Bio-Chem LABORATORIES, INC.

1049 - 28th Street SE
Grand Rapids, MI 49508
Ph: 616/248-4900
Toll Free: 800/362-LABS
Fax: 616/248-4904

July 31, 2018

Jim VanHoven
Cascade Thornapple River Assoc.
11270 Cascade Rd, SE
Lowell, MI 49331

TEL: (616) 299-8117
FAX (616) 868-1130

RE: Water Analysis

Dear Jim VanHoven: Order No.: 1807123

BIO-CHEM Laboratories, Inc. received 2 samples on 7/25/2018 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Please note that unless otherwise instructed, residual samples will be held for sixty (60) days from the original report date. At that time, all non-hazardous samples will be disposed of in accordance with federal, state and local regulations and ordinances, and hazardous samples shall be returned to you. Please contact the laboratory within thirty (30) days if other arrangements for sample retention need to be made.

Sincerely,

Cindy Euwema

Cindy Euwema
Office Manager

Working with you to ensure a better tomorrow.

1807123

Bio Chem LABORATORIES, INC.

Chain of Custody

1049 28th Street SE • Grand Rapids, MI 49508
Ph: (616) 248-4900 • Toll Free: 800-362-LABS
Fax: (616) 248-4904

Firm Name: Cascade Thornapple River Assoc	Turn around time	Project Number	
Firm Address: 11270 Cascade Rd SE	Project Name	Date	Date Due
City, State, Zip: Lowell, MI 49331	State Samples Taken From		
Phone / Fax	Contact Person: Jim VanHoven		

Item No	Lab I.D.	Client Sample Number	Date Taken	Time Taken	Sample Description (sample type: water, soil, other)	Number of Containers	Phosphorus	E-Coli	MI 10 Metals + Mn, Mg + Ni	VOC's (Ext)	T. Inorganic Nitrogen	NH3 + NO2 + NO3			Remarks
1		Dam + Burger	7-25-18		water	7	X	X	X	X	X	X			
2		48th + RR	1		1	7	X	X	X	X	X	X			
3															
4															
5															
6															
7															
8															
9															
10															

Released by	Received by	Date	Time
	Cindy Ewema	7-25-18	11:05

Laboratory use only

☐ Blue Ice ____°

☐ Regular Ice

☐ No Coolant

FRANKLIN PRESS 62578.2/17

BIO-CHEM Laboratories, Inc.

Date: *31-Jul-18*

CLIENT: Cascade Thornapple River Assoc.
Project: Water Analysis
Lab Order: 1807123

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received
1807123-01A	Dam & Burger	Water	7/25/2018	7/25/2018
1807123-02A	48th & RR	Water	7/25/2018	7/25/2018

BIO-CHEM Laboratories, Inc.

Date: *31-Jul-18*

CLIENT: Cascade Thornapple River Assoc.
Project: Water Analysis
Lab Order: 1807123

CASE NARRATIVE

Samples are routinely analyzed using methods outlined in the following references:

(SW) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Ed.
(E) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020.
(A) Standard Methods for the Examination of Water and Wastewater, APHA, 18th Ed.
(D) Annual Book of ASTM Standards.

Specific methods utilized for this project are provided in the analytical report and are identified by the reference document abbreviation ( ) followed by the method number.

All QA/QC and sample analyses met method, laboratory and/or regulatory data quality objectives unless otherwise specified below.

No data qualifications required.

BIO-CHEM Laboratories, Inc.

