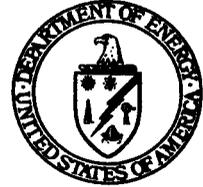


Department of Energy

**Ohio Field Office
Fernald Area Office
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155**

5-410.11



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OCT 26 1998

**Mr. Robert Ulrich
8637 Eagle Creek Road
Cincinnati, Ohio 45247**

DOE-0055-99

Dear Mr. Ulrich:

GROUNDWATER MONITORING WELL RESULTS FOR 1994 AND 1995

As you are aware, the Department of Energy (DOE) has installed groundwater Monitoring Wells 2558 and 2559 on your property to collect water samples for analysis. Prior to you purchasing the property in December 1997, these wells were routinely sampled. Therefore, for your benefit, this letter presents the results of the samples collected for 1994 and 1995 from Monitoring Well 2558. Monitoring Well 2558 has not been sampled since 1995 and Monitoring Well 2559 has not been sampled since 1993. Monitoring ceased at these wells once enough data had been collected to support the various sampling programs. Sampling may resume if it is deemed necessary to support the groundwater remediation activities currently underway at the Fernald Environmental Management Project (FEMP).

Methodology

These monitoring wells have been sampled by FEMP personnel per the U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA) requirements. Data from samples collected from the monitoring wells are used to determine the quality of the groundwater in the area surrounding the Fernald facility.

Results and Discussion

The 1994 and 1995 monitoring results from Monitoring Well 2558 are provided in this letter. A description of the units of measurement for the results is enclosed with this letter. When reviewing the monitoring results for each sampling period, please keep in mind that FEMP personnel sample monitoring wells for specific projects. As FEMP continues its remediation efforts, the requirements for each project change; therefore,

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Mr. Robert Ulrich

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constituents analyzed by the laboratory may also change. Consequently, the constituents analyzed may vary from one sampling event to the next depending on what data are needed in order to fulfill reporting requirements.

The well on your property was sampled for radium-226, radium-228, and total uranium. Each of these are naturally occurring constituents present in groundwater and soil. FEMP has conducted independent analyses for these constituents to investigate the possible presence of these constituents in elevated concentrations in regional groundwater attributable to historical FEMP processing operations. Table 1 summarizes the monitoring results from this well and compares them to FEMP Final Remediation Levels (FRL).

FEMP has committed to remediate the groundwater, in the affected portion of the Great Miami Aquifer. The concentrations at which the FEMP will cleanup to are referred to as FRLs, and are defined in the Final Record of Decision for Remedial Actions at Operable Unit 5.

It is important to note that all of the results from the monitoring well on your property were well below their respective FRL. Table 2 presents the detailed results of monitoring for radium-226, radium-228, and total uranium from this well.

Table 1
1994 and 1995 Summary Results from Monitoring Well 2558

Constituent	FRL	Ranges for This Well
Radium-226	20 pCi/L	ND* to 0.41 pCi/L
Radium-228	20 pCi/L	ND* to 3.3 pCi/L
Total Uranium	20 µg/L	2.7 to 6.6 µg/L

*ND = non-detectable concentrations; the lowest concentration that can be reliably detected is known as the detection limit. Non-detectable concentrations are between zero and the detection limit.

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**Table 2
Monitoring Well 2558 Data**

Sample Date	Constituent	Sample Result
2/24/94	Radium-226	ND*
	Radium-228	ND*
	Total Uranium	2.7 µg/L
5/10/94	Total Uranium	4.5 µg/L
8/4/94	Radium-226	0.41 pCi/L
	Radium-228	3.3 pCi/L
	Total Uranium	6.6 µg/L
10/21/94	Radium-226	0.2 pCi/L
	Radium-228	ND*
	Total Uranium	5.7 µg/L
3/13/95	Radium-226	0.1 pCi/L
	Radium-228	ND*
	Total Uranium	3.3 µg/L

*ND = non-detectable concentrations; the lowest concentration that can be reliably detected is known as the detection limit. Non-detectable concentrations are between zero and the detection limit.

If you have any questions regarding your monitoring results, please contact Kathleen Nickel at (513) 648-3166. Additional information concerning the FEMP restoration plan and documents referred to above are available at the Public Environmental Information Center located in the Delta Building at 10995 Hamilton-Cleves Highway, Harrison, OH; Phone: (513) 648-7480.

The DOE is committed to making the environmental restoration of the Fernald site effective and successful. Your cooperation in this effort is greatly appreciated.

Sincerely,



**Johnny W. Reising
Associate Director
Environmental Management**

FEMP:Nickel

Enclosure

Mr. Robert Ulrich

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cc w/enclosure:

M. Cherry, FDF/90

C. Tabor, FDF/90

K. Voisard, FDF/12

AR Coordinator, FDF/78

cc w/o enclosure:

A. Tanner, OH/FEMP

FACT SHEET

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This enclosure provides explanations for the terms used in this information packet. Please refer to the cover letter for additional information.

Monitoring Results

The monitoring well results report the name of the constituent analyzed, the concentration measured, and the unit of concentration.

Units

The monitoring well results are reported in standard concentration or radioactivity units. These are:

$\mu\text{g/L}$ (micrograms per liter) A unit of measure of the concentration of a substance. This unit is approximately equivalent to parts per billion (ppb). As an illustration, one $\mu\text{g/L}$ (ppb) is roughly one drop of gasoline in a railroad box car full of water.

pCi/L (picocuries per liter) A unit of measure of the radioactivity of a substance. Radioactivity is the process in which the nucleus of an unstable atom spontaneously decays or disintegrates. Radiation is the energy that is released when the disintegration or decay occurs. For comparison, 20 $\mu\text{g/L}$ equals 13.5 pCi/L and one pCi is one disintegration every 27 seconds.

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