

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

October 25, 2005

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

**SUBJECT: ANALYTICAL RESULTS FOR FIVE SOIL SAMPLES FROM DOW  
CHEMICAL COMPANY IN BAY CITY, MICHIGAN  
[INSPECTION REPORT NO. 040-00017/05-001] (RFTA NO. 05-001)**

Dear Mr. Bonano:

The Environmental Survey and Site Assessment Program (ESSAP) of the Oak Ridge Institute for Science and Education (ORISE) received five soil samples on October 5, 2005, that were collected at the Dow Chemical Company in Bay City, Michigan. The samples were analyzed by gamma spectroscopy (Procedure SP3, Revision 4 & Procedure CP1, Revision 15). The gamma spectroscopy results are presented in Table 1.

ESSAP's Quality Control (QC) requirements were met for these analyses. The QC files are available for your review upon request.

If you have any questions, please call me at (865) 241-3242 or Wade Ivey at (865) 576-9184.

Sincerely,



Dale Condra  
Laboratory Manager  
Environmental Survey and  
Site Assessment Program

RDC:WPI:ar

Enclosure

cc: T. McLaughlin, NRC/NMSS/T-7E18                      E. Abelquist, ORISE/ESSAP  
E. Knox-Davin, NRC/NMSS/TWFN T8A23                S. Kirk, ORISE/ESSAP  
File 1675

Distribution approval and concurrence:	Initials
Technical Management Team Member	JSK
Quality Manager	ADP

P. O. BOX 117, OAK RIDGE, TENNESSEE 37831-0117

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**ORISE TABLE 1**

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

ESSAP Sample ID	NRC Region IV Sample ID	Radionuclide Concentrations (pCi/g dry weight) <sup>a</sup>			
		Th-230	Th-228 by Pb-212	Th-232 by Ac-228	Total Th <sup>b</sup>
1675S0001	NRC-1	30.5 ± 9.3 <sup>c</sup>	8.13 ± 0.49	8.39 ± 0.75	16.52 ± 0.90
1675S0002	NRC-2	13.5 ± 6.6	3.87 ± 0.25	3.96 ± 0.39	7.83 ± 0.46
1675S0003	NRC-3	31.0 ± 8.9	8.33 ± 0.47	8.50 ± 0.71	16.83 ± 0.85
1675S0004	NRC-4	13.8 ± 6.0	4.50 ± 0.27	4.56 ± 0.42	9.06 ± 0.50
1675S0005	NRC-5	10.2 ± 4.1	3.10 ± 0.22	3.15 ± 0.31	6.25 ± 0.38

<sup>a</sup>The average MDCs for these radionuclides range from 0.06 pCi/g for Th-228 by Pb-212 to 7.9 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.