after the comma.

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