April 4, 2018

City of New Buffalo- New Buffalo, MI
224 W. Buffalo
New Buffalo, MI 49117

Work Order No.: 18D0182

Re: CR6 testing Water Filtration Plant

Dear Ken Anderson:

Microbac Laboratories, Inc. - Chicagoland Division received 2 sample(s) on 4/4/2018 12:15:00PM for the analyses presented in the following report as Work Order 18D0182.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.

Carey Gadzala
Project Manager

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WORK ORDER SAMPLE SUMMARY

Date: *Wednesday, April 4, 2018*

Client: City of New Buffalo- New Buffalo, MI
Project: CR6 testing Water Filtration Plant
Lab Order: 18D0182

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18D0182-01	Chromium 6 - April 4-18-1		04/04/2018 09:30	4/4/2018 12:15:00PM
18D0182-02	Chromium 6 - April 4-18-2		04/04/2018 11:30	4/4/2018 12:15:00PM

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Analytical Results

Date: *Wednesday, April 4, 2018*

Client: City of New Buffalo- New Buffalo, MI
Client Project: CR6 testing Water Filtration Plant
Client Sample ID: Chromium 6 - April 4-18-1
Sample Description:
Matrix: Aqueous

Work Order/ID: 18D0182-01
Sampled: 04/04/2018 9:30
Received: 04/04/2018 12:15

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SW-846 7196A**					Analyst: **BRENAN**
Hexavalent Chromium								Prep Date/Time: **04/04/2018 14:09**
Chromium, Hexavalent	**dio**	A	***ND***	0.010		mg/L	1	04/04/2018 14:48

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Analytical Results

Date: *Wednesday, April 4, 2018*

Client: City of New Buffalo- New Buffalo, MI
Client Project: CR6 testing Water Filtration Plant
Client Sample ID: Chromium 6 - April 4-18-2
Work Order/ID: 18D0182-02
Sample Description:
Sampled: 04/04/2018 11:30
Matrix: Aqueous
Received: 04/04/2018 12:15

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SW-846 7196A**					Analyst: **BRENAN**
Hexavalent Chromium								Prep Date/Time: **04/04/2018 14:09**
Chromium, Hexavalent	**dio**	A	***ND***	0.010		mg/L	1	04/04/2018 14:53

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B = Detected in the associated method Blank at a concentration above the routine RL
b- = Detected in the associated method Blank at a concentration greater than 2.2 times the MDL
b* = Detected in the associated method Blank at a concentration greater than half the RL
CFU = Colony forming units
D = Dilution performed on sample
DF = Dilution Factor
g = Gram
E = Value above quantitation range
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference
J = Analyte concentration detected between RL and MDL (Metals / Organics)
LOD = Limit of Detection
LOQ = Limit of Quantitation
m3 = Meters cubed
MDL = Method Detection Limit
mg/Kg = Milligrams per Kilogram (ppm)
mg/L = Milligrams per Liter (ppm)
NA = Not Analyzed
ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)
NR = Not Recovered
R = RPD outside accepted recovery limits
RL = Reporting Limit
S = Spike recovery outside recovery limits
Surr = Surrogate
U = Undetected
> = Greater than
< = Less than
% = Percent
* = Result exceeds project specific limits

ANALYTE TYPES: (AT)

A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

BLK = Method Blank
DUP = Method Duplicate
BS = Method Blank Spike
MS = Matrix Spike
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CRL = Client Required Reporting Limit
PDS = Post Digestion Spike
QCS = Quality Control Standard
ICSA = Interference Check Standard "A"
ICSAB = Interference Check Standard "AB"
BSD = Method Blank Spike Duplicate
MSD = Matrix Spike Duplicate
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
OPR = Ongoing Precision and Recovery Standard
SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

[d] Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
[i] Kansas Dept Health & Env. NELAP (#E-10397)
[o] Virginia Department of General Services Division of Consolidated Laboratory Services (#7990)

