

September 29, 2010

Ms. Laurie Kaufmann
U. S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 60532-4351

06-00217-06
03003754

**SUBJECT: ORISE CONTRACT NO. DE-AC05-06OR23100
LETTER REPORT FOR ANALYTICAL RESULTS FOR TWENTY SOIL SAMPLES
FROM ABB, INC., WINDSOR, CONNECTICUT
[INSPECTION REPORT NO. 060021706/2010003] (RFTA NO. 10-001)
DCN: 2016-LR-02-0**

Dear Ms. Kaufmann:

The Oak Ridge Institute for Science and Education (ORISE) received 20 soil samples on August 12, 2010 from ABB, Inc. in Windsor, Connecticut. The samples were analyzed according to the 303 form supplied with the samples. After reviewing the preliminary results of the gamma spectroscopy (GS) you decided that alpha spectroscopy analysis was not required. The sample identification numbers are presented in Table 1 and the gamma spectroscopy results for the requested radionuclides are provided in Table 2. The requested detection limit of 0.1 pCi/g for thorium-232 (Th-232) was not met for five of the samples. The Th-232 concentration was statistically positive above the requested detection limit for these five samples and we determined that additional count time was not needed. The pertinent procedure reference is included with the data table.

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

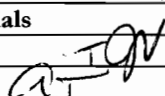
Enclosures

c: T. Carter, NRC/FSME/DWMEP T-8F5
T. Patterson, NRC/FSME/TWFN 8D42

File 2016

Electronic: S. Roberts, ORISE
T. Vitkus, ORISE

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Distribution approval and concurrence :	Initials
Technical Review	
Quality Review	

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TABLE 1
SAMPLE IDENTIFICATIONS
AND COLLECTION INFORMATION
ABB, INC.
WINDSOR, CONNECTICUT

ORISE Sample ID	NRC Region I Sample ID	Collection Date	Collection Time
2016S0018	ABB-10-2-1	8-10-10	1000
2016S0019	ABB-10-2-2	8-10-10	1010
2016S0020	ABB-10-2-3	8-10-10	1015
2016S0021	ABB-10-2-4	8-10-10	1025
2016S0022	ABB-10-2-5	8-10-10	1038
2016S0023	ABB-10-2-6	8-10-10	1050
2016S0024	ABB-10-2-7	8-10-10	1055
2016S0025	ABB-10-2-8	8-10-10	1100
2016S0026	ABB-10-2-9	8-10-10	1110
2016S0027	ABB-10-2-10	8-10-10	1300
2016S0028	ABB-10-2-11	8-10-10	1310
2016S0029	ABB-10-2-12	8-10-10	1318
2016S0030	ABB-10-2-13	8-10-10	1325
2016S0031	ABB-10-2-14	8-10-10	1330
2016S0032	ABB-10-2-15	8-10-10	1335
2016S0033	ABB-10-2-16	8-10-10	1345
2016S0034	ABB-10-2-17	8-10-10	1350
2016S0035	ABB-10-2-18	8-10-10	1355
2016S0036	ABB-10-2-19	8-10-10	1400
2016S0037	ABB-10-2-20	8-10-10	1410

**CONCENTRATIONS OF SELECTED GAMMA EMITTERS
IN SOIL SAMPLES
BY GAMMA SPECTROSCOPY CP1, REVISION 17
ABB, INC.
WINDSOR, CONNECTICUT**

