

May 8, 2006

Ms. Laurie Kauffman
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

**SUBJECT: ANALYTICAL RESULTS FOR TWO SOIL SAMPLES COLLECTED
MARCH 2, 2006 FROM CONNECTICUT YANKEE, HADDAM
NECK, CONNECTICUT
[INSPECTION REPORT NO. DPR-61/20060001][RFTA NO. 06-001]**


Dear Ms. Kauffman:

The Oak Ridge Institute for Science and Education (ORISE) received two soil samples on March 22, 2006 from Connecticut Yankee in Haddam Neck, Connecticut. The samples were analyzed by gamma spectroscopy (GS), for total radiostrontium by low background beta counting, and for tritium by liquid scintillation analysis. Sample identifications and collection data are presented in Table 1, the GS data are presented in Table 2, the total radiostrontium data are presented in Table 3, and the tritium data are presented in Table 4. The pertinent procedure references are provided in the specific tables.

ORISE's 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

Enclosure

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TABLE 1

**SAMPLE IDENTIFICATIONS
AND COLLECTION DATA
CONNECTICUT YANKEE
HADDAM NECK, CONNECTICUT**

ORISE Sample ID	NRC Region I Sample ID	Collection Date	Collection Time
1696S0001	9520-0002-013-RACR	3/2/2006	14:53
1696S0002	9520-0002-014-RACR	3/2/2006	14:55

TABLE 2
CONCENTRATIONS OF SELECTED
GAMMA EMITTING RADIONUCLIDES
IN SOIL SAMPLES
BY GAMMA SPECTROSCOPY CP1, REVISION 15
CONNECTICUT YANKEE
HADDAM NECK, CONNECTICUT

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations ^a (pCi/g)							
		Co-60	Ag-108m	Sb-125	Cs-134	Cs-137	Eu-152	Eu-154	Eu-155
1696S0001	9520-0002-013-RACR	0.01 ± 0.03 ^b	0.00 ^c ± 0.01	0.02 ± 0.04	0.03 ± 0.03	0.12 ± 0.03	0.00 ± 0.04	-0.02 ± 0.09	0.08 ± 0.07
1696S0002	9520-0002-014-RACR	-0.01 ± 0.02	0.01 ± 0.02	0.00 ± 0.04	0.04 ± 0.03	0.01 ± 0.02	0.01 ± 0.05	0.07 ± 0.09	0.03 ± 0.05

^aThe range of MDCs for the selected radionuclides is 0.02 pCi/g to 0.15 pCi/g.

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

^cZero values are due to rounding.

TABLE 3

**CONCENTRATIONS OF TOTAL RADIOSTRONTIUM
IN SOIL SAMPLES
BY LOW BACKGROUND BETA COUNTING
AP4, REVISION 13; CP3, REVISION 2
CONNECTICUT YANKEE
HADDAM NECK, CONNECTICUT**

ORISE Sample ID	NRC Region I Sample ID	Total Radiostrontium Concentrations, TPU, and MDCs ^a (pCi/g)			
1696S0001	9520-0002-013-RACR	0.09	±	0.11 ^b	(0.18)
1696S0002	9520-0002-014-RACR	0.16	±	0.11	(0.18)

^aMDCs are in parentheses.

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

TABLE 4

CONCENTRATIONS OF TRITIUM (H-3)
IN SOIL SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP6, REVISION 15; CP4, REVISION 3
CONNECTICUT YANKEE
HADDAM NECK, CONNECTICUT

ORISE Sample ID	NRC Region I Sample ID	H-3 Concentrations ^a (pCi/g)
1696S0001	9520-0002-013-RACR	3.6 ± 2.9 ^b (4.8)
1696S0002	9520-0002-014-RACR	2.7 ± 2.8 (4.7)

^aThe MDCs are in parentheses.

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