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R-002-206.5

PERCHED GROUNDWATER REMOVAL ACTION

10/10/91

DOE-027-92
DOE-FSO/EPA
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LETTER
OU5

Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
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OCT 1 0 1991

DOE-027-92

Mr. James A. Saric, Remedial Project Director
U. S. Environmental Protection Agency
Region V - 5HR-12
230 South Dearborn Street
Chicago, Illinois 60604

Mr. Graham E. Mitchell, DOE Coordinator
Ohio Environmental Protection Agency
40 South Main Street
Dayton, Ohio 45402

Dear Mr. Saric and Mr. Mitchell:

PERCHED GROUNDWATER REMOVAL ACTION

The purpose of this letter is to provide initial sampling results for the perched groundwater Volatile Organic Compound (VOC) treatment system located in Plant 8. These sampling results are utilized to verify and maintain the integrity of the treatment system. Figure 1 depicts the six sample locations for the treatment system. The system influent and effluent are sampled at Sample Points 1 and 2 for each initial batch. The samples associated with the activated carbon units are collected from Sample Points A, B, C, and D. These samples are collected and analyzed to determine breakthrough and thus determine when to "change out" the carbon drums. The initial batch of perched groundwater from Plant 6 was processed through the VOC treatment system on July 23, 1991. The second batch of groundwater from Plant 6 was processed on July 26, 1991. The system influent and effluent results have not been returned from the laboratory as of this time. However, the results for Sample Points A through D for both batches have been received. The results from these sampling points are presented in Tables 1 through 5.

The detection of Methyl Ethyl Ketone (MEK) in site samples has become a problem at the FEMP. MEK has not been detected in any of the previous perched groundwater sampling. FEMP has obtained a verbal confirmation from the contract laboratory that the influent and effluent samples of the first batch showed <5ppb of MEK. The de-ionized water used by FEMP sampling technicians is the suspected cause of the MEK contaminants detected in the results for Sample Points A through D. Steps have been taken to eliminate the MEK from the site de-ionized water source.

Recycled and Recyclable

In addition to these initial sampling results on the operation of the treatment system as of September 27, 1991, the clarifier pit in Plant 6 has been dewatered to the pumping limit. Conductivity control probes are being installed in the clarifier pit to facilitate automatic operation of the extraction pump. Approximately 12,000 gallons of water have been extracted from the clarifier pit since pumping activities were resumed on May 31, 1991.

If you or your staff have any questions, please contact Robert Janke at FTS 774-6883 or (513) 738-6883.

Sincerely,

Jack R. Craig
Fernald Remedial Action
Project Manager

FO:Janke

Enclosure: As stated

cc w/encl.:

