

**RESPONSES TO U.S. EPA TECHNICAL REVIEW
COMMENTS ON SECOND IEMP DATA QUARTERLY
SUMMARY FOR 2001**

**FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO**

OCTOBER 2001

U.S. DEPARTMENT OF ENERGY

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Location	Radionuclide	Quarterly Composite Concentration Reported in "composite1stqtr01"	Quarterly Average Concentration Reported in Table 5-2 or 5-5
AMS-3	Total uranium	162	339
	Thorium 230	69	139
AMS-8A	Total uranium	149	360
	Thorium 230	48	123
AMS-9C	Total uranium	185	359
	Thorium 230	61	122

Note: All concentrations are assumed to be reported in 10^{-6} pCi/m³.

The two sets of concentrations are derived from the same filters and would be expected to agree more closely. The concentrations reported in Tables 5-2 and 5-5 are average results for seven biweekly filters analyzed during the first quarter of 2001. The quarterly composite concentrations reported in the Extranet Site data file were obtained from a portion of each of these seven biweekly filters, combined, and then analyzed at the end of the quarter. The apparent discrepancies between the concentrations reported in the data file and in Tables 5-2 and 5-5 should be explained, and the potential effects of these discrepancies on the estimated fenceline doses presented in Table 5-1 should be discussed.

Response:

The IEMP Data Information Site data file titled "composite1stqtr01" was missing the units, pCi/L, for the sample results. A revised "composite1stqtr01" file has been posted to the IEMP Data Information Site in order to allow EPA to compare air concentration data between the biweekly sampling program and the quarterly composite program. The revised data files for the composite data were agreed upon during the October 15, 2001 teleconference call with the EPA.

DOE regularly performs comparisons between the quarterly average concentrations determined through biweekly sampling and quarterly composite analysis. Examples of such comparisons for the first quarter are presented below:

Location	Radionuclide	Quarterly Average Concentration Based on Composite Samples (10^{-6} pCi/m ³)	Quarterly Average Concentration Reported in Table 5-2 or 5-5 (10^{-6} pCi/m ³)
AMS-3	Total uranium	308	339
	Thorium-230	129	139
AMS-8A	Total uranium	280	360
	Thorium-230	89	123
AMS-9C	Total uranium	337	359
	Thorium-230	109	122

The uranium and thorium-230 data from the biweekly and quarterly measurements are typically in reasonably good (within 20 percent) agreement. Some of the factors that can lead to differences in the measurements include counting errors associated with radioactive decay, differences in samples as a result of compositing, and the different analytical methods used by the on-site and off-site laboratory.

Action:

Post a revised "composite1stqtr01" file to the IEMP Data Information Site.

