MICROBAC®

Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I0708

Village of Waterloo

Jim Bromka
41 West Main Street
Waterloo, NY 13165

Project Name: Water Analysis

Project / PO Number: N/A
Received: 09/11/2019
Reported: 10/04/2019

Case Narrative

Microbac Laboratories Inc., Marrietta, OH holds certification in New York State for PFOS & PFOA compounds by method 537.

Note

All sample results for this work order are attached to the end of this report.

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Water Plant - Entry Point	J9I0708-01	Drinking Water	Grab		09/10/19 10:00	09/11/19 10:25
Blank	J9I0708-02	Drinking Water	Field Blank		09/10/19 10:00	09/11/19 10:25

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I0708

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 7.1ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc., New York Division
NY Lab ID No.: 10795 New York State Department of Health

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

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.

Reviewed and Approved By:

Renee Lantz
Customer Relationship Specialist
Reported: 10/04/2019 12:34

3821 Buck Drive
PO Box 5150, Cortland NY 13045
Phone:(607)753-3403 Fax:(607)753-3415
NY #10795, EPA #NY00935

509 Cayuta Avenue
Waverly, NY 14892
Phone:(607)565-3500 Fax:(607)565-4083
NY #10252, EPA #NY00033

Microbac Laboratories, Inc.
CHAIN OF CUSTODY

Samples must be returned on ice

MNY Workorder # _____

Client Information	Billing/Invoice:
Name: Village of Waterloo	same
Address: 41 W. Main St.	
Waterloo, NY	
Contact: Jim Bromka	
Phone: (315) 651-0274	
Project:	
Quote ID:	PO#:

Rush TAT Bus. Days: <2 2-5 5-7 7-10 Date Req.: _____

Carbon Copy: Yes _____

Email Results: ~~Yes~~ jbromka@rochester.rr.com

Fax Results: Yes

Sample Information				Matrix	Analysis Requested								Receiving Info (Lab Use Only)
	Description/Location	Date	Time	Initial	Type	1,4-Dioxane		PFOA	PFOS	PFBS	PFHxA	PFHpA	PFHxS	
1	Water Plant	9/10	10:00	JB		4								Ice: YES NO
2														Cooler: YES NO
3														Sample Temp: 2.1
4														Cooler Seal: YES NO
5														Pickup: YES NO
6														Dropoff: C W
7														Fedex
8														Accepted? YES NO
														Container Material
														Container Size(in Ml)
														Preservative
					Number of Containers for Analysis Requested									Comments/Field Data

Comments/Field Data: entry point

Print Name and Company	Signature	Date/Time	Comments
Sampled: Jim Bromka/V. of Waterloo		9/10/19 10:09	
Received:			
Received: Kayla Conway		9/11/19 1025	Fedex
Received:			

Microbac Laboratories (MNY) may be unable to perform a portion of the requested testing in which case we will subcontract the analysis to another accredited laboratory.
By signing this document you are attesting that you have been informed by MNY of the intent to subcontract and are in agreement with this action.

v.090210w

J 9 I 0 7 0 8

WATERLOO

3821 Buck Drive
PO Box 5150, Cortland NY 13045
Phone:(607)753-3403 Fax:(607)753-3415
NY #10795, EPA #NY00935

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Contact: Jim Bromka	
Phone: (315) 651-0274	
Project:	
Quote ID:	PO#:

Rush TAT Bus. Days: <2 2-5 5-7 7-10 Date Req.: _____

Carbon Copy: Yes _____

Email Results: ~~Yes~~ jbromka@rochester.rr.com

Fax Results: Yes

Analysis Requested							
PFNA	PFDA	PFUnA	N-MeFOSAA	N-EtFOSAA	PFDoA	PFTrDA	PFTA

Receiving Info (Lab Use Only)	
Ice:	(YES) NO
Cooler:	(YES) NO
Sample Temp:	7.1
Cooler Seal:	YES NO
Pickup:	YES NO
Dropoff:	C W
	Fedex
Accepted?	(YES) NO
Container Material	
Container Size(in Ml)	
Preservative	

Sample Information				Matrix	Number of Containers for Analysis Requested	Comments/Field Data
Description/Location	Date	Time	Initial	Type		
1 Water Plant	9/10	10:00	JB		yes	entry point
2						
3						
4						
5						
6						
7						
8						

Print Name and Company	Signature	Date/Time	Comments
Sampled: Jim Bromka/V. of Waterloo		9/10/19 10:09	
Received:			
Received: Kayla Conway		9/11/19 1020	
Received:			

