



Department of Energy

**Ohio Field Office
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SEP 09 1998

DOE-1180-98

1694

**Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region 5 - SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590**

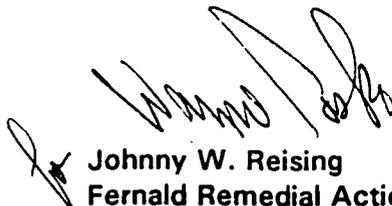
Dear Mr. Saric:

TRANSMITTAL OF CHANGE PAGES TO THE USER GUIDELINES, MEASUREMENT STRATEGIES, AND OPERATIONAL FACTORS FOR DEPLOYMENT OF IN-SITU SPECTROMETRY AT THE FERNALD SITE

The purpose of this letter is to transmit, for your review and approval, the enclosed change pages to the document, entitled "User Guidelines, Measurement Strategies, and Operational Factors for Deployment of In-Situ Gamma Spectrometry at the Fernald Site" or also called the User's Manual. These change pages address the remaining comments which were received from the United States Environmental Protection Agency (U.S. EPA). Department of Energy, Fernald Environmental Management Project (DOE-FEMP) received these final comments from the U.S. EPA during the Real-Time Radiological Characterization Work Group Meeting on August 11, 1998. At this meeting, Gene Jablonowski suggested that the changes to the User's Manual could be accomplished through the Submittal of change pages, since the changes are editorial in nature. The Ohio Environmental Protection Agency (OEPA) approved the document on Wednesday, September 2, 1998.

If you should have any questions, please contact Robert Janke at (513) 648-3124.

Sincerely,


Johnny W. Reising
Fernald Remedial Action
Project Manager

Enclosure

Mr. Saric

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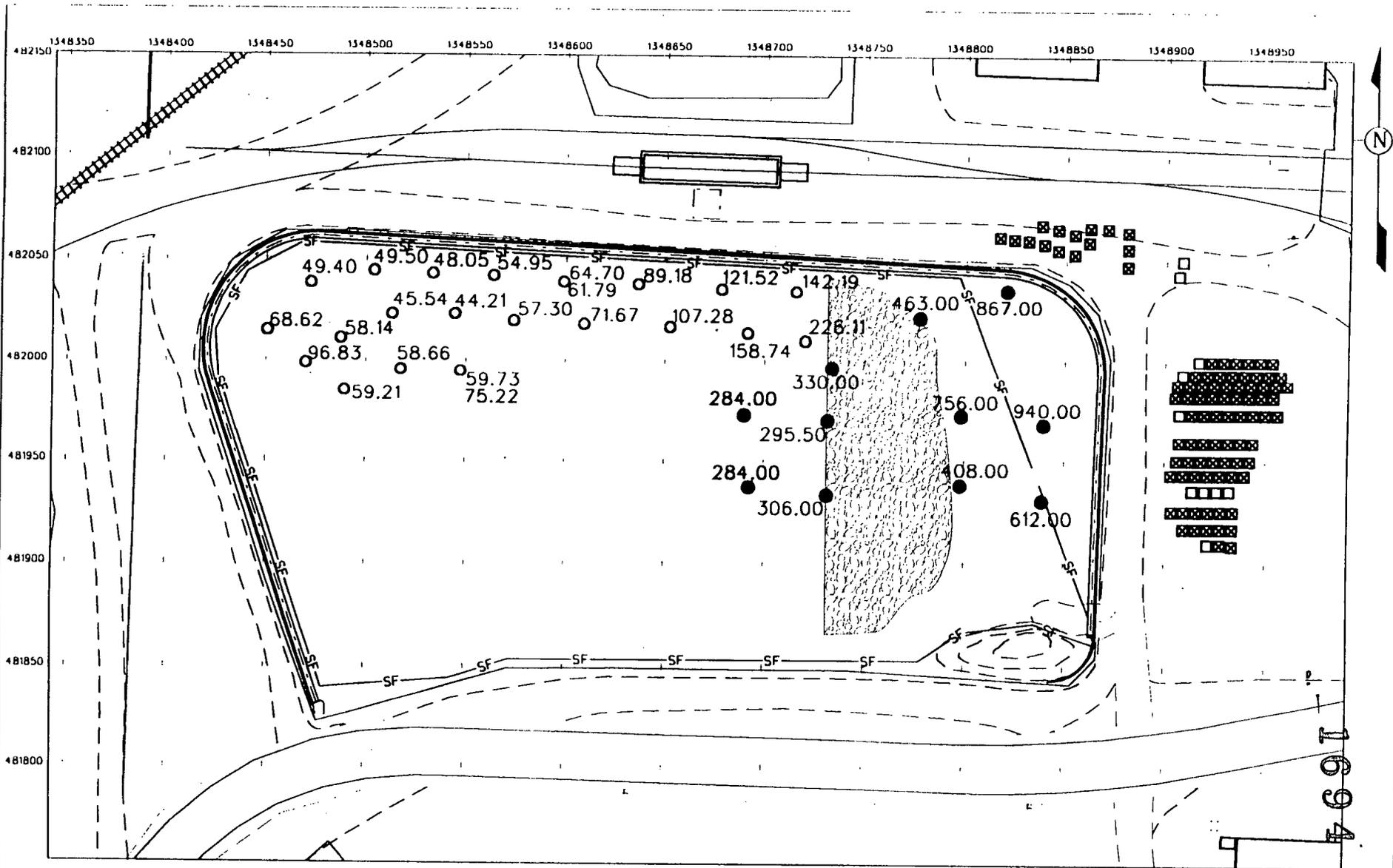
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cc w/enclosures:

