



Mabbett & Associates, Inc.
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January 3, 2018

James Hodges, CHMM
Branch Chief
General Services Administration
Safety, Environmental & Fire Protection Branch
301 7th Street, SW, Room 2080
Washington, DC 20407

Subject: **Drinking Fountain Water Quality Sampling**
EPA North Headquarters Building
Mabbett Project Number: 2012011.181

Dear Mr. Hodges:

Mabbett & Associates, Inc. (Mabbett®) received a request from the GSA, NCR to collect water samples from drinking fountains at the EPA North Headquarters building located at 1200 Pennsylvania Avenue Northwest in Washington, DC. This report summarizes the sampling and analytical results.

The water samples were collected on December 20, 2017 by Mabbett Environmental, Health and Safety Consultant, Andrew Faust. The samples were collected in accordance with the EPA Safe Drinking Water Act which sets national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water.

Methodology

Six water fountains were identified for testing, all of which are located on the same pipe riser. Testing of the six fountains was requested in response to a gray/black discharge that reportedly occurred on December 15, 2017. A sample was also collected from a water fountain located on the other side of the building on a separate riser as a quality control/comparison sample. The water fountains were allowed to run for a minimum of five minutes prior to sample collection. The water and fountain taps were visually inspected for cleanliness. Nitrile gloves were worn during sample collection and gloves were changed between each sample collection to avoid cross contamination.

The samples were analyzed for total coliform bacteria and *Escherichia coli* (*E. Coli*). Coliform bacteria and *E. coli* are organisms that are present in the environment and in the feces of all warm-blooded animals and humans. The presence of coliform bacteria or *E. coli* in drinking water is a indication of recent sewage or animal waste contamination. The samples were analyzed by Aerobiology Laboratory in Dulles, Virginia. Aerobiology Laboratory is accredited by the Virginia Environmental Laboratory Accreditation Program (VELAP) for drinking water analysis.

Analytical Results

The analytical results, are summarized in Table 1, indicated that all seven samples analyzed for total coliform bacteria and *E. coli* was Negative. Copies of the analytical results are included as Attachment A.

Table 1 – Water Sampling Results

Sample Number	Sample Location	Laboratory Result
122017-01	Drinking Fountain in corridor near Room 5358	Negative
122817-02	Drinking Fountain in corridor near Room 4358	Negative
122017-03	Drinking Fountain in corridor near Room 3358	Negative
122017-04	Drinking Fountain in corridor near Room 2501	Negative
122017-05	Drinking Fountain in corridor near Room 7358	Negative
122017-06	Drinking Fountain in corridor near Room 6358	Negative
122017-07	Drinking Fountain in corridor near Room 6137 (Quality Control Sample)	Negative

Conclusions & Recommendations

Analysis of the samples collected from the seven water fountains was negative for total coliform bacteria and *Escherichia coli*.

Mabbett appreciates this opportunity to provide these water quality testing services. Should you have any questions or concerns, please do not hesitate to contact me at (781) 275-6050. Ext 103.

Very truly yours,

MABBETT & ASSOCIATES, INC.

BY:

(b) (6)

Andrew G. Faust, CSP
Industrial Hygiene & Environmental Consultant

Reviewed by:

(b) (6)

Gary Morris, CIH, CSP
Senior Industrial Hygienist

Attachment A: Laboratory Analysis Results

Attachment A

Laboratory Analysis Results

Mabbett Associates, Inc.
1442 Duke St.
Alexandria, Virginia 22314
Attn: Andrew Faust
Project: **R2012011.181 EPA North Water Sampling**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 12/20/2017
Date Received: 12/20/2017
Date Analyzed: 12/21/2017
Date Reported: 12/22/2017
Project ID: 17042682
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Client Sample #: 122017-01 (a)
Sample Location: Near Water Fountain Across from Room 5358
Test: 1010, Water Total coliforms / E. coli (Potable) - Colisure SOP 2.28 SM 9223B
Results: **Water negative for total coliforms and negative for Escherichia coli at 24 hours indicating water is suitable for human consumption.**

Lab Sample #: 17042682-001

Liquid Volume: 100 (mL)
MRL: 1 CFU/100mL

Client Sample #: 122017-02 (a)
Sample Location: Near Water Fountain Across from Room 4358
Test: 1010, Water Total coliforms / E. coli (Potable) - Colisure SOP 2.28 SM 9223B
Results: **Water negative for total coliforms and negative for Escherichia coli at 24 hours indicating water is suitable for human consumption.**

Lab Sample #: 17042682-002

Liquid Volume: 100 (mL)
MRL: 1 CFU/100mL

Client Sample #: 122017-03 (a)
Sample Location: Near Water Fountain Across from Room 3358
Test: 1010, Water Total coliforms / E. coli (Potable) - Colisure SOP 2.28 SM 9223B
Results: **Water negative for total coliforms and negative for Escherichia coli at 24 hours indicating water is suitable for human consumption.**

Lab Sample #: 17042682-003

Liquid Volume: 100 (mL)
MRL: 1 CFU/100mL

Client Sample #: 122017-04 (a)
Sample Location: Near Water Fountain Across from Room 2501
Test: 1010, Water Total coliforms / E. coli (Potable) - Colisure SOP 2.28 SM 9223B
Results: **Water negative for total coliforms and negative for Escherichia coli at 24 hours indicating water is suitable for human consumption.**