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations (pCi/g dry weight)					
		Th-232 by Ac-228	Ra-226 by Pb-214	Co-60	U-238 by Th-234	U-235	Total U ³
2016S0018	ABB-10-2-1	0.68 ± 0.10 ^b , 0.09 ^c	0.51 ± 0.05, 0.05	0.00 ^d ± 0.03, 0.05	0.60 ± 0.18, 0.47	0.05 ± 0.09, 0.17	1.25 ± 0.37
2016S0019	ABB-10-2-2	0.53 ± 0.09, 0.08	0.40 ± 0.04, 0.04	-0.01 ± 0.03, 0.05	0.53 ± 0.17, 0.48	0.01 ± 0.12, 0.18	1.07 ± 0.36
2016S0020	ABB-10-2-3	0.74 ± 0.10, 0.08	0.53 ± 0.04, 0.03	0.01 ± 0.02, 0.04	0.56 ± 0.14, 0.37	0.01 ± 0.10, 0.16	1.13 ± 0.30
2016S0021	ABB-10-2-4	0.98 ± 0.12, 0.09	0.60 ± 0.05, 0.04	0.02 ± 0.02, 0.05	0.98 ± 0.37, 0.63	0.04 ± 0.08, 0.16	2.00 ± 0.74
2016S0022	ABB-10-2-5	0.72 ± 0.10, 0.11	0.56 ± 0.05, 0.04	-0.03 ± 0.03, 0.05	0.70 ± 0.19, 0.56	0.05 ± 0.08, 0.16	1.45 ± 0.39
2016S0023	ABB-10-2-6	0.73 ± 0.10, 0.09	0.56 ± 0.05, 0.05	0.01 ± 0.03, 0.05	0.84 ± 0.19, 0.49	0.05 ± 0.09, 0.17	1.73 ± 0.39
2016S0024	ABB-10-2-7	0.75 ± 0.10, 0.08	0.52 ± 0.04, 0.03	0.00 ± 0.02, 0.04	0.72 ± 0.15, 0.46	0.10 ± 0.10, 0.16	1.54 ± 0.32
2016S0025	ABB-10-2-8	0.84 ± 0.12, 0.10	0.64 ± 0.05, 0.05	0.02 ± 0.04, 0.06	0.75 ± 0.23, 0.66	0.27 ± 0.06, 0.17	1.77 ± 0.46
2016S0026	ABB-10-2-9	0.88 ± 0.11, 0.10	0.64 ± 0.05, 0.04	0.00 ± 0.03, 0.05	1.07 ± 0.39, 0.67	0.08 ± 0.04, 0.12	2.22 ± 0.78
2016S0027	ABB-10-2-10	0.89 ± 0.14, 0.14	0.61 ± 0.06, 0.07	0.04 ± 0.04, 0.08	0.84 ± 0.28, 0.74	0.04 ± 0.13, 0.25	1.72 ± 0.57
2016S0028	ABB-10-2-11	0.85 ± 0.14, 0.14	0.63 ± 0.07, 0.08	-0.02 ± 0.06, 0.09	0.99 ± 0.34, 1.10	-0.07 ± 0.22, 0.34	1.91 ± 0.71
2016S0029	ABB-10-2-12	0.78 ± 0.11, 0.09	0.46 ± 0.05, 0.05	0.01 ± 0.03, 0.06	0.59 ± 0.22, 0.67	0.01 ± 0.13, 0.22	1.19 ± 0.46
2016S0030	ABB-10-2-13	0.74 ± 0.12, 0.15	0.57 ± 0.06, 0.06	0.00 ± 0.04, 0.07	0.78 ± 0.27, 0.84	0.08 ± 0.12, 0.24	1.64 ± 0.55
2016S0031	ABB-10-2-14	0.80 ± 0.11, 0.09	0.55 ± 0.05, 0.04	-0.01 ± 0.03, 0.05	0.89 ± 0.19, 0.49	0.14 ± 0.04, 0.13	1.92 ± 0.38
2016S0032	ABB-10-2-15	0.73 ± 0.10, 0.09	0.52 ± 0.05, 0.05	-0.01 ± 0.04, 0.06	0.49 ± 0.20, 0.60	0.08 ± 0.13, 0.21	1.06 ± 0.42
2016S0033	ABB-10-2-16	0.75 ± 0.10, 0.07	0.51 ± 0.04, 0.03	-0.01 ± 0.03, 0.04	0.66 ± 0.15, 0.40	0.03 ± 0.10, 0.16	1.35 ± 0.32
2016S0034	ABB-10-2-17	0.59 ± 0.08, 0.08	0.43 ± 0.04, 0.04	0.00 ± 0.02, 0.04	0.58 ± 0.15, 0.44	0.04 ± 0.07, 0.14	1.20 ± 0.31
2016S0035	ABB-10-2-18	0.70 ± 0.10, 0.09	0.58 ± 0.05, 0.05	0.00 ± 0.03, 0.05	0.71 ± 0.18, 0.46	0.11 ± 0.09, 0.17	1.53 ± 0.37
2016S0036	ABB-10-2-19	0.48 ± 0.08, 0.08	0.33 ± 0.04, 0.04	0.03 ± 0.03, 0.05	0.48 ± 0.16, 0.53	0.07 ± 0.04, 0.12	1.03 ± 0.32
2016S0037	ABB-10-2-20	0.67 ± 0.09, 0.06	0.49 ± 0.04, 0.03	-0.01 ± 0.02, 0.04	0.50 ± 0.13, 0.41	0.01 ± 0.09, 0.15	1.01 ± 0.28

*Total uranium is calculated using U-238*2 + U-235.

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

^cMDCs are after the commas.

^dZero values are due to rounding or sample and background being equal.