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NOTE: RESULTS ARE MOISTURE CORRECTED AND NOT SHINE CORRECTED

LEGEND:

- URANIUM CONTAMINATED T-HOPPERS
- , ○ HPGE MEASUREMENT LOCATIONS

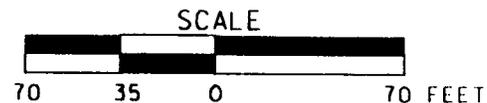
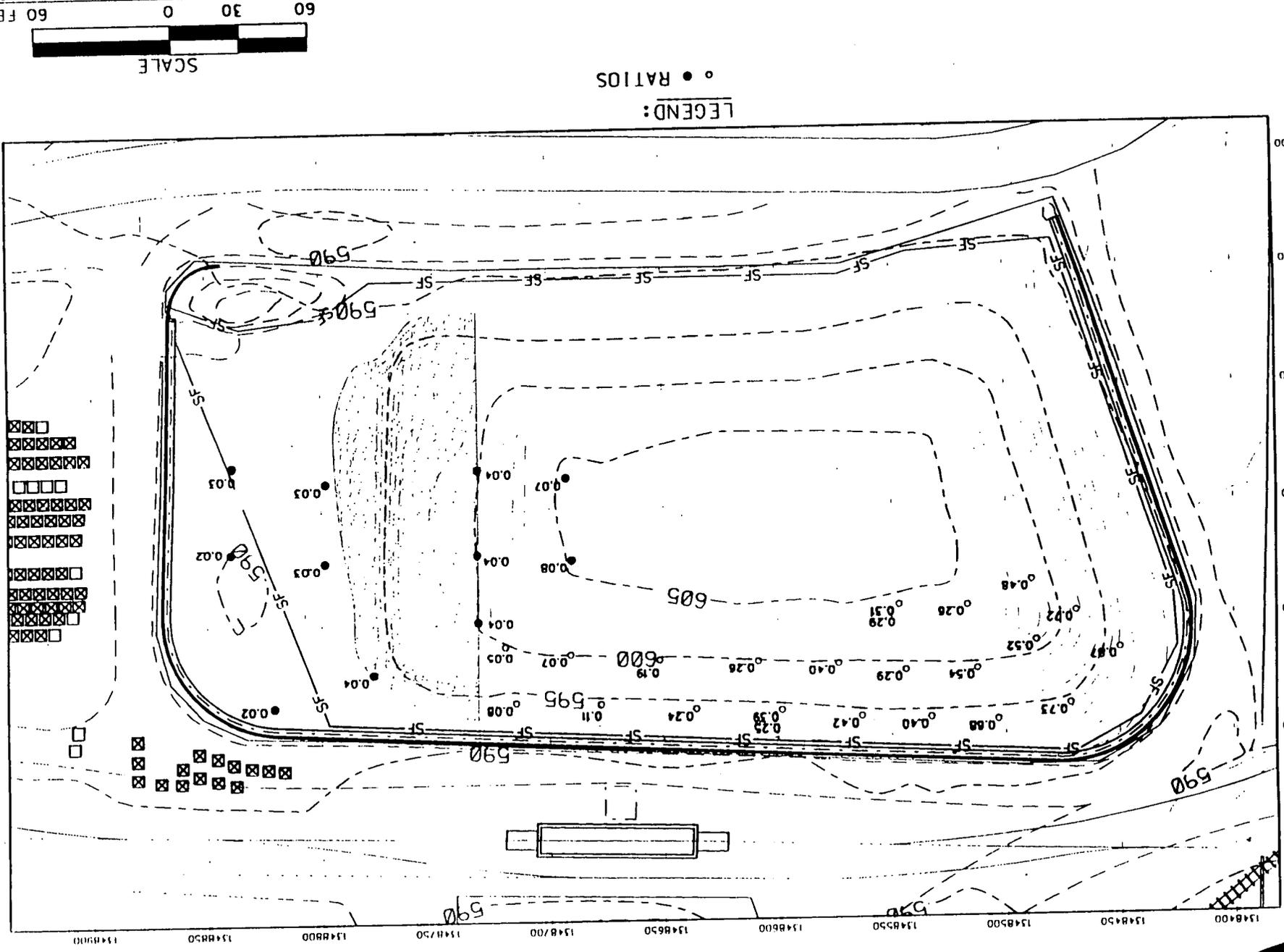


