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Microbac Laboratories, Inc. - Baltimore
CERTIFICATE OF ANALYSIS
22E0421

Maryland Department of the Environment	Project Name: Back River Bacteria
Ron Wicks	Project / PO Number: N/A
1800 Washington BLVD STE 510	Received: 05/09/2022
Baltimore, MD 21230	Reported: 05/11/2022

Analytical Testing Parameters

Client Sample ID:	BRB1		
Sample Matrix:	Aqueous	Collected By:	Dennis Rasmussen
Lab Sample ID:	22E0421-01	Collection Date:	05/09/2022 8:55

Microbiology	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Enterolert								
Enterococcus	2400		1.0	MPN/100mL		05/09/22 1548	05/10/22 1720	RLH
Method: SM 9223 B (Colilert Quanti-Tray)-1997								
Escherichia coli	1600		1.0	MPN/100mL		05/09/22 1545	05/10/22 1250	RLH

Client Sample ID:	BRB2		
Sample Matrix:	Aqueous	Collected By:	Dennis Rasmussen
Lab Sample ID:	22E0421-02	Collection Date:	05/09/2022 9:10

Microbiology	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Enterolert								
Enterococcus	1300		1.0	MPN/100mL		05/09/22 1548	05/10/22 1720	RLH
Method: SM 9223 B (Colilert Quanti-Tray)-1997								
Escherichia coli	1700		1.0	MPN/100mL		05/09/22 1545	05/10/22 1250	RLH

Client Sample ID:	BRB3		
Sample Matrix:	Aqueous	Collected By:	Dennis Rasmussen
Lab Sample ID:	22E0421-03	Collection Date:	05/09/2022 9:20

Microbiology	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Enterolert								
Enterococcus	1300		1.0	MPN/100mL		05/09/22 1548	05/10/22 1720	RLH
Method: SM 9223 B (Colilert Quanti-Tray)-1997								
Escherichia coli	1000		1.0	MPN/100mL		05/09/22 1545	05/10/22 1250	RLH

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CERTIFICATE OF ANALYSIS

22E0421

Client Sample ID:	BRB4			
Sample Matrix:	Aqueous		**Collected By:**	Dennis Rasmussen
Lab Sample ID:	22E0421-04		**Collection Date:**	05/09/2022 9:30

Microbiology	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Enterolert								
Enterococcus	1700		1.0	MPN/100mL		05/09/22 1548	05/10/22 1720	RLH
Method: SM 9223 B (Colilert Quanti-Tray)-1997								
Escherichia coli	1400		1.0	MPN/100mL		05/09/22 1545	05/10/22 1250	RLH

*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

Reviewed and Approved By:

Brittany Spraker

Brittany Spraker

Project Manager

Reported: 05/11/2022 12:06

*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>.***

MICROBAC

CHAIN OF CUSTODY RECORD

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

Number _____

Instructions on back

Lab Report Address MD DEPT OF ENVIRONMENT

Client Name:

Address: 1800 WASHINGTON BLVD

City, State, Zip: BALTO MD 21230

Contact: RON WICKS

Telephone No.: 443 502 1270

Send Report via: ☑ Mail ☐ Fax ☑ e-mail (address) ron.wicks@maryland.gov

Project: BACK RIVER BATOBLA

Sampled by (PRINT): JOHN LYNCH DENNIS RASMUSSEN RENEE LYNCH

Matrix Types: Soil/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 Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

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

Telephone No.:
Location: denise.casmira@maryland.gov

Sampler Signature:
Sampler Phone No.: 443 520 4918

PO No.:

Send Invoice via: ☑ Mail ☐ Fax ☐ e-mail (address)

Report Type: ☑ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD

Turnaround Time
☑ Routine (5 to 7 business days)
☐ RUSH* (notify lab)

TO BE COMPLETED BY MICROBAC

Temperature Upon Receipt (°C) 9.0 C

Therm ID EQM, 40.18

Holding Time EQM, 40.18

Samples Received on Ice? ☑ Yes ☐ No ☐ N/A

Custody Seals intact? ☐ Yes ☐ No ☑ N/A

Compliance Monitoring? ☐ Yes ☑ No
☐ Agency/Program

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types	ENTEROCCUS	E. Coli	Sample Disposition
	BRB1	5-9-22	0855	2	G	G	8	—	—	
	BRB2		0910	2	G	G	8	—	—	
	BRB3		0920	2	G	G	8			
	BAB4		0930	2	G	G	8			

Sample Disposition ☑ Dispose as appropriate ☐ Return ☐ Archive

Possible Hazard Identification
☐ Hazardous ☐ Non-Hazardous ☐ Radioactive

Comments

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	5-9-22 / 1010		5/9/22 10:19
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
			5/9/22 @ 1355
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time

Additional Notes

22E0421

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rev. 12/26/2017

Number of Coolers Received: 1
Client: MD Dept - Envir.
Form Completed By: _____
Shipper:

Receipt Date / Time: 5/9/22 1009
Work Order # 22E0421

☐ Microbac ☒ Client ☐ UPS ☐ FedEx

Custody Tape Intact: YES / NO / NA
Containers Intact: YES / NO
Sample Received on Ice or refrigerated: YES / NO / NA
Infrared (IR) Temperature: 9.0 °C

Chain of Custody Present with shipment: YES / NO
Sample Bottle IDs agree with COC: YES / NO
Preservation requirements met: YES / NO / ~~Not Checked~~
Correct Number of Containers / Sample Volume: YES / NO (If No, contact client immediately)
Headspace in container: YES / NO / NA
Type of Sample: Water Soil Wipes Oil Filter Solid
Sludge Food Swab Other

Container Type / Quantity:

	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2 , pH >10
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
	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: _____ H_2SO_4 HNO_3 NaOH ___ mls added
Sample ID: _____ H_2SO_4 HNO_3 NaOH ___ mls added
Sample ID: _____ H_2SO_4 HNO_3 NaOH ___ mls added
Sample ID: _____ H_2SO_4 HNO_3 NaOH ___ mls added

H_2SO_4 – Sulfuric Acid, HNO_3 – Nitric Acid, NaOH – Sodium Hydroxide, ASC – Ascorbic Acid, NaTHIO – Sodium Thiosulfate

Describe Anomalies: _____
_____
_____
_____
_____

Contact information / Summary of Actions:
Date / Time: _____ Contact: _____ Contact By: _____
Comments: _____
_____