

January 8, 2008

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

SUBJECT: LETTER REPORT FOR FIVE SOIL SAMPLES FROM THE FORT MIMS SITE, MARYLAND HEIGHTS, MARYLAND [TAC NO. J13214] (RFTA NO. 08-001) DNC # 1756-LR-01-0

Dear Mr. Bonano:

The Oak Ridge Institute for Science and Education (ORISE) received five soil samples associated with the Fort Mims Site in Maryland Heights, Maryland on November 9, 2007. The samples were analyzed for tritium (H-3) and carbon-14 (C-14) using a liquid scintillation analyzer. 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 and make its own tritium cocktail. However, one of the components in the cocktail was on backorder. Therefore, we decided to use another procedure for the tritium analysis. The procedure involves distilling a portion of the sample and counting the resulting water that is released from the soil during the distillation.

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,

Wade P. Ivey for
Dale Condra, Manager
Laboratory

RDC:WPI:km

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

ORISE Sample ID	NRC Region III Sample ID	Collection Date	Collection Time
1756S0001	SA-07-1-01	10/31/2007	11:22 AM
1756S0002	SA-07-1-02	10/31/2007	11:34 AM
1756S0003	SA-07-1-03	10/31/2007	11:44 AM
1756S0004	SA-07-1-04	10/31/2007	11:56 AM
1756S0005	SA-07-1-05	10/31/2007	12:09 AM

TABLE 2
TRITIUM CONCENTRATIONS
IN SOIL SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP2, REVISION 16 AND CP4, REVISION 3
FORT MIMS SITE
MARYLAND HEIGHTS, MARYLAND

ORISE Sample ID	NRC Region III Sample ID	Concentrations, Uncertainties, and TPUs (pCi/g wet weight)
1756S0001	SA-07-1-01	1.89 ± 0.19 ^a , 0.14 ^b
1756S0002	SA-07-1-02	1.63 ± 0.17 , 0.13
1756S0003	SA-07-1-03	0.87 ± 0.12 , 0.13
1756S0004	SA-07-1-04	4.41 ± 0.38 , 0.13
1756S0005	SA-07-1-05	2.01 ± 0.19 , 0.12

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

^bMDCs are after the comma.

TABLE 3

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

ORISE Sample ID	NRC Region III Sample ID	Concentrations, Uncertainties, and TPU's (pCi/g wet weight)
1756S0001	SA-07-1-01	137 ± 19 ^a , 3 ^b
1756S0002	SA-07-1-02	49.5 ± 7.1 , 2.7
1756S0003	SA-07-1-03	17.6 ± 2.9 , 2.4
1756S0004	SA-07-1-04	33.1 ± 5.0 , 2.6
1756S0005	SA-07-1-05	2.4 ± 1.7 , 2.7

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

^bMDCs are after the comma.

Confirmatory Survey Report For Portions Of The Auxiliary Building Structural Surfaces And Turbine Building Embedded Piping, Rancho Seco Nuclear Generating Station,	Herald, CA
Revised - Radiological Results for Pennsylvania Department of Environmental Protection Samples 1706S050 to 1706S058 and 1706S0079 to 1706S0098 at the Chevron-Mining Washington Remediation Project,	Washington, PA
Revised - Confirmatory Survey Report For Portions Of The Auxiliary Building Structural Surfaces And Turbine Building Embedded Piping, Rancho Seco Nuclear Generating Station,	Herald, CA
Final Report - Radiological Final Status Survey of the Laboratory Road Building 2714,	Oak Ridge, TN
Regulatory Guide Updates Monthly Letter Status Report for November 2007 for Contract N-6566	Rockville, MD
Document Reviews— Building 4059 Site Final Status Survey Report (Phase A And B); Final Status Survey Report: Final Status Survey Post Historical Site Assessment Sites, Block 1; And Final Characterization And Final Status Survey Report: Radioactive Material	Ventura County, CA
Revision to In-Process Inspection Report for the Miamisburg Closure Project Operable Unit-T Landfill Site,	Miamisburg, OH

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