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**SUBMITTAL OF THE 1992 RESOURCE  
CONSERVATION AND RECOVERY ACT ANNUAL  
REPORT UPDATE**

**05/28/93**

**DOE-FN/OEPA  
DOE-2106-93  
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LETTER**



**Department of Energy**  
**Fernald Environmental Management Project**  
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 Cincinnati, Ohio 45239-8705  
 (513) 738-6357

**MAY 28 1993**

DOE-2106-93

Mr. Thomas E. Crepeau  
 Manager, Data Management Section  
 Ohio Environmental Protection Agency  
 Division of Hazardous Waste Management  
 P. O. Box 1049  
 Columbus, Ohio 43266-0149

Dear Mr. Crepeau:

**SUBMITTAL OF THE 1992 RESOURCE CONSERVATION AND RECOVERY ACT ANNUAL REPORT UPDATE**

Reference: Letter, DOE-1230-93, Thomas J. Rowland to Thomas E. Crepeau, "1992 Resource Conservation and Recovery Act Annual Report - Fernald Environmental Management Project," dated February 26, 1993.

The purpose of this letter is to submit the 1992 Resource Conservation and Recovery Act (RCRA) Annual Report update. Three items were not available for delivery in the 1992 RCRA Annual Report and were to be included in the update (Reference); a complete statistical evaluation containing all historical information, reporting of all radiological analytical results for 1992, and submittal of 1992 RCRA data in Ohio Environmental Protection Agency (OEPA) Groundwater Information Tracking System (GRITS) format.

The complete statistical assessment was performed and the results are provided in the enclosure. The statistical results were not significantly different from those submitted in the 1992 RCRA Annual Report. The 1992 RCRA data (excluding the radiological data) is provided in OEPA GRITS format on a 3 1/2" diskette. The radiological analytical data have been received from the laboratories but errors and inconsistencies were found in the data. The radiological analytical data could not be reissued from the laboratories and quality checked to meet this June 1, 1993 submittal.

The Fernald Environmental Management Project (FEMP) has been working to achieve timely and high quality radiological analytical support for its monitoring programs. In order to support the increase in sampling activities related to the RCRA Groundwater Monitoring Plan (GMP), the FEMP established new contracts with two laboratories for radiological analytical services. While reviewing the analytical results, the FEMP discovered some QA, documentation, and consistency problems with the data. The FEMP is in the process of resolving several issues relating to the radiological analytical results.

The radiological data contained gross alpha/gross beta screens that did not correspond to reported isotopic results. Large concentrations of known alpha

emitters displayed no corresponding gross alpha results, and occasionally high gross alpha screens could not be correlated to known isotopic alpha emitter results. The same problems existed with the gross beta screens and beta emitting isotopes. Total uranium results did not correlate to isotopic uranium results. High total uranium results would not be reflected in the isotopic breakdown or high isotopic results did not correlate to corresponding total uranium results.

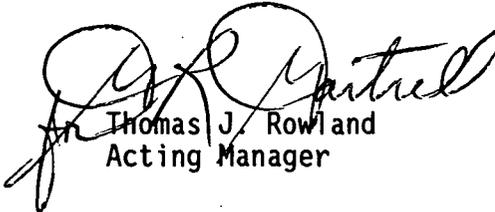
The percentage of detected amounts varied greatly from the historical data (e.g., Radium-228 was being detected in 90% of the samples when previously it was only detected in 22% of the samples). Laboratory blank contamination was detected in several batches of samples and required re-runs and re-issuement of all the affected batches. The results reported in the official reports did not necessarily match the lab worksheet figures, thereby creating discrepancies that needed clarification. Laboratory reports indicated significant contamination of field Quality Assurance/Quality Control (QA/QC) blanks, causing an internal investigation. After several duplicate testing rounds, the problem was determined to be caused at the lab thereby causing closer scrutiny of the remaining data.

Reporting of the Minimum Detectable Activity as "N/A" rather than the calculated value left no means of determining if the lab was meeting the contract required detection limits. This required several meetings and re-issuement of the data. Excessive variance between the results reported for a sample and its field duplicate led to several investigations that uncovered defective lab equipment, use of improper methodology, and defective software.

Because the problems affect most of the radiological data, a partial submittal of radiological data is not practicable. The FEMP is currently working directly with the laboratories to resolve the problems by the end of June 1993. The FEMP will require approximately three months to enter, verify, assess, and report the radiological data in EPA GRITS format. The FEMP will supply the radiological analytical data before the end of September 1993, or will notify the OEPA if further analytical difficulties make it impossible to report the data.

If you or your staff have questions, please contact Ed Skintik at (513) 648-3151.

Sincerely,



Thomas J. Rowland  
Acting Manager

FN:Nickel

Enclosure: As Stated

cc w/enc:

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