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**SAMPLING PLAN FOR REMOVAL ACTION
NUMBER 1 - REMOVAL OF CONTAMINATED
WATER UNDER FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT BUILDINGS**

09/09/93

DOE-FN/EPA

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LETTER

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Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6357

SEP 09 1993
DOE-2972-93

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

Mr. Graham E. Mitchell, Project Manager
Ohio Environmental Protection Agency
40 South Main Street
Dayton, Ohio 45402-2086

Dear Mr. Saric and Mr. Mitchell:

**SAMPLING PLAN FOR REMOVAL ACTION NUMBER 1 - REMOVAL OF CONTAMINATED WATER
UNDER FERNALD ENVIRONMENTAL MANAGEMENT PROJECT BUILDINGS**

Reference 1: Letter, DOE-1055-93, J. R. Craig to J. A. Saric and G. E. Mitchell, "Revised Sampling Plan for the Perched Groundwater Removal Action Plant 8 Volatile Organic Compound (VOC) Treatment System", dated March 15, 1993.

Reference 2: Letter, J. A. Saric to J. R. Craig, "Removal #1, Plant 8 Volatile Organic Compound Treatment System", dated April 9, 1993.

As outlined in Reference 1, the Fernald Environmental Management Project (FEMP) had implemented a revised sampling plan that includes Purgable Organic Halides (POX) analysis in lieu of Volatile Organic Analytes (VOA) for detection of Volatile Organic Compounds (VOC) breakthrough of the Plant 8 carbon treatment drums. The FEMP now plans to revert back to VOA analysis for breakthrough detection. Recent changes in on-site laboratory organization favors the less labor-intensive VOA analysis. Also, existing off-site laboratory contracts would require modification to add the POX analysis. Lastly, trial POX analyses have not demonstrated comparable results with VOA analyses at lower levels of detection (less than 50 micrograms per liter). Accordingly, this decision addresses the analyses comparability issue as raised by the United States Environmental Protection Agency (U.S. EPA) in Reference 2.

As a result of the above considerations, a further revision of the Removal Action 1 sampling plan is outlined below. This revision not only maintains the level of cost reduction realized by the previous sampling plan revision (Reference 1), but also continues to ensure system integrity and effectiveness. The enclosed Figures 1 and 2 illustrate the existing and revised sampling plans, respectively.

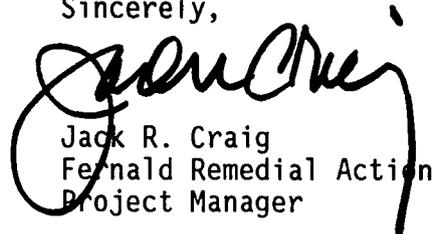
The primary (lead) carbon drum will be sampled once per week for Total VOA to detect breakthrough. Once breakthrough occurs, the secondary (lag) carbon drum will become the primary drum and a new replacement drum shall be installed as the secondary drum.

Sampling and analysis of the secondary drum effluent has been deleted. This is based on two items: 1) Utilization of the more comprehensive VOA analysis rather than POX, and 2) the demonstrated effectiveness of the lead drum in complete VOC removal.

Monthly uranium analysis at each extraction well will continue to determine well-specific uranium removal. Annual sampling at each extraction well will continue to assess the long-term effect of the extraction pumping.

If you should have any questions, please contact Pete Yerace at (513) 648-3161 or Kathleen Nickel at (513) 648-3166.

Sincerely,


Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Nickel

Attachment: As Stated

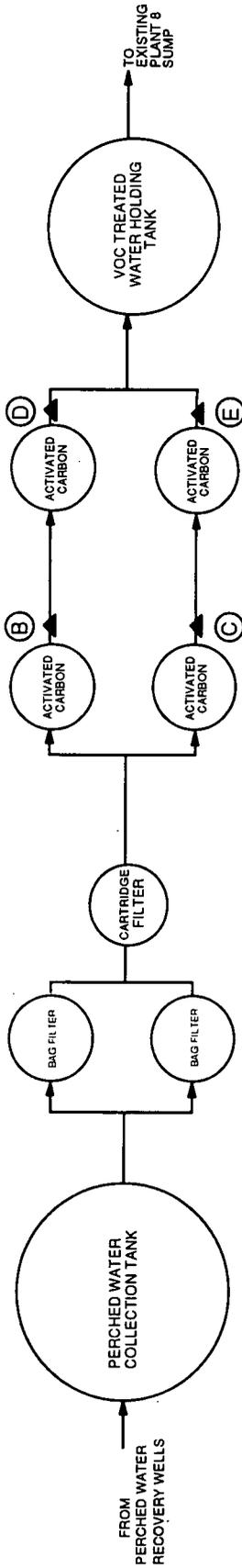
cc w/att:

