Legionella ViaScan Analysis

ISO 11731: 2017

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Inspector: Buddy Holly	**Date Collected:** 12/31/2019
Project Name: Hyde Park Playground	**Date Received:** 1/1/2020
Project Number: 1	**Date Reported:** 1/11/2020
Assured Bio Identifier: BH010120-1	**Analyst(s):** G. Brooks

Selected References

ISO 11731: 2017(E). Water Quality – Enumeration of *Legionella*. Second edition.

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Campbell, J. Bibb, W.F., Lambert, M. A., Eng, S., Steigerwalt, A. G., Allard, J. Moss, C.W., and Brenner, D.J. 1984. "*Legionella sainthelensi*: A new Species of *Legionella* isolated From Water Near Mt. St. Helens." Applied and Environmental Microbiology 47: 369-373.

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Johnson, K.M. and Huseby, J.S.1997 Lung Abscess Caused by *Legionella micdadei*. Chest: Official publication of the American College of Chest Physicians 111: 252-253.

Macher, J., Ed. 1999. *Bioaerosols: Assessment and Control*. ACGIH, Cincinnati, Ohio.

Ta, A.C., J.E. Stout, V.L. Yu, and M.M. Wagener. 1995. Comparison of Culture Methods for Monitoring *Legionella* Species in Hospital Potable Water Systems and Recommendations for Standardization of Such Methods. Journal of Clinical Microbiology 33: 2118-2123.

Wadowsky, R.M. and Yee, R. B. 1981. Glycine-Containing Selective Medium for Isolation of Legionellaceae from Environmental Specimens. Applied and Environmental Microbiology 42: 768-772.

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Accreditation

Assured Bio Labs performs Legionella analysis according to ISO 11731:2017 and is approved by the New York State Department of Health Environmental Laboratory Approval Program (NYS DOH ELAP ID# 12050). Assured Bio Labs has been a member of the CDC's Environmental Legionella Isolation Techniques Evaluation (ELITE) Program since 2009 and maintains proficiency through ongoing PT samples. Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "*Legionella* Culture" Field of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

Methods of Analysis

Assured Bio Labs, LLC uses the following Standard Operating Procedures for the analysis of samples: CD 206: Detection of Legionella in Environmental Samples via Culture (ISO 11731:2017)

Reporting Limits

Method Detection Limit: The American Industrial Hygiene Association defines this term in AIHA LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit: The American Industrial Hygiene Association defines this term in AIHA LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit. The reporting limit(s) and result(s) are calculated based on the sampling information (i.e. collection volume, area, mass, etc.) provided by the customer as noted on the Chain of Custody. The results apply to the sample(s) as received.

Additional Comments and Method Limitations

The analytical data included in this report reflect only the conditions of the material sampled and submitted to the laboratory for analysis at the time of collection. The results included in this report may not be used for past or future environmental conditions.

Assured Bio Labs, LLC utilizes the standard outlined in *Bioaerosols: Assessment and Control* when making reliable interpretations. It states, "In general, 25 to 250 bacterial colonies and 10 to 60 fungal colonies are considered optimal for accurate counting and identification of CFU's on standard100-mm plates." When mulitiple plates per sample are counted, that with highest number of colonies will be reported. Colony counts outside of the above optimal ranges should be considered estimates based on the best available plate counted. Colony counts greater than this range may be reported as "Too Numerous to Count" using a greater than ">" sign to indicate the minimum possible concentration.

The results obtained from samples submitted to Assured Bio Labs, LLC depend greatly upon conditions at the time of culture. Conditions which have been found to effect sample results include, but are not limited to, temperature, humidity, growth media, unique growth requirements, sample volume, light exposure, incubation time, and sample overloading.

Assured Bio Labs performs Legionella testing using the ISO 11731:2017 (E) and Assured Bio Labs SOP # 206 for the detection of presumptive *Legionella* in environmental samples. Any further determination requires additional methods including slide agglutination, direct flourescence antibody, or DNA sequencing.

Potable water samples are analyzed using Matrix A "Water with low backround", the samples are filtered with washing procedure; nontreated, heat, and acid treated sample is plated on BCYE and BCYE with GVPC media.

Non-potable water samples are analyzed using Matrix B "Water with high backround"; the nontreated, heat, and acid treated sample is plated on BCYE with GVPC media.

Any modifications to a method of analysis shall be discussed with the client prior to sample processing and shall be documented directly under the effected sample.

Sample processing and incubation conditions are as follows unless otherwise noted:

Date Filtered:	1/1/2020	Volume Filtered:	120 mL	Incubation Temperature:	36 ± 2 °C

Date Plated:	1/1/2020	Date Analyzed:	1/8/2020

Test Report Reviewed and Approved By:
Joshua Birkebak, Ph.D.
Laboratory Manager
Assured Bio Labs, LLC

Assured Bio Identifier: BH010120-1-1
Sample ID: 1
Sample Description: Water Fountain
Residual Biocide: N/A

Sample Type: Potable
Sample Condition: Intact
Treatment Analyzed: N/A
Reporting Limit: 0.0833 CFU/mL (Untreated/Heat)
0.833 CFU/mL (Acid)

	Colony Forming Units Counted	Colony Forming Units/Milliliter of Water
Legionella:	None Detected	Below Detectable Limits

Comments: Sample was BELOW DETECTABLE LIMITS After 7 Days of Incubation.

Assured Bio Identifier: BH010120-1-2
Sample ID: 2
Sample Description: Cooling Tower
Residual Biocide: < 0.05 ppm Cl

Sample Type: Non-Potable
Sample Condition: Intact
Treatment Analyzed: Acid
Reporting Limit: 20 CFU/mL

	Colony Forming Units Counted	Colony Forming Units/Milliliter of Water
Legionella:	1	20

Comments: Sample was POSITIVE on GPVC Selective Agar.