Microbac Laboratories (MNY) may be unable to perform a portion of the requested testing in which case we will subcontract the analysis to another accredited laboratory. By signing this document you are attesting that you have been informed by MNY of the intent to subcontract and are in agreement with this action.

v.090210w

Microbac

Laboratory Report Number: L19090115 *(Revised)*

Revised to include only certified compounds

Jennifer Walker
Microbac Laboratories
3821 Buck Drive
Cortland, NY 13045

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
–
(740) 373-4071
Alicia.walker@microbac.com

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on October 02 2019

Jeffrey Ogle – Laboratory Manager

State of Origin: NY
Accrediting Authority: Department of Health ID:10861
QAPP: Microbac OVD

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Field Reagent Blank arrived in a preserved container. Per compliance the Blank should arrive in an unreserved container. ADW	Please proceed with analysis and include narrative. ADW

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00116498	I	3.0		776253306411	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	No
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	NA

Microbac

Lab Report #: L19090115
Lab Project #: 2941.018
Project Name: New York- NY Cert.
Lab Contact:

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
J9I0708-01	L19090115-01	09/10/2019 10:00	09/17/2019 10:45
J9I0708-01 DUP	L19090115-02	09/10/2019 10:00	09/17/2019 10:45
J9I0708-02 BLANK	L19090115-03	09/10/2019 10:00	09/17/2019 10:45

Login Number: L19090115
Department: General Chromatography
Analyst: Craig Smith

METHOD

Analysis EPA 537 Version 1.1

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

The Field Reagent Blank (FRB) associated with this sample delivery group was received by the laboratory in an improper sample container. Per Method 537.1 and Microbac SOP HPLC15, the FRB must be received in an unpreserved container. The FRB associated with this Sample Delivery Group was received by the Laboratory in a Preserved Container.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: In the blank PFHxS was above the RL at 0.00324ug/L. Reported results for PFHxS may be biased high.

Laboratory Control Sample: In the LCS, recoveries for PFTrDA and PFTeDA were low.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG711187-02	PFTrDA	2019-09-19 02:10:47	69.0	70	130	Recovery
WG711187-02	PFTeDA	2019-09-19 02:10:47	61.0	70	130	Recovery

Matrix Spikes: The MS result was not associated with this sample delivery group.

SAMPLES

Samples: Samples 01, 02, and 03 had recoeries for surrogate d5-N-EtFOSAA below the acceptance limit.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peakcompletely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low areacounts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene andbenzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 150654
Approved By: Mary Schilling

Certificate of Analysis

Sample #: L19090115-01 | **PrePrep Method:** N/A | **Instrument:** LCMS2
Client ID: J9I0708-01 | **Prep Method:** 537 | **Prep Date:** 09/17/2019 09:00
Matrix: Water | **Analytical Method:** 537 | **Cal Date:** 09/18/2019 23:42
Workgroup #: WG711187 | **Analyst:** CAS | **Run Date:** 09/19/2019 09:13
Collect Date: 09/10/2019 10:00 | **Dilution:** 1 | **File ID:** 2LM011488
Sample Tag: 01 | **Units:** ug/L

Analyte	CAS #	Result	Qual	RL	MDL
PFOA	335-67-1	0.00136	J	0.00179	0.000893
PFOS	1763-23-1		U	0.00179	0.000893
PFHxA	307-24-4		U	0.00179	0.000893
PFHpA	375-85-9		U	0.00179	0.000893
PFNA	375-95-1		U	0.00179	0.000893
PFDA	335-76-2		U	0.00179	0.000893
PFUdA	2058-94-8		U	0.00179	0.000893
PFDoA	307-55-1		U	0.00179	0.000893
PFTrDA	72629-94-8		U	0.00179	0.000893
PFTeDA	376-06-7		U	0.00179	0.000893
PFBS	375-73-5		U	0.00161	0.000804
PFHxS	355-46-4	0.00279	B	0.00161	0.000804
N-EtFOSAA	2991-50-6		U	0.0179	0.00893
N-MeFOSAA	2355-31-9		U	0.0179	0.00893

Surrogate	Recovery	Lower Limit	Upper Limit	Q
MPFDA	87.6	70	130	
MPFHxA	101	70	130	
d5-N-EtFOSAA	66.7	70	130	*
M3HFPO-DA	96.5	70	130	

*	Surrogate or spike compound out of range
B	Analyte present in method blank
J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L19090115-02 | **PrePrep Method:** N/A | **Instrument:** LCMS2
Client ID: J9I0708-01 DUP | **Prep Method:** 537 | **Prep Date:** 09/17/2019 09:00
Matrix: Water | **Analytical Method:** 537 | **Cal Date:** 09/18/2019 23:42
Workgroup #: WG711187 | **Analyst:** CAS | **Run Date:** 09/19/2019 10:17
Collect Date: 09/10/2019 10:00 | **Dilution:** 1 | **File ID:** 2LM011491
Sample Tag: 01 | **Units:** ug/L

