

EHS Services, Inc.

Environmental, Health, Safety, and Quality Management

VIA FAX

January 16, 2004

Mr. Maurice Banks
Buildings Management Specialist
U.S. Department of the Interior
1849 C Street, NW, Suite 1221
Washington D.C. 20240

Subject: Water Sampling Results: December 28, 2003

Dear Mr. Banks:

Personnel from EHS Services, Inc. obtained 39 samples of drinking water from 13 locations within the Main Interior Building between approximately 9:00-11:00 AM on Saturday, December 28, 2003. We analyzed 26 samples for lead and copper content, and 13 samples for bacteria content. The building was unoccupied, except for several security personnel, at the time we collected the samples.

Methodology

One of the purposes of this study was to determine whether any bacteria were present in the source water. Therefore, we first sprayed a solution consisting of 1 part sodium hypochlorite (in a 5.25% solution) to 10 parts water on the water outflow to neutralize any bacteria present on the outflow piping. Next, we collected the water sample to be analyzed for lead and copper content using the "first draw" technique where we captured the water initially coming from the fountain in the sample bottle. Then, we allowed the water to flow for one to two minutes after which time we collected a "second draw" sample. We then thoroughly rinsed the outflow to remove any residual disinfectant solution before obtaining the water sample to be analyzed for bacteria.

Fredericktowne Labs, Inc., located in Myersville, Maryland (Maryland Certification No. 116), analyzed the samples. Hank Frenz collected all samples. His Maryland Certification Number is 0108-00530.

Table 1 presents the analytical results. "Location" refers to the room near the fountain(s) where we obtained the samples.

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Results

There were no exceedances of the Environmental Protection Agency's most restrictive Action Level for lead in drinking water (15 ppb).

Bacteria (heterotrophic plate counts-HPC) ranged from below the laboratory detection limit of one colony forming unit per milliliter of water to 69 colony forming units from the fountain near B-141. The HPC measures a broad group of bacteria including nonpathogens, pathogens, and opportunistic pathogens. These organisms are ubiquitous in the environment, and are usually the predominant group of bacteria in finished water. High quality supplies meeting coliform standards usually contain less than 500 HPC organisms per milliliter. Five hundred colonies per milliliter has been suggested as an upper level above which corrective action should be taken (American Water Works Association, Water Quality and Treatment, Fourth Edition, 1990). Note that all results were well-below the 500 colony limit.

The results for the total coliform bacteria analyses show that all results were below the laboratory detection limit of one organism per 100 milliliters of water. The Primary Drinking Water Standard for total coliform bacteria is one organism per 100 milliliters of water.

Recommendations

We see no need for additional sampling of these fountains at this time.

Thank-you for the opportunity to assist you with this project. Please call me if you have any questions.

Sincerely,



Hank Frentz
Principal

HF/dim

TABLE 1
RESULTS OF DRINKING WATER ANALYSIS – DEPARTMENT OF INTERIOR
DECEMBER 28, 2003
 (All samples were from the Main Interior Building)

LOCATION*	LEAD ¹ FIRST DRAW	LEAD ¹ SECOND DRAW	COPPER ² FIRST DRAW	COPPER ² SECOND DRAW	HPC ³	TC ⁴
B-024	3	BDL	0.25	0.13	2	BDL
B-024 Hdcap	BDL	BDL	0.18	0.14	6	BDL
B-141	10	4	0.73	0.47	69	BDL
Outside Gym	1	1	0.13	0.13	4	BDL
1221	2	1	0.12	0.12	1	BDL
3321	1	BDL	0.12	0.12	9	BDL
3349	3	1	0.14	0.12	BDL	BDL
4253	BDL	BDL	0.13	0.12	2	BDL
4421	BDL	5	0.12	0.12	3	BDL
4449	2	BDL	0.13	0.12	1	BDL
5521	1	BDL	0.13	0.12	21	BDL
5549	2	BDL	0.15	0.12	5	BDL
6124	5	3	0.29	0.26	18	BDL

Key:

* Samples were obtained from the fountain(s) near the stated room.

1 Lead concentration in parts per billion (ppb). Detection Limit is 1 ppb. EPA Action Level is 15 ppb.

2 Copper concentration in parts per million (ppm). Detection Limit is 0.001 ppm. EPA Action Level is 1.3 ppm.

3 HPC: heterotrophic plate count. Detection limit is one colony forming unit per milliliter of water.

4 TC: total coliforms. Detection limit is one organism per 100 milliliters of water.

BDL Below detection limit