

**ORISE**  
OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

July 14, 2006

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

**SUBJECT:     REPORT OF ANALYTICAL RESULTS FOR THREE SOIL SAMPLES  
              FROM DOW CHEMICAL COMPANY, BAY CITY, MICHIGAN  
              [INSPECTION REPORT NO. 040-00017/2006-001] (RFTA NO. 06-001)**

Dear Mr. Bonano:

The Oak Ridge Institute for Science and Education (ORISE) received three soil samples on June 8, 2006 collected at the Dow Chemical Company in Bay City, Michigan. The three samples were analyzed by gamma spectroscopy (GS) for thorium. The sample identifications and collection data are presented in Table 1. The GS data are presented in Table 2. 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,



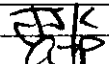
Dale Condra, Manager  
Laboratory

RDC:WPI:ess

Enclosure

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**TABLE 1**

**SAMPLE IDENTIFICATIONS  
AND COLLECTION DATA  
THE DOW CHEMICAL COMPANY  
BAY CITY, MICHIGAN**

<b>ORISE Sample ID</b>	<b>NRC Region III Sample ID</b>	<b>Collection Date</b>	<b>Collection Time</b>
1708S0001	DOW-06-1-01	5/10/06	8:22 AM
1708S0002	DOW-06-1-02	5/10/06	8:40 AM
1708S0003	DOW-06-1-03	5/10/06	8:00 AM

TABLE 2

CONCENTRATIONS OF SELECTED GAMMA EMITTING  
RADIONUCLIDES IN SOIL SAMPLES  
BY SAMPLE PREPARATION SP3, REVISION 4  
AND GAMMA SPECTROSCOPY CP1, REVISION 15  
THE DOW CHEMICAL COMPANY  
BAY CITY, MICHIGAN

ORISE Sample ID	NRC Region III Sample ID	Radionuclide Concentrations (pCi/g) <sup>a</sup>			
		Th-230	Th-228 by Pb-212	Th-232 by Ac-228	Total Th <sup>b</sup>
1708S0001	DOW-06-1-01	7.7 ± 4.9 <sup>c</sup>	2.15 ± 0.15	2.02 ± 0.35	4.17 ± 0.38
1708S0002	DOW-06-1-02	16 ± 12	19.2 ± 1.1	20.3 ± 1.7	39.5 ± 2.0
1708S0003	DOW-06-1-03	6.9 ± 5.2	4.32 ± 0.25	4.47 ± 0.39	8.79 ± 0.46

<sup>a</sup>The average MDCs for these radionuclides range from 0.04 pCi/g for Th-228 by Pb-212 to 16 pCi/g for Th-230.

<sup>b</sup>Total thorium is the sum of Th-228 and Th-232.

<sup>c</sup>Uncertainties represent the 95% confidence level, based on total propagated uncertainties.