Date: *7/31/2018*

ANALYTICAL REPORT

CLIENT: Cascade Thornapple River Assoc.
Lab Order: 1807123
Project: Water Analysis
Lab Sample ID: 1807123-01A

Project Number: N/A
Client Sample ID: Dam & Burger
Collection Date: 7/25/2018
Matrix: WATER

Analyses	Method Ref.	Result	Q	PQL	Units	DF	Analyst	Date
Anions by Ion Chromatography								
1. Nitrogen, Nitrate (As N)	E300.0	250		0.10	mg/L	1	RHS	7/26/2018
2. Nitrogen, Nitrite (As N)	E300.0	1.3		0.10	mg/L	1	RHS	7/26/2018
Total Mercury by CVAA								
1. Mercury	SW7470A	< 0.20		0.20	µg/L	1	RHS	7/26/2018
Total Metal(s) by ICP								
1. Arsenic	SW6010B	< 5.0		5.0	µg/L	1	RHS	7/27/2018
2. Barium	SW6010B	< 100		100	µg/L	1	RHS	7/27/2018
3. Cadmium	SW6010B	< 0.50		0.50	µg/L	1	RHS	7/27/2018
4. Chromium	SW6010B	< 10		10	µg/L	1	RHS	7/27/2018
5. Copper	SW6010B	< 4.0		4.0	µg/L	1	RHS	7/27/2018
6. Lead	SW6010B	< 3.0		3.0	µg/L	1	RHS	7/27/2018
7. Magnesium	SW6010B	25,000		1,000	µg/L	1	RHS	7/27/2018
8. Manganese	SW6010B	< 50		50	µg/L	1	RHS	7/27/2018
9. Nickel	SW6010B	< 20		20	µg/L	1	RHS	7/27/2018
10. Selenium	SW6010B	< 5.0		5.0	µg/L	1	RHS	7/27/2018
11. Silver	SW6010B	< 0.50		0.50	µg/L	1	RHS	7/27/2018
12. Zinc	SW6010B	< 20		20	µg/L	1	RHS	7/27/2018

Definitions: PQL - Practical Quantitation Limit
DF - Dilution Factor

Qualifiers (Q): J - Detected below PQL but above MDL: Estimated
S - Spike Recovery Outside Acceptance Limits
B - Analyte detected in associated Method Blank
N - See case narrative for explanation

Note: The sample results reported are based on the sample aliquot(s) tested.

BIO-CHEM Laboratories, Inc.

Date: *7/31/2018*

ANALYTICAL REPORT

CLIENT: Cascade Thornapple River Assoc.
Lab Order: 1807123
Project: Water Analysis
Lab Sample ID: 1807123-01A

Project Number: N/A
Client Sample ID: Dam & Burger
Collection Date: 7/25/2018
Matrix: WATER

Analyses	Method Ref.	Result	Q	PQL	Units	DF	Analyst	Date
Volatiles by GC/MS								
1. 1,1,1,2-Tetrachloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
2. 1,1,1-Trichloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
3. 1,1,2,2-Tetrachloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
4. 1,1,2-Trichloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
5. 1,1-Dichloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
6. 1,1-Dichloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
7. 1,1-Dichloropropene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
8. 1,2,3-Trichlorobenzene	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/26/2018
9. 1,2,3-Trichloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
10. 1,2,4-Trichlorobenzene	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/26/2018
11. 1,2,4-Trimethylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
12. 1,2-Dibromo-3-chloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
13. 1,2-Dibromoethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
14. 1,2-Dichlorobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
15. 1,2-Dichloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
16. 1,2-Dichloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
17. 1,3,5-Trimethylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
18. 1,3-Dichlorobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
19. 1,3-Dichloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
20. 1,4-Dichlorobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
21. 2,2-Dichloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
22. 2-Butanone	SW8260B	< 50		50	µg/L	1	ATD	7/26/2018
23. 2-Chlorotoluene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
24. 2-Hexanone	SW8260B	< 50		50	µg/L	1	ATD	7/26/2018
25. 4-Chlorotoluene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
26. 4-Isopropyltoluene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
27. 4-Methyl-2-pentanone	SW8260B	< 50		50	µg/L	1	ATD	7/26/2018
28. Acetone	SW8260B	< 100		100	µg/L	1	ATD	7/26/2018
29. Benzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
30. Bromobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
31. Bromochloromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
32. Bromodichloromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
33. Bromoform	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
34. Bromomethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
35. Carbon disulfide	SW8260B	< 50		50	µg/L	1	ATD	7/26/2018
36. Carbon tetrachloride	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
37. Chlorobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
38. Chloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
39. Chloroform	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
40. Chloromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018

Definitions: PQL - Practical Quantitation Limit
DF - Dilution Factor

Qualifiers (Q): J - Detected below PQL but above MDL: Estimated
S - Spike Recovery Outside Acceptance Limits
B - Analyte detected in associated Method Blank
N - See case narrative for explanation

Note: The sample results reported are based on the sample aliquot(s) tested.

