



July 6, 2018

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

Work Order No.: 18G0110

Re: CR6 Water Filtration Plant 300 Marx Dr

Dear Ken Anderson:

Microbac Laboratories, Inc. - Chicagoland Division received 2 sample(s) on 7/3/2018 11:45:00AM for the analyses presented in the following report as Work Order 18G0110.

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.

A handwritten signature in black ink that reads "Carey Gadzala".

Carey Gadzala
Project Manager



WORK ORDER SAMPLE SUMMARY

Date: *Friday, July 6, 2018*

Client: City of New Buffalo- New Buffalo, MI
Project: CR6 Water Filtration Plant 300 Marx Dr
Lab Order: 18G0110

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18G0110-01	Chromium 6 - July 3-2018-1		07/03/2018 07:00	7/3/2018 11:45:00AM
18G0110-02	Chromium 6 - July 3-2018-2		07/03/2018 07:40	7/3/2018 11:45:00AM

Microbac Laboratories, Inc.

250 West 84th Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | www.microbac.com



Analytical Results

Date: Friday, July 6, 2018

Client: City of New Buffalo- New Buffalo, MI
Client Project: CR6 Water Filtration Plant 300 Marx Dr
Client Sample ID: Chromium 6 - July 3-2018-1
Sample Description:
Matrix: Aqueous

Work Order/ID: 18G0110-01
Sampled: 07/03/2018 7:00
Received: 07/03/2018 11:45

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: SW-846 7196A	Analyst: GRIEFF				
Hexavalent Chromium			Prep Method: SM 3500-Cr B-2009	Prep Date/Time: 07/03/2018 14:38				
Chromium, Hexavalent	dl	A	ND	0.010		mg/L	1	07/06/2018 10:14

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Analytical Results

Date: Friday, July 6, 2018

Client: City of New Buffalo- New Buffalo, MI
Client Project: CR6 Water Filtration Plant 300 Marx Dr
Client Sample ID: Chromium 6 - July 3-2018-2
Sample Description:
Matrix: Aqueous
Work Order/ID: 18G0110-02
Sampled: 07/03/2018 7:40
Received: 07/03/2018 11:45

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
		Method: SW-846 7196A				Analyst: GRIEFF		
Hexavalent Chromium		Prep Method: SM 3500-Cr B-2009		Prep Date/Time: 07/03/2018 14:38				
Chromium, Hexavalent	di	A	ND	0.010		mg/L	1	07/06/2018 10:16



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

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)

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COOLER INSPECTION

Client Name: City of New Buffalo- New Buffalo, MI
 Date/Time Received: Friday, July 6, 2018 07/03/2018 11:45
 Work Order Number: 18G0110
 Received by: Dave Bryant
 Checklist completed by: 7/3/2018 1:15:00PM | Dave Bryant
 Reviewed by: 7/4/2018 | CAG

Carrier Name: Client Delivered

Cooler ID: Default Cooler Container/Temp Blank Temperature: 21.0° C

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

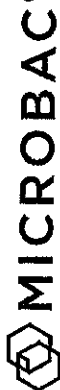
If No, adjusted by? _____

COC included the requested analyses?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC signed when relinquished and received?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Samples received on ice?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
Samples properly preserved?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Voa vials for aqueous samples have zero headspace?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>

Cooler Comments:

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

Sample ID	Client Sample ID	Comments
18G0110-01	Chromium 6 - July 3-2018-1	RUSH
18G0110-02	Chromium 6 - July 3-2018-2	RUSH



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 144049

Instructions on back

Client Name: City of New Buffalo
 Address: 224 W. Buffalo St.
 City, State, Zip: New Buffalo, MI 49117
 Contact: Kenneth A. Anderson
 Telephone #: 269-469-0381

Project: Chromium 6 Testing
 Location: Water Filtration Plant
 PO #: U-200

Compliance Monitoring? Yes No
 (Agency/Program)

Turnaround Time
 Routine (5 to 7 business days)
 RUSH* (notify lab)
ASAP (faced by)

Report Type
 Results Only
 Level III
 Level IV
 EDD

Sampled by (PRINT): Rob Gruener
 Sampler Signature: [Signature]
 Sampler Phone #: 269-469-0381
 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) Mercuric, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (10) 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 - July 3 rd - 18 - 1	SW	X			7-3-18	7:00 AM Eastern	1	None	X		1860110
Chromium 6 - July 3 rd - 18 - 2	SW	X			7-3-18	11:40 AM Eastern	1	None	X		01
											02

Sample Disposition: Dispose as appropriate Return Archive

zard Identification: Hazardous Non-Hazardous Radioactive

To be completed by Microbac

Temperature Upon Receipt (°C): 21.0
 Relinquished By (signature): [Signature] Date/Time: 7-3-18
 Relinquished By (signature): [Signature] Date/Time: 7-3-18
 Relinquished By (signature): [Signature] Date/Time: 7-3-18

Samples Received on Ice? Yes No N/A
 Custody Seals Intact? Yes No N/A

Received By (signature): [Signature] Date/Time: 7/3/18 1145

1860110 Carey Gadzala
 City of New Buffalo - New Buffalo, MI
 CR8 Water Filtration Plant 300 Marx Dr
 07/03/2018

