

February 26, 2010

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

SUBJECT: ORISE CONTRACT NO. DE-AC05-06OR23100
LETTER REPORT FOR ANALYTICAL RESULTS FOR SIX SOIL
SAMPLES FROM AMERICAN RADIOLABELED CHEMICALS IN
MARYLAND HEIGHTS, MISSOURI;
[INSPECTION REPORT NO. 030-20567/2009-02] (RFTA NO. 10-001)
DCN: 2006-LR-02-0

Dear Ms. Streit:

The Oak Ridge Institute for Science and Education (ORISE) received six soil samples on January 25, 2010 from American Radiolabeled Chemicals (ARC) in Maryland Heights, MO. The samples were sent to ORISE from the Teledyne-Brown Engineering Laboratory in Knoxville, TN. The samples were analyzed according to the 303 form supplied to us by you by FAX. The sample identification numbers are presented in Table 1. The samples were analyzed for tritium (H-3) and carbon-14 (C-14) by liquid scintillation analysis. The H-3 results for the samples are presented in Table 2. The C-14 results for the samples are presented in Table 3. The pertinent procedure references are included with 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:ar

Enclosures

c: T. Carter, NRC/FSME/DWMEP T-8F5
 T. Patterson, NRC/FSME/TWPN 8D42
 File 2006

S. Roberts, ORISE
T. Vitkus, ORISE

Distribution approval and concurrence :	Initials
Technical Review	ENB
Quality Review	IT

TABLE 1
SAMPLE IDENTIFICATIONS
AND COLLECTION DATA
AMERICAN RADIOLABELED CHEMICALS
MARYLAND HEIGHTS, MO

ORISE Sample ID	NRC Region III Sample ID	Collection Date	Collection Time
2006S0005	ARC-03-01	11/03/09	NDP ^a
2006S0006	ARC-03-02	11/03/09	NDP
2006S0007	ARC-03-03	11/03/09	NDP
2006S0008	ARC-03-04	11/03/09	NDP
2006S0009	ARC-03-05	11/03/09	NDP
2006S0010	ARC-03-06	11/03/09	NDP

^aNo data provided.

TABLE 2

CONCENTRATION OF TRITIUM
 IN SOIL SAMPLES
 BY LIQUID SCINTILLATION ANALYSIS
 AP6, REVISION 17; CP3 REVISION 2
 AMERICAN RADIOLABELED CHEMICALS
 MARYLAND HEIGHTS, MO

ORISE Sample ID	NRC Region III Sample ID	Concentrations, TPUs, and MDCs ^a (pCi/g wet weight for the soil samples)			
2006S0005	ARC-03-01	47	±	12 ^b	, 4
2006S0006	ARC-03-02	88	±	21	, 4
2006S0007	ARC-03-03	45	±	11	, 4
2006S0008	ARC-03-04	100	±	24	, 4
2006S0009	ARC-03-05	22.2	±	6.1	, 4.4
2006S0010	ARC-03-06	61	±	15	, 4

^aThe MDCs are after the comma.

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

TABLE 3

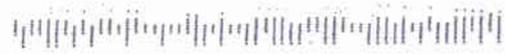
CONCENTRATION OF CARBON-14
IN SOIL SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP6, REVISION 17; AP9, REVISION 4; CP3 REVISION 2
AMERICAN RADIOLABELED CHEMICALS
MARYLAND HEIGHTS, MO

ORISE Sample ID	NRC Region III Sample ID	Concentrations, TPU, and MDCs ^a (pCi/g wet weight for soils)			
2006S0005	ARC-03-01	16.2	±	2.5 ^b	, 3.3
2006S0006	ARC-03-02	16.3	±	2.5	, 3.4
2006S0007	ARC-03-03	10.9	±	2.3	, 3.4
2006S0008	ARC-03-04	16.9	±	2.5	, 3.2
2006S0009	ARC-03-05	5.0	±	2.1	, 3.4
2006S0010	ARC-03-06	78.2	±	6.2	, 3.3

^aThe MDCs are after the comma.

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

P.O. Box 117
Oak Ridge, TN 37831



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Ms. Katherine Streit
US NRC, Region III
2443 Warrenville Rd
Lisle, IL 60532-4351