Analyte	CAS #	Result	Qual	RL	MDL
PFOA	335-67-1	0.00124	J	0.00179	0.000893

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
PFOS	1763-23-1		U	0.00179	0.000893
PFHxA	307-24-4		U	0.00179	0.000893
PFHpA	375-85-9		U	0.00179	0.000893
PFNA	375-95-1		U	0.00179	0.000893
PFDA	335-76-2		U	0.00179	0.000893
PFUdA	2058-94-8		U	0.00179	0.000893
PFDoA	307-55-1		U	0.00179	0.000893
PFTrDA	72629-94-8		U	0.00179	0.000893
PFTeDA	376-06-7		U	0.00179	0.000893
PFBS	375-73-5		U	0.00161	0.000804
PFHxS	355-46-4	0.00283	B	0.00161	0.000804
N-EtFOSAA	2991-50-6		U	0.0179	0.00893
N-MeFOSAA	2355-31-9		U	0.0179	0.00893

Surrogate	Recovery	Lower Limit	Upper Limit	Q
MPFDA	85.7	70	130	
MPFHxA	100	70	130	
d5-N-EtFOSAA	64.4	70	130	*
M3HFPO-DA	99.4	70	130	

*	Surrogate or spike compound out of range
B	Analyte present in method blank
J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L19090115-03
Client ID: J9I0708-02 BLANK
Matrix: Water
Workgroup #: WG711187
Collect Date: 09/10/2019 10:00
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 537
Analytical Method: 537
Analyst: CAS
Dilution: 1
Units: ug/L

Instrument: LCMS2
Prep Date: 09/17/2019 09:00
Cal Date: 09/18/2019 23:42
Run Date: 09/19/2019 10:38
File ID: 2LM011492

Analyte	CAS #	Result	Qual	RL	MDL
PFOA	335-67-1		U	0.00179	0.000893
PFOS	1763-23-1		U	0.00179	0.000893
PFHxA	307-24-4		U	0.00179	0.000893
PFHpA	375-85-9		U	0.00179	0.000893
PFNA	375-95-1		U	0.00179	0.000893
PFDA	335-76-2		U	0.00179	0.000893
PFUdA	2058-94-8		U	0.00179	0.000893
PFDoA	307-55-1		U	0.00179	0.000893
PFTrDA	72629-94-8		U	0.00179	0.000893

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
PFTeDA	376-06-7		U	0.00179	0.000893
PFBS	375-73-5		U	0.00161	0.000804
PFHxS	355-46-4	0.00143	J	0.00161	0.000804
N-EtFOSAA	2991-50-6		U	0.0179	0.00893
N-MeFOSAA	2355-31-9		U	0.0179	0.00893

Surrogate	Recovery	Lower Limit	Upper Limit	Q
MPFDA	80.9	70	130	
MPFHxA	100	70	130	
d5-N-EtFOSAA	68.0	70	130	*
M3HFPO-DA	96.8	70	130	

*	Surrogate or spike compound out of range
J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
October 2, 2019