FIGURE 4.12-2. URANIUM CONCENTRATIONS (ppm) AT SOIL PILE 5

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FIGURE 4.12-3. URANIUM CONCENTRATION RATIO FOR LOW TO HIGH ENERGY PHOTONS AT SOIL PILE 5



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TABLE 5.4-1 1694
CHECKLIST FOR DATA REVIEW ELEMENTS FOR HPG_e MEASUREMENTS

Yes or No?	Data Review Element
Pre-Operational QC Elements	
	Was an energy calibration performed using Am-241, Cs-137, and Co-60; and were the 59.5, 661.6 and 1332.5 keV photons in the proper channels?
	Was a photopeak resolution check performed using the 1332.5 keV photon from Co-60, and were the resolution criteria (FWHM $\pm 3\sigma$) met?
	Was a detector response check performed using the 1332.5 keV photon from Co-60, and were the net peak counts (cps) within tolerance limits ($\pm 3\sigma$)?
	At the measurement location was FWHM of the 1460.8 keV photopeak ≤ 3.0 keV?
Operational QC Elements	
	Was a measurement taken at the FCS, and were the measurement values in control?
	If duplicate measurements were taken, is the RPD $\leq 20\%$ (for measured value $\geq 5 \times$ MDC), or is measurement difference \leq MDC (for measured value $\leq 5 \times$ MDC)?
	Do Micro Rem readings indicate a lack of high background?
	Is FWHM of the 1460.8 photopeak ≤ 3.0 keV for each measurement?
	Was the "dead time" less than 20%? If not, is high dead time due to high activities or some other factor?
	If dead time was greater than 20%, are the data useable without restriction for their intended purpose?
	Are both the 63.2 and 92.6 keV lines 80% or more of the 1001.1 keV line?
	Even if both the 63.2 and 92.6 keV lines are less than 80% of the 1001.1 line, are the data useable without restriction for their intended purpose?
	Do energy calibration peaks and other key peaks have centroids and FWHM within QC criteria tolerances?
	Have radium-226 data been adjusted to reflect radon monitor measurements?
	Have radium-226 data been adjusted using laboratory radium-226 correction factors?
	Does the spectrum exhibit a lack of excessive noise?
	Does the spectrum appear normal and exhibit an absence of anomalies, such as double peaks or peak tailing?
	Have the data been moisture corrected to a dry weight basis before reporting, and is the moisture "laboratory moisture" and not "geotechnical moisture?"

TABLE 5.4-1
(continued)

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Yes or No?	Data Review Element
	Do the data seem reasonable relative to other spectra and data within the data set?
	If the soil moisture is greater than 30%, are the data useable without restriction for their intended purpose?
	Does the variability in Micro Rem readings among the measurements indicate a homogeneous environment?
	Have field notes been checked for items which could affect data such as standing water in the field of view, topographic irregularities, surface vegetation, or heterogeneities of some kind?
	If factors noted above which have the potential to affect data exist, do the data appear reasonable relative to other values in the data set? Can the data be used without restriction for their intended purpose?
	Can the data be used without correction factors such as those described by Equation 1 in Section 4.9 of the User's Manual?
	Do listed spectrum files exist in the appropriate file folder as recorded on worksheets?
	Do date, time and sample header information match worksheet/FADL entries?

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