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COOLER INSPECTION

Date: Wednesday, April 4, 2018

Client Name: City of New Buffalo- New Buffalo, MI

Date/Time Received: 04/04/2018 12:15

Work Order Number: 18D0182

Received by: Nicole Rainwater

Checklist completed by: 4/4/2018 12:15:00PM | Nicole Rainwater

Reviewed by: 4/4/2018 | CAG

Carrier Name: Client Delivered

Cooler ID: Default Cooler

Container/Temp Blank Temperature: 22.1° C

After-Hour Arrival?	Yes	☐	No	☑			
Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present	☐	
Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	Not Present	☑	
Custody seals intact on sample containers?	Yes	☐	No	☐	Not Present	☑	
COC present?	Yes	☑	No	☐			
COC included sufficient client identification?	Yes	☑	No	☐			
COC included sufficient sample collector information?	Yes	☑	No	☐			
COC included a sample description?	Yes	☑	No	☐			
COC agrees with sample labels?	Yes	☑	No	☐			
COC identified the appropriate matrix?	Yes	☑	No	☐			
COC included date of collection?	Yes	☑	No	☐			
COC included time of collection?	Yes	☑	No	☐			
COC identified the appropriate number of containers?	Yes	☑	No	☐			
Samples in proper container/bottle?	Yes	☑	No	☐			
Sample containers intact?	Yes	☑	No	☐			
Sufficient sample volume for indicated test?	Yes	☑	No	☐			
All samples received within holding time?	Yes	☑	No	☐			
If the samples are preserved, are the preservatives identified?	Yes	☑	No	☐			

If No, adjusted by? _____

COC included the requested analyses?	Yes	☑	No	☐			
COC signed when relinquished and received?	Yes	☑	No	☐			
Samples received on ice?	Yes	☐	No	☑			
Samples properly preserved?	Yes	☑	No	☐			
Voa vials for aqueous samples have zero headspace?	Yes	☐	No	☐	No VOA vials submitted	☑	

Cooler Comments:

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

Sample ID	Client Sample ID	Comments
18D0182-01	Chromium 6 - April 4-18-1	RUSH
18D0182-02	Chromium 6 - April 4-18-2	RUSH

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Samples Submitted to:
[ ] 250 West 84th Drive, Merrillville, IN 46410, Tel: 219-769-8378, Fax: 219-769-1664
[ ] 5713 West 85th Street, Indianapolis, IN 46278, Tel: 317-872-1375, Fax: 317-872-1379

Chain of Custody Record

Number **144047**

RUSH!

Instructions on back

18D0182
City of New Buffalo- New Buffalo, MI
CR6 testing Water Filtration Plant
04/04/2018
Carey Gadzala

ne City of New Buffalo	Project Chromium 6 Testing
224 west Buffalo Street	Location Water Filtration Plant 300 Hart Drive
Zip New Buffalo, Mi. 49117	PO # 4-200
Kenneth A. Anderson	Compliance Monitoring? [ ] Yes [X] No
# (269) 469-0381	(1)Agency/Program

Turnaround Time
[ ] Routine (5 to 7 business days)
[X] RUSH* (notify lab)
ASAP (needed by)

Report Type
[X] Results Only
[ ] Level II
[ ] Level III
[ ] Level III CLP-like
[ ] Level IV
[ ] Level IV CLP-like
[ ] EDD

y (PRINT) Jeffrey Johnson
Sampler Signature
Sampler Phone # (269) 469-0381
rt via [ ] Mail [ ] Telephone [ ] Fax (fax #)
[X] e-mail (address) nbcwaterdept@comcast.net

* **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 Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analyses → Preservative Types ** ↓	Chromium 6	Chromium 6	*For Lab Use Only*
Chromium 6-April 4-18-1	SW	X			4-4-18	9:30AM Eastern	1		X		18D0182-01
Chromium 6-April 4-18-2	SW	X			4-4-18	11:30AM Eastern	1			X	18D0182-02

Possible Hazard Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive
Sample Disposition [ ] Dispose as appropriate [ ] Return [ ] Archive

Comments

To be completed by Microbac					
Temperature Upon Receipt (°C) 22.2, 0.1 = 22.1	Relinquished By (signature)	Date/Time 4-4-18 / 12:00pm Eastern	Received By (signature)	Date/Time 4-4-18 / 12:00pm (est)
Samples Received on Ice? Yes (No) N/A	Relinquished By (signature)	Date/Time 4-4-18 12:15pm (Central)	Received By (signature)	Date/Time
Custody Seals Intact? Yes No (N/A)	Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time 4-4-18

rev.6/18/15