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
005 - ES LABORATORIES	006 - ALCOSAN LABORATORIES
007 - ALS LABORATORIES	008 - BENCHMARK LABORATORIES
010 - MICROBAC CHICAGOLAND	AC - AMBER R. CARMICHAEL
ACG - ALEX C. GEDON	ADC - ANTHONY D. CANTER
ADG - APRIL D. GREENE	ADW - ALICIA D. WALKER
ALS - ADRIANE L. STEED	APH - ANDREW P. HOUT
ARJ - Autumn R. Jones	AT - Asa R. Timmons
ATK - ALEX T. KLINTWORTH	AWE - ANDREW W. ESSIG
AZH - AFTER HOURS	BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY	CAS - Craig A. Smith
CB - Claire A. Berlin	CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD	COR - Corporate IT
CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
DEA - Danielle E. Arick	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE
DSM - DAVID S. MOSSOR	ECL - ERIC C. LAWSON
EEA - EMILY E. ALLEN	EGS - EMILY G. SHILLING
EPT - ETHAN P. TIDD	ERP - ERIN R. PORTER
JAO - Jeff A. Ogle	JDH - JUSTIN D. HESSON
JDS - JARED D. SMITH	JKP - JACQUELINE K. PARSONS
JLR - JIMMY L. RUSH	JRH - Justin R. Hill
JST - JOSHUA S. TAYLOR	JTP - JOSHUA T. PEMBERTON
JWR - JOHN W. RICHARDS	JYH - JI Y. HU
KAK - KATHY A. KIRBY	KEB - KATIE E. BARNES
KEH - Katelyn E. Hoover	KFR - KARISSA F. REYNOLDS
KHR - KIM H. RHODES	KKB - KERRI K. BUCK
KMC - KAYLA M. CHEVALIER	KMG - KALEN M. GANDOR
KRA - KATHY R. ALBERTSON	KRP - KATHY R. PARSONS
KWD - Kurtis W. Decker	LLS - LARRY L. STEPHENS
LMG - Larry M. Gwinn	LSJ - LAURA S. JONES
MAP - MARLA A. PORTER	MES - MARY E. SCHILLING
MGH - Matthew G. Hackathorn	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	PDM - PIERCE D. MORRIS
PIT - MICROBAC WARRENDALE	RLB - BOB BUCHANAN
RLD - Rachal L. Depuy	RNM - Rene N. Miller
RNP - RICK N. PETTY	SAV - SARAH A. VANDENBERG
SCB - SARAH C. BOGOLIN	SDM - Stephanie D. Murphy
SLM - STEPHANIE L. MOSSBURG	SWB - Samuel W. Bidwell
TB - TODD BOYLE	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	XXX - UNAVAILABLE OR SUBCONTRACT
ZTB - ZACH T. BARNES	ZTL - ZACH T. LUCAS

Microbac Laboratories Inc.
List of Valid Qualifiers
October 02, 2019

Qualkey: STD_ND=U

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	The cooler temperature at receipt exceeded regulatory guidance.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated. The cooler temperature at receipt exceeded the regulatory guidance.
J,H1	The analyte was positively identified, but the quantitation was below the RL. Sample analysis performed past holding time
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,L	Not detected; sample reporting limit (RL) elevated due to interference
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above adjusted sample detection limit
U,CT1	Not detected. The cooler temperature at receipt exceeded regulatory guidance.
U,H1	Not detected; sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Y	This analyte is not on the laboratory's current scope of accreditation.
Z	Cannot be resolved from isomer - see below

Microbac Laboratories, Inc., New York Division

MICROBAC

Microbac OVD
Received: 09/17/2019 10:45
By: EMILY SHILLING

221000138762

SUBCONTRACT ORD

J9I0708

SENDING LABORATORY:

Microbac Laboratories, Inc., New York Division
3821 Buck Dr.
Cortland, NY 13045
Phone: 607-753-3403
Lab Manager: Shannon Weeks
Email: Results: PennNYlab@microbac.com Invoices: PennNYinvoice@microbac.com

RECEIVING LABORATORY:

Microbac - OVD
158 Starlite Drive
Marietta, OH 45750
Phone: (740) 373-4071

Project Info:

Project Name: Water Analysis
Project No: Water Analysis

Client: WATERLOO
Project Type: ENV-DrinkingWater
Project Location: New York

Report TAT: 7
Due: **09/20/2019 17:00**

Sample ID: J9I0708-01
Matrix: Drinking Water

Sampled: 09/10/2019 10:00
Sampler: JB-Client

NY PWSID:
Point:
Point No:

Sample Descript.: Water Plant - Entry Point
Type:
Frequency:

Analysis	Method	Analysis Due	Expires	Network $
537 Alkyl Acids	**EPA 537 Rev. 1.1**	**09/20/2019 08:00**	**09/24/2019 10:00**	**$ 264.00**
Perfluorobutane sulfonate (PFBS)	0.09 ug/L	Perfluoroheptanoic acid (PFHPA)	0.01 ug/L	
Perfluorohexane sulfonate (PFHXS)	0.03 ug/L	Perfluorononanoic acid (PFNA)	0.02 ug/L	
Perfluorooctane sulfonate (PFOS)	0.04 ug/L	Perfluorooctanoic acid (PFOA)	0.02 ug/L	

Sample ID: J9I0708-02
Matrix: Drinking Water

Sampled: 09/10/2019 10:00
Sampler: JB-Client

NY PWSID:
Point:
Point No:

Sample Descript.: Blank
Type:
Frequency:

Analysis	Method	Analysis Due	Expires	Network $
537 Alkyl Acids	**EPA 537 Rev. 1.1**	**09/20/2019 08:00**	**09/24/2019 10:00**	**$ 264.00**
Perfluorobutane sulfonate (PFBS)	0.09 ug/L	Perfluoroheptanoic acid (PFHPA)	0.01 ug/L	
Perfluorohexane sulfonate (PFHXS)	0.03 ug/L	Perfluorononanoic acid (PFNA)	0.02 ug/L	
Perfluorooctane sulfonate (PFOS)	0.04 ug/L	Perfluorooctanoic acid (PFOA)	0.02 ug/L	