- K. A. Chaney, EM-424, TREV
- D. R. Kozlowski, EM-424 TREV
- G. Jablonowski, USEPA-V, AT-18J
- J. Kwasniewski, OEPA-Columbus
- P. Harris, OEPA-Dayton
- M. Proffitt, OEPA-Dayton
- T. Schneider, OEPA-Dayton
- J. Michaels, PRC
- L. August, GeoTrans
- K. L. Alkema, FERMCO
- P. F. Clay, FERMCO/19
- F. Bell, ATSDR
- AR Coordinator, FERMCO

cc w/o att:

- R. L. Glenn, Parsons
- J. W. Thiesing, FERMCO/2

EXISTING SAMPLING OF REMOVAL ACTION 1



SAMPLE POINT 1	ANALYSES	FREQUENCY	RATIONALE
B & C	Purgeable* Organic Halides	Every Batch 2	Breakthrough of Activated Carbon 3
D & E	Total Volatile Organic Analytes	Once per month	Verify integrity of system
Extraction Wells	Full HSL Total Radiological Parameters	Annually	Pumping Effectiveness
	Total Uranium	Once per month	Uranium Removal

NOTES: 1) Current sample points A and F will be eliminated.

2) In the event the system is converted from batch to continuous operation, "Batch" will mean "Day of Operation."

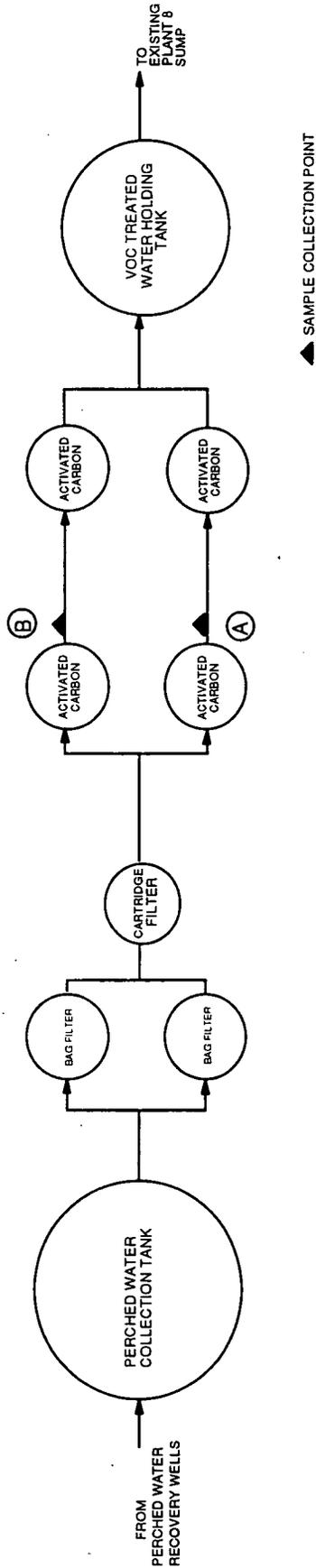
3) At the time purgeable halide analyses indicates breakthrough, the secondary drum will be moved to the primary position and a new drum will be placed in the secondary.

* Analysis performed at onsite laboratory. In the event purgeable organic halide analysis equipment is non-functional, VOAs will be performed.

FIGURE 1

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REVISED SAMPLING OF REMOVAL ACTION 1



▲ SAMPLE COLLECTION POINT

SAMPLE POINT	ANALYSES	FREQUENCY	RATIONALE
A & B	Total Volatile Organic Analytes	Once per week	Breakthrough of Activated Carbon
Extraction Wells	Full HSL	Annually (Once per year)	Pumping Effectiveness
	Total Radiological Parameters		
	Total Uranium	Once per month	Uranium Removal

FIGURE 2