Lab Sample #: 17042682-004

Liquid Volume: 100 (mL)
MRL: 1 CFU/100mL

Client Sample #: 122017-05 (a)
Sample Location: Near NAL -Fountain Across from Room 7358
Test: 1010, Water Total coliforms / E. coli (Potable) - Colisure SOP 2.28 SM 9223B
Results: **Water negative for total coliforms and negative for Escherichia coli at 24 hours indicating water is suitable for human consumption.**

Lab Sample #: 17042682-005

Liquid Volume: 100 (mL)
MRL: 1 CFU/100mL

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Attn: Andrew Faust
Project: **R2012011.181 EPA North Water Sampling**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 12/20/2017
Date Received: 12/20/2017
Date Analyzed: 12/21/2017
Date Reported: 12/22/2017
Project ID: 17042682
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Client Sample #: 122017-06 (a)
Sample Location: Near NAL - Across from Room 6358
Test: 1010, Water Total coliforms / E. coli (Potable) - Colisure SOP 2.28 SM 9223B
Results: **Water negative for total coliforms and negative for Escherichia coli at 24 hours indicating water is suitable for human consumption.**

Lab Sample #: 17042682-006

Liquid Volume: 100 (mL)
MRL: 1 CFU/100mL

Client Sample #: 122017-07 (a)
Sample Location: Near QC Sample Near Room 6137
Test: 1010, Water Total coliforms / E. coli (Potable) - Colisure SOP 2.28 SM 9223B
Results: **Water negative for total coliforms and negative for Escherichia coli at 24 hours indicating water is suitable for human consumption.**

Lab Sample #: 17042682-007

Liquid Volume: 100 (mL)
MRL: 1 CFU/100mL

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 Attn: Andrew Faust
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Footnotes and Additional Report Information

Debris Rating Table

1	Minimal (<5%) particulate present	Reported values are minimally affected by particulate load.
2	5% to 25% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
3	26% to 75% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
4	75% to 90% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
5	Greater than 90% of the trace occluded with particulate	Quantification not possible due to large negative bias. A new sample should be collected at a shorter time interval or other measures taken to reduce particulate load.

1. Penicillium/Aspergillus group spores are characterized by their small size, round to ovoid shape, being unicellular, and usually colorless to lightly pigmented. There are numerous genera of fungi whose spore morphology is similar to that of the Penicillium/Aspergillus type. Two common examples would be Paecilomyces and Acremonium. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both. Keep in mind that these are not the only two possibilities.
2. Ascospores are sexually produced fungal spores formed within an ascus. An ascus is a sac-like structure designed to discharge the ascospores into the environment, e.g. Ascobolus.
3. Basidiospores are typically blown indoors from outdoors and rarely have an indoor source. However, in certain situations a high basidiospore count indoors may be indicative of a wood decay problem or wet soil.
4. The colorless group contains colorless spores which were unidentifiable to a specific genus. Examples of this group include Acremonium, Aphanocladium, Beauveria, Chrysosporium, Engyodontium microconidia, yeast, some arthrospores, as well as many others.
5. Hyphae are the vegetative mode of fungi. Hyphal elements are fragments of individual Hyphae. They can break apart and become airborne much like spores and are potentially allergenic. A mass of hyphal elements is termed the mycelium. Hyphae in high concentration may be indicative of colonization.
6. Dash (-) in this report, under raw count column means 'not detected (ND)'; otherwise 'not applicable' (NA).
7. The positive-hole correction factor is a statistical tool which calculates a probable count from the raw count, taking into consideration that multiple particles can impact on the same hole; for this reason the sum of the calculated counts may be less than the positive hole corrected total.
8. Due to rounding totals may not equal 100%.
9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as spr/m^3 divided by raw count. $spr/m^3 = \text{raw counts} \times (100/\% \text{ read}) \times (1000/\text{Sample volume})$. If Analytical Sensitivity is 13 spr/m^3 at 100% read, Analytical Sensitivity at 50% read would be 27 spr/m^3 , which is 2 times higher. Analytical Sensitivity provided on the report is based on an assumed 100% of the trace being analyzed.
10. Minimum Reporting Limits (MRL) for BULKS, DUSTS, SWABS, and WATER samples are a calculation based on the sample size and the dilution plate on which the organism was counted. Results are a compilation of counts taken from multiple dilutions and multiple medias. This means that every genus of fungi or bacteria recovered can be counted on the plate on which it is best represented.
11. If the final quantitative result is corrected for contamination based on the blank, the blank correction is stated in the sample comments section of the report.
12. Analysis conducted on non-viable spore traps is completed using Indoor Environmental Standards Organization (IESO) Standard 2210.
13. The results in this report are related to this project and these samples only.
14. For samples with an air volume of < 100L, the number of significant figures in the result should be considered (2) two. For samples with air volumes between 100-999L, the number of significant figures in the result should be considered (3) three. For example, a sample with a result of 55,443 spr/m^3 from a 75L sample using significant figures should be considered 55,000. The same result of 55,443 from a 150L sample using significant figures should be considered 55,400 spr/m^3 .
15. If the In/Out ratio is greater than 100 times it is indicated >100/1, rather than showing the real value.

Terminology Used in Direct Exam Reporting

Conidiophores are a type of modified hyphae from which spores are born. When seen on a surface sample in moderate to numerous concentrations they may be indicative of fungal growth.

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Suzanne S. Blevins, B.S., SM (ASCP)
 Laboratory Director