

6526

U-003-456 .7

**DESIGN MONITORING EVALUATION PROJECT PLAN - (COMMENT
RESPONSES)**

01/12/95

DOE-408-95
DOE-FN EPAS
5
RESPONSES

6526



Department of Energy
Fernald Environmental Management Project
P. O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 648-3155

JAN 12 1995

DOE-0408-95

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V - 5HRE-8J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

DESIGN MONITORING EVALUATION PROJECT PLAN

Enclosed are responses to comments provided by the United States Environmental Protection Agency (U.S. EPA) on the Design Monitoring Evaluation Project Plan (DMEPP) for the South Plume Removal Action extraction well system.

If you or your staff have any questions or concerns regarding these responses, please contact Kathi Nickel at (513) 648-3166.

Sincerely,

for 
Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Nickel

Enclosure: As Stated

cc w/enc:

K. H. Chaney, EM-423/Q0
D. R. Kozlowski, EM-423/Q0
G. Jablonowski, USEPA-V, AT-18J
J. Kwasniewski, OEPA-Columbus
P. Harris, OEPA-Dayton
M. Proffitt, OEPA-Dayton
J. Michaels, PRC
R. Cohan, GeoTrans
F. Bell, ATSDR
R. Owen, ODOH
D. Brettschneider, FERMCO/52-5
R. D. George, FERMCO/52-2
T. Hagen, FERMCO/65-2
AR Coordinator, FERMCO

cc w/o enc:

J. Thiesing, FERMCO
M. Yates, FERMCO/9

Commenting Organization: U.S. EPA Commentor: SARIC
 Section#: 2.0 Pg.#: 2-1 Line#: NA Code:
 Original Comment# 1

Comment: The report references Appendix A. The U.S. Environmental Protection Agency (U.S. EPA) did not receive this appendix. It was subsequently requested but not received as of the date of this letter. The U.S. Department of Energy (U.S. DOE) should provide a copy of Appendix A.

Response: The U.S. DOE recognizes the error and will correct the omission immediately.

Action: A copy of Appendix A has been enclosed.

Commenting Organization: U.S. EPA Commentor: SARIC
 Section#: 3.1.2 Pg.#: 3-11 Line#: NA Code:
 Original Comment# 2

Comment: U.S. DOE should provide additional information on the Geoflo Groundwater Flowmeter System Survey. This survey was performed to assist in determining the effect the pumping wells have in creating a capture zone. U.S. DOE should provide information on the survey method, including the instruments used, the instrument principles, and the wells used in the survey. U.S. DOE should also provide the survey results.

Response: Specifics concerning the Geoflo Groundwater Flow Meter survey were presented previously in section 5.3 of the May 1994 issue of the South Plume Groundwater Recovery System, Design, Monitoring, and Evaluation Program Plan (DMEPP), System Evaluation Report.

Action: Attached is an excerpt from section 5.3 of the May 1994 DMEPP System Evaluation Report concerning the GeoFlo Survey.

Commenting Organization: U.S. EPA Commentor: SARIC
 Section#: 3.1.3 Pg.#: 3-12 Line#: NA Code:
 Original Comment# 3

Comment: The report states that, with the exception of a few wells, first quarter concentrations of phosphorous and potassium were consistent with the prepumping concentrations. U.S. DOE should provide quantitative information defining "consistent".

Response: As noted in the August 1994 DMEPP Status Report, statistical analysis was not performed on the data because of the limited amount of data available and the changes that were made to the pumping rate of the recovery well field. A commitment was made to provide statistical analysis of the data in the yearly summary report which is scheduled for April 1, 1995. A qualitative review was performed on the data for the August 1994 DMEPP Status Report. Only those wells that exhibited concentrations of potassium and phosphorus that were obvious anomalies when compared to historical data were discussed. In future reports the DOE will avoid subjective analysis to the extent possible, and statistical analysis of the data, including trend analysis, will be presented.

Action: Statistical analysis will be performed on the analytical data for future reports.

Commenting Organization: U.S. EPA Commentor: SARIC
 Section#: 3.2 Pg.#: 3-15 Line#: NA Code:

Original Comment# 4

Comment: The report states that the drawdown in the extraction wells was estimated based on the results of the pump test from well 3927 in May 1993. U.S. DOE should describe how the drawdown was estimated and should provide information establishing that the data from this well can be assumed to be representative of the other four recovery wells.

Response: Measured groundwater elevation data from surrounding monitoring wells were used to define the extent of capture and the induced drawdown by the extraction system. Definition of the extent and geometry of the capture zone is critical to assess the operation of the system. The drawdown at each recovery well is not crucial since field measurements of water elevation in surrounding monitor wells were used for system assessment. Drawdown at each extraction well was estimated only to provide a visual representation of the recovery wells in the figures presented in the report.

The estimated drawdown value of 6 feet is based on the results of the step test performed on Recovery Well No. 4 on May 18, 1993. During the step test, 5.8 feet of drawdown was noted at a pumping rate of 200 gpm. A value of 6 feet was chosen as a conservative estimate for drawdown induced at each recovery well. This estimate is considered acceptable based on the homogeneity of the Great Miami Aquifer and the proximity of the recovery wells to one another. The estimated 6 feet of drawdown was then subtracted from the pre-pumping groundwater elevation as read off of figure 3.2-1 (p. 3-16) and corrected for seasonal variation to determine the water level at each recovery well.

Action: The recovery well pumps are currently being replaced with new pumps. During the installation of the new pumps, pressure transducers will be installed in each recovery well. The transducers will allow actual drawdown values to be measured.