Released By | Date 9/16/19 | Received By | Date 9-17-19 100

Released By | Date | Received By | Date

Page 1 of 1

MICROBAC®

COOLER TEMP >6° C LOG

Cooler ID 8762

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

ES 9-17-19

pH Exceptions

pH Lot # NA

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

ES 9-17-19

PRESERVATIVE EXCEPTIONS

✓ NONE

AS NOTED

ES 9-17-19

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

NELAP Addendum - January 3, 2019

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Missouri	880
Alaska	IN00035	Montana	CERT0026
Arizona	AZ0432	Nebraska	NE-OS-05-04
Arkansas	IN00035	Nevada	IN00035
California	2920	New Hampshire*	2124
Colorado	IN00035	New Jersey*	IN598
Colorado Radiochemistry	IN00035	New Mexico	IN00035
Connecticut	PH-0132	New York*	11398
Delaware	IN035	North Carolina	18700
Florida*	E87775	North Dakota	R-035
Georgia	929	Ohio	87775
Hawaii	IN035	Oklahoma	D9508
Idaho	IN00035	Oregon (Primary AB)*	4074
Illinois*	200001	Pennsylvania*	68-00466
Illinois Microbiology	17767	Puerto Rico	IN00035
Illinois Radiochemistry	IN00035	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-18-12
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA014	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
EPA	IN00035		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 03/14/2019

eurofins | Eaton Analytical

NELAC NARRATIVE PAGE

Client: Microbac Report #: 465486NP

Eurofins Eaton Analytical, LLC is a NELAP accredited laboratory. All reported results meet the requirements of the NELAC standards, unless otherwise noted.

EEA contact person: Karen Fullmer

NELAP requires complete reporting of deviations from method requirements, regardless of the suspected impact on the data. Quality control failures not reported within the report summary are noted here.

There were no quality control failures.

Karen Fullmer ASM 10/01/2019

Authorized Signature Title Date

eurofins | Eaton Analytical

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: Microbac

Attn: Shannon Weeks
3821 Buck Drive
Cortland, NY 13045

Report: 465486
Priority: Standard Written
Status: Final
PWS ID: Not Supplied
Lab ELAP #: 11398

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
4422769	J9I0708-01	522	09/10/19 10:00	Client	09/17/19 08:30

Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Karen Fullmer at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA. EEA is accredited by the National Environmental Laboratory Accreditation Program (NELAP).

Karen Fullmer ASM

Authorized Signature | Title

10/01/2019
Date

Client Name: Microbac
Report #: 465486

Client Name: Microbac

Report #: 465486

Sampling Point: J9I0708-01

PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	**Analyte**	**Method**	**Reg Limit**	**MRL†**	**Result**	**Units**	**Preparation Date**	**Analyzed Date**	**EEA ID #**
123-91-1	1,4-Dioxane	522	---	0.07	< 0.07	ug/L	09/30/19 08:30	09/30/19 20:33	4422769

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

381397

Microbac Laboratories, Inc., New York Division

MICROBAC®

SUBCONTRACT ORDER

J9I0708

465486

SENDING LABORATORY:

Microbac Laboratories, Inc., New York Division
3821 Buck Dr.
Cortland, NY 13045
Phone: 607-753-3403
Lab Manager: Shannon Weeks
Email: Results: PennNYlab@microbac.com Invoices: PennNYinvoice@microbac.com

RECEIVING LABORATORY:

Eurofins Eaton Analytical, Inc. - South Bend
110 South Hill Street
South Bend, IN 46617
Phone: (574) 472-5567

Proiect Info:

Project Type: ENV-DrinkingWater
Project Location: New York

Report TAT: 7
Due: **09/20/2019 17:00**

Sample ID: J9I0708-01
Matrix: Drinking Water

Sampled: 09/10/2019 10:00
Sampler: JB-Client

NY PWSID:
Point: 4422769
Point No:

Sample Descript.: Water Plant - Entry Point
Type:
Frequency:

Analysis	Method	Analysis Due	Expires
	PHC4 CLA 09182019 KD		
522 Dioxane 1,4-Dioxane	***** DEFAULT SPECIFIC M** 0.07 ug/L	**09/20/2019 08:00**	**10/08/2019 10:00**

Wet 3.6
~~Client Provided Sample Container~~
(1) 09172019 KD

Released By	Date	Received By	Date
	9/16/19		
Released By	Date	Received By	Date
		K Rw	9-17-19 0830