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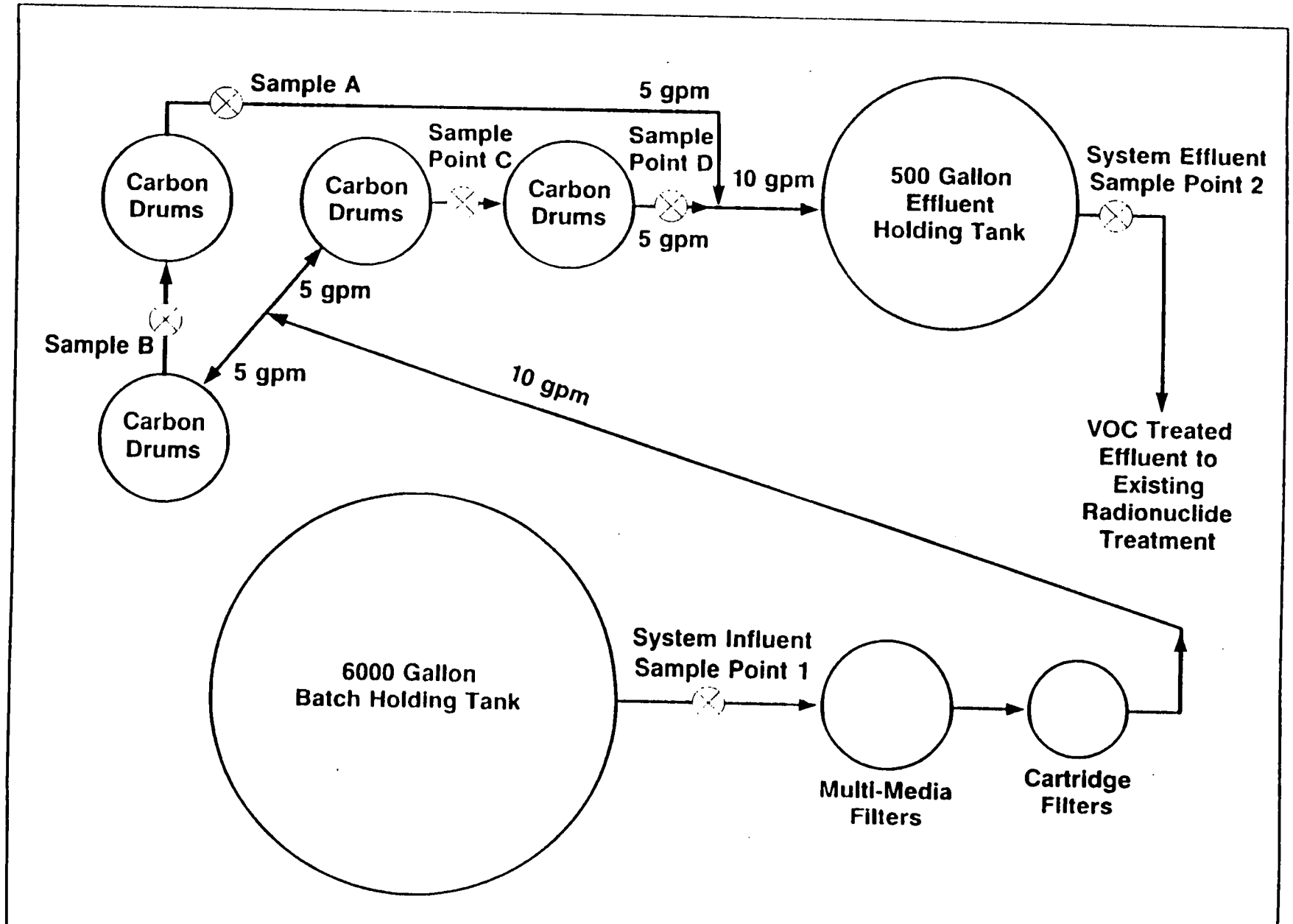

Graphics # 1493.1

Figure 1. Plant 8 Perched Water Treatment

TABLE 1

PERCHED WATER SAMPLING DATA

SAMPLE POINT A

Date Sampled	7/23/91	7/26/91
	Data	Data
Acetone	<10 ug/l	<420 ug/l
Benzene	<5 ug/l	<84 ug/l
Carbon Disulfide	<5 ug/l	<290 ug/l
Carbon Tetrachloride	<5 ug/l	<150 ug/l
Chlorobenzene	<5 ug/l	<180 ug/l
Cyclohexanone	<10 ug/l	~
Ethyl Benzene	<5 ug/l	<840 ug/l
Ethyl Acetate	<20 ug/l	ND*
Ethyl Ether	<5 ug/l	ND*
Methyl Ethyl Ketone	23 ug/l	<250 ug/l
Methyl Isobutyl Ketone	<10 ug/l	<170 ug/l
Methylene Chloride	<5 ug/l	<100 ug/l
2-Nitropropane	<20 ug/l	ND*
Tetrachloroethylene	<5 ug/l	<470 ug/l
Toluene	<5 ug/l	<170 ug/l
1,1,1-Trichloroethane	<5 ug/l	<200 ug/l
1,1,2-Trichloroethane	<5 ug/l	<100 ug/l
Trichlorlethylene	<5 ug/l	<220 ug/l
Trichlorotriflouroethane	<5 ug/l	~
Trichlorotriflouromethane	<5 ug/l	<170 ug/l
Total Xylenes	<5 ug/l	~
1,1,2-Trichloro-1,1,2-Triflouroethane	~	<170 ug/l
m,p-Xylenes	~	<100 ug/l
Dichlorobenzene	~	<230 ug/l
Pyridine	~	ND*
Chlorinated Flourocarbons	~	ND*
Xylene	~	<67 ug/l

~ = Not Analyzed

* = Not calibrated to analyte but no detection on spectrum.

