



Microbac Laboratories, Inc. - Baltimore

CERTIFICATE OF ANALYSIS

22D1105

Maryland Department of the Environment

Project Name: Back River Bacteria

Ron Wicks
1800 Washington BLVD STE 510
Baltimore, MD 21230

Project / PO Number: N/A
Received: 04/27/2022
Reported: 04/29/2022

Analytical Testing Parameters

Table with 2 columns: Client Sample ID: BRB1, Sample Matrix: Aqueous, Lab Sample ID: 22D1105-01; Collected By: Dennis Rasmussen, Collection Date: 04/27/2022 9:05

Microbiology table with columns: Microbiology, Result, Limit(s), RL, Units, Note, Prepared, Analyzed, Analyst. Rows include Enterococcus (33) and Escherichia coli (9.6).

Table with 2 columns: Client Sample ID: BRB2, Sample Matrix: Aqueous, Lab Sample ID: 22D1105-02; Collected By: Dennis Rasmussen, Collection Date: 04/27/2022 9:21

Microbiology table with columns: Microbiology, Result, Limit(s), RL, Units, Note, Prepared, Analyzed, Analyst. Rows include Enterococcus (50) and Escherichia coli (39).

Table with 2 columns: Client Sample ID: BRB3, Sample Matrix: Aqueous, Lab Sample ID: 22D1105-03; Collected By: Dennis Rasmussen, Collection Date: 04/27/2022 9:30

Microbiology table with columns: Microbiology, Result, Limit(s), RL, Units, Note, Prepared, Analyzed, Analyst. Rows include Enterococcus (42) and Escherichia coli (26).



Microbac Laboratories, Inc. - Baltimore

CERTIFICATE OF ANALYSIS

22D1105

| | |
|---------------------------|----------------------------------|
| Client Sample ID: BRB4 | Collected By: Dennis Rasmussen |
| Sample Matrix: Aqueous | Collection Date: 04/27/2022 9:16 |
| Lab Sample ID: 22D1105-04 | |

| Microbiology | Result | Limit(s) | RL | Units | Note | Prepared | Analyzed | Analyst |
|--|--------|----------|-----|-----------|------|---------------|---------------|---------|
| Method: Enterolert | | | | | | | | |
| Enterococcus | 66 | | 1.0 | MPN/100mL | | 04/27/22 1410 | 04/28/22 1745 | NMN |
| Method: SM 9223 B (Colilert Quanti-Tray)-1997 | | | | | | | | |
| Escherichia coli | 29 | | 1.0 | MPN/100mL | | 04/27/22 1420 | 04/28/22 1215 | NMN |

Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.


Definitions

MPN/100mL Most Probable Number per 100 Milliliters
RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.

Reviewed and Approved By:



Brittany Spraker
 Supervisor - Micro
 Reported: 04/29/2022 09:51

Microbac Laboratories, Inc.

2101 Van Deman Street | Baltimore, MD 21224 | 410.633.1800 p | www.microbac.com

MICROBAC

2101 Van Deman Street
 Baltimore, MD 21224
 (410) 633-1800

CHAIN OF CUSTODY RECORD
 Number

Instructions on back
 TO BE COMPLETED BY MICROBAC

Temperature Upon Receipt (°C)
 Therm ID 4612 7.4°C

Holding Time
 Samples Received on ice? Yes No N/A
 Custody Seals Intact? Yes No N/A

Level 1 Level 2 Level 3 Level 4 EDD

Compliance Monitoring? Yes No

Agency/Program

Lab Report Address

Client Name: MD DEPT OF ENVIRONMENT
 Address: 1800 WASHINGTON BLVD
 City, State, Zip: BALTO, MD 21230

Contact: Ron Wickes
 Telephone No.: 443 502 1270

Send Report via: Mail Fax e-mail (address)

Project: BACK LIVER BACTERIA
 Sampled by (PRINT): DENNIS RASMUSSEN
 JOHN WINECH

Matrix Types: Sol/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)
 Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Thiosulfate, (8) Sodium Bisulfate, (9) Hexane