TABLE 2

PERCHED WATER SAMPLING DATA

SAMPLE POINT B

Date Sampled	7/23/91	7/26/91	7/26/91 Dup
	Data	Data	Data
Acetone	<10 ug/l	<420 ug/l	<420 ug/l
Benzene	<5 ug/l	<84 ug/l	<84 ug/l
Carbon Disulfide	<5 ug/l	<290 ug/l	<290 ug/l
Carbon Tetrachloride	<5 ug/l	<150 ug/l	<150 ug/l
Chlorobenzene	<5 ug/l	<180 ug/l	<180 ug/l
Cyclohexanone	<10 ug/l	~	~
Ethyl Benzene	<5 ug/l	<840 ug/l	<840 ug/l
Ethyl Acetate	<20 ug/l	ND*	ND*
Ethyl Ether	<5 ug/l	ND*	ND*
Methyl Ethyl Ketone	12 ug/l	<250 ug/l	<250 ug/l
Methyl Isobutyl Ketone	<10 ug/l	<170 ug/l	<170 ug/l
Methylene Chloride	<5 ug/l	<100 ug/l	<100 ug/l
2-Nitropropane	<20 ug/l	ND*	ND*
Tetrachloroethylene	<5 ug/l	<470 ug/l	<470 ug/l
Toluene	<5 ug/l	<170 ug/l	<170 ug/l
1,1,1-Trichloroethane	<5 ug/l	<200 ug/l	<200 ug/l
1,1,2-Trichloroethane	<5 ug/l	<100 ug/l	<100 ug/l
Trichlorlethylene	<5 ug/l	<220 ug/l	<220 ug/l
Trichlorotriflouroethane	<5 ug/l	~	~
Trichlorotriflouromethane	<5 ug/l	<170 ug/l	<170 ug/l
Total Xylenes	<5 ug/l	~	~
1,1,2-Trichloro-1,1,2-Triflouroethane	~	<170 ug/l	<170 ug/l
m,p-Xylenes	~	<100 ug/l	<100 ug/l
Dichlorobenzene	~	<230 ug/l	<230 ug/l
Pyridine	~	ND*	ND*
Chlorinated Flourocarbons	~	ND*	ND*
Xylene	~	<67 ug/l	<67 ug/l

~ = Not Analyzed

* = Not calibrated to analyte but no detection on spectrum.

TABLE 3

PERCHED WATER SAMPLING DATA

SAMPLE POINT C

Date Sampled	7/23/91	7/26/91
	Data	Data
Acetone	<10 ug/l	<420 ug/l
Benzene	<5 ug/l	<84 ug/l
Carbon Disulfide	<5 ug/l	<290 ug/l
Carbon Tetrachloride	<5 ug/l	<150 ug/l
Chlorobenzene	<5 ug/l	<180 ug/l
Cyclohexanone	<10 ug/l	~
Ethyl Benzene	<5 ug/l	<840 ug/l
Ethyl Acetate	<20 ug/l	ND*
Ethyl Ether	<5 ug/l	ND*
Methyl Ethyl Ketone	90 ug/l	<250 ug/l
Methyl Isobutyl Ketone	<10 ug/l	<170 ug/l
Methylene Chloride	<5 ug/l	<100 ug/l
2-Nitropropane	<20 ug/l	ND*
Tetrachloroethylene	<5 ug/l	<470 ug/l
Toluene	<5 ug/l	<170 ug/l
1,1,1-Trichloroethane	<5 ug/l	<200 ug/l
1,1,2-Trichloroethane	<5 ug/l	<100 ug/l
Trichlorlethylene	<5 ug/l	<220 ug/l
Trichlorotriflouroethane	<5 ug/l	~
Trichlorotriflouromethane	<5 ug/l	<170 ug/l
Total Xylenes	<5 ug/l	~
1,1,2-Trichloro-1,1,2-Triflouroethane	~	<170 ug/l
m,p-Xylenes	~	<100 ug/l
Dichlorobenzene	~	<230 ug/l
Pyridine	~	ND*
Chlorinated Flourocarbons	~	ND*
Xylene	~	<67 ug/l

~ = Not Analyzed

* = Not calibrated to analyte but no detection on spectrum.

TABLE 4

PERCHED WATER SAMPLING DATA

SAMPLE POINT D

Date Sampled	7/23/91	7/26/91
	Data	Data
Acetone	<10 ug/l	<420 ug/l
Benzene	<5 ug/l	<84 ug/l
Carbon Disulfide	<5 ug/l	<290 ug/l
Carbon Tetrachloride	<5 ug/l	<150 ug/l
Chlorobenzene	<5 ug/l	<180 ug/l
Cyclohexanone	<10 ug/l	~
Ethyl Benzene	<5 ug/l	<840 ug/l
Ethyl Acetate	<20 ug/l	ND*
Ethyl Ether	<5 ug/l	ND*
Methyl Ethyl Ketone	<10 ug/l	<250 ug/l
Methyl Isobutyl Ketone	<10 ug/l	<170 ug/l
Methylene Chloride	<5 ug/l	<100 ug/l
2-Nitropropane	<20 ug/l	ND*
Tetrachloroethylene	<5 ug/l	<470 ug/l
Toluene	<5 ug/l	<170 ug/l
1,1,1-Trichloroethane	<5 ug/l	<200 ug/l
1,1,2-Trichloroethane	<5 ug/l	<100 ug/l
Trichlorlethylene	<5 ug/l	<220 ug/l
Trichlorotriflouroethane	<5 ug/l	~
Trichlorotriflouromethane	<5 ug/l	<170 ug/l
Total Xylenes	<5 ug/l	~
1,1,2-Trichloro-1,1,2-Triflouroethane	~	<170 ug/l
m,p-Xylenes	~	<100 ug/l
Dichlorobenzene	~	<230 ug/l
Pyridine	~	ND*
Chlorinated Flourocarbons	~	ND*
Xylene	~	<67 ug/l

~ = Not Analyzed

* = Not calibrated to analyte but no detection on spectrum.

TABLE 5

PERCHED WATER SAMPLING DATA

Trip Blank

Date Sampled	7/23/91	7/26/91
	Data	Data
Acetone	<10 ug/l	<420 ug/l
Benzene	<5 ug/l	<84 ug/l
Carbon Disulfide	<5 ug/l	<290 ug/l
Carbon Tetrachloride	<5 ug/l	<150 ug/l
Chlorobenzene	<5 ug/l	<180 ug/l
Cyclohexanone	<10 ug/l	~
Ethyl Benzene	<5 ug/l	<840 ug/l
Ethyl Acetate	<20 ug/l	ND*
Ethyl Ether	<5 ug/l	ND*
Methyl Ethyl Ketone	35 ug/l	<250 ug/l
Methyl Isobutyl Ketone	<10 ug/l	<170 ug/l
Methylene Chloride	<5 ug/l	<100 ug/l
2-Nitropropane	<20 ug/l	ND*
Tetrachloroethylene	<5 ug/l	<470 ug/l
Toluene	<5 ug/l	<170 ug/l
1,1,1-Trichloroethane	<5 ug/l	<200 ug/l
1,1,2-Trichloroethane	<5 ug/l	<100 ug/l
Trichlorlethylene	<5 ug/l	<220 ug/l
Trichlorotriflouroethane	<5 ug/l	~
Trichlorotriflouromethane	<5 ug/l	<170 ug/l
Total Xylenes	<5 ug/l	~
1,1,2-Trichloro-1,1,2-Triflouroethane	~	<170 ug/l
m,p-Xylenes	~	<100 ug/l
Dichlorobenzene	~	<230 ug/l
Pyridine	~	ND*
Chlorinated Flourocarbons	~	ND*
Xylene	~	<67 ug/l

~ = Not Analyzed

* = Not calibrated to analyte but no detection on spectrum.