Invoice Address

Client Name: SAME
 Address: SAME
 City, State, Zip: SAME

Contact: SAME
 Telephone No.: SAME

Location: FDN, WICKES@maryland.gov
 DENNIS.RASMUSSEN@maryland.gov

Sampler Signature: Dennis Rasmussen

Sampler Phone No.: 443 520 4918
 REQUESTED ANALYSIS

Turnaround Time

Routine (5 to 7 business days)
 RUSH* (notify lab)

(needed by)
 Report Type

Results Only Level 1 Level 2 Level 3 Level 4 EDD

PO No.:
 Mail Fax e-mail (address)

| Lab ID | Client Sample ID | Date Collected | Time Collected | No. of Containers | Matrix | Grab / Comp | Preservative Types ** | ENTEROCOCCUS | E. Coli |
|--------|------------------|----------------|----------------|-------------------|--------|-------------|-----------------------|--------------|---------|
| BRB1 | | 4-27-22 | 0905 | 2 | G | G | 8 | - | - |
| BRB2 | | | 0921 | 2 | G | G | 8 | - | - |
| BRB3 | | | 0930 | 2 | G | G | 8 | - | - |
| BRB4 | | | 0916 | 2 | G | G | 8 | - | - |



Additional Notes

Possible Hazard Identification: Hazardous Non-Hazardous Radioactive

Relinquished By (signature): Dennis Rasmussen
 Date/Time: 4-27-22

Received By (signature): [Signature]
 Date/Time: 4-27-22

Received By (signature): [Signature]
 Date/Time: 4/27/22

Cooler Receipt Form / Sample Acceptance & Noncompliance Form

Microbac Laboratories, Inc., Baltimore Division
Control # 606-03
Effective Date: 11/30/2016
Page 1 of 1

Number of Coolers Received: 1
Client: MDE
Form Completed By: Omire E. Ekosima
Shipper:
Custody Tape Intact:
Containers Intact:
Sample Received on Ice or refrigerated:

Chain of Custody Present with shipment:
Sample Bottle IDs agree with COC:
Preservation requirements met:
Correct Number of Containers / Sample Volume:
Headspace in container:
Type of Sample:

Receipt Date / Time: 4-27-22 1034
Work Order # 2201105

 Microbac Client UPS FedEx
YES / NO / NA
 YES / NO
YES / NO / NA
Infrared (IR) Temperature: 7.4 °C
YES / NO
 YES / NO
YES / NO / Not Checked
YES / NO (If No, contact client immediately)
YES / NO / NA
Water Soil Wipes Oil Filter Solid
Sludge Food Swab Other

Container Type / Quantity:

| | | | | | | | | |
|------|-------------|--------|-------------------------------|-------------------------------|-------------------------------|---------------------|--------------------|--------|
| A - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid: | If preserved pH <2 | pH >10 |
| B - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| C - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| D - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| E - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| H - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| K - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| L - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| M - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| P - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| W - | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| V - | Unpreserved | HCl | HCl / Ascorbic Acid | HCl / NaTHIO | (Checked at time of Analysis) | | | |
| F - | Unpreserved | NaTHIO | (Checked at time of Analysis) | | | | | |
| S - | Unpreserved | NaTHIO | (Checked at time of Analysis) | | | | | |
| SN - | Unpreserved | NaTHIO | NaTHIO/EDTA | (Checked at time of Analysis) | | | | |
| | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |
| | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | NaOH/Ascorbic Acid | If preserved pH <2 | pH >10 |

Describe preservation requirements not met:

All Acid preserved <2 pH NaOH preserved >12 pH All others >2 and <10 (usually 4-8)

Sample ID: _____ H₂SO₄ HNO₃ NaOH _____ mls added
Sample ID: _____ H₂SO₄ HNO₃ NaOH _____ mls added
Sample ID: _____ H₂SO₄ HNO₃ NaOH _____ mls added
Sample ID: _____ H₂SO₄ HNO₃ NaOH _____ mls added

H₂SO₄ - Sulfuric Acid, HNO₃ - Nitric Acid, NaOH - Sodium Hydroxide, ASC - Ascorbic Acid, NaTHIO - Sodium Thiosulfate

Describe Anomalies: _____

Contact information / Summary of Actions:

Date / Time: _____ Contact: _____ Contact By: _____
Comments: _____