CLIENT: Cascade Thornapple River Assoc.
Lab Order: 1807123
Project: Water Analysis
Lab Sample ID: 1807123-01A
Project Number: N/A
Client Sample ID: Dam & Burger
Collection Date: 7/25/2018
Matrix: WATER

Analyses	Method Ref.	Result	Q	PQL	Units	DF	Analyst	Date
41. cis-1,2-Dichloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
42. cis-1,3-Dichloropropene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
43. Dibromochloromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
44. Dibromomethane	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/26/2018
45. Dichlorodifluoromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
46. Diethyl ether	SW8260B	< 50		50	µg/L	1	ATD	7/26/2018
47. Ethylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
48. Hexachlorobutadiene	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/26/2018
49. Hexachloroethane	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/26/2018
50. Iodomethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
51. Isopropylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
52. m,p-Xylene	SW8260B	< 2.0		2.0	µg/L	1	ATD	7/26/2018
53. Methyl tert-butyl ether	SW8260B	< 4.0		4.0	µg/L	1	ATD	7/26/2018
54. Methylene chloride	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/26/2018
55. n-Butylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
56. n-Propylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
57. o-Xylene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
58. sec-Butylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
59. Styrene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
60. tert-Butylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
61. Tetrachloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
62. Toluene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
63. trans-1,2-Dichloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
64. trans-1,3-Dichloropropene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
65. trans-1,4-Dichloro-2-butene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
66. Trichloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
67. Trichlorofluoromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
68. Vinyl chloride	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/26/2018
Coliform by Membrane Filtration								
1. Escherichia Coli	H10029	< 1.0		1.0	CFU/100 mL	1	SCL	7/25/2018
Ammonia Nitrogen								
1. Nitrogen, Ammonia (As N)	E350.3	< 0.10		0.10	mg/L	1	RHS	7/30/2018
Phorphorus by UV/VIS Spec.								
1. Phosphorus, Total (As P)	E365.3	0.025		0.010	mg/L	1	RHS	7/30/2018
Total Inorganic Nitrogen								
1. Total Inorganic Nitrogen	NA	250		0.10	mg/L	1	RHS	7/30/2018

Definitions: PQL - Practical Quantitation Limit
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Qualifiers (Q): J - Detected below PQL but above MDL: Estimated
S - Spike Recovery Outside Acceptance Limits
B - Analyte detected in associated Method Blank
N - See case narrative for explanation

Note: The sample results reported are based on the sample aliquot(s) tested.

BIO-CHEM Laboratories, Inc.

Date: *7/31/2018*

ANALYTICAL REPORT

CLIENT: Cascade Thornapple River Assoc.
Lab Order: 1807123
Project: Water Analysis
Lab Sample ID: 1807123-02A

Project Number: N/A
Client Sample ID: 48th & RR
Collection Date: 7/25/2018
Matrix: WATER

Analyses	Method Ref.	Result	Q	PQL	Units	DF	Analyst	Date
Anions by Ion Chromatography								
1. Nitrogen, Nitrate (As N)	E300.0	260		0.10	mg/L	1	RHS	7/26/2018
2. Nitrogen, Nitrite (As N)	E300.0	1.2		0.10	mg/L	1	RHS	7/26/2018
Total Mercury by CVAA								
1. Mercury	SW7470A	< 0.20		0.20	µg/L	1	RHS	7/26/2018
Total Metal(s) by ICP								
1. Arsenic	SW6010B	< 5.0		5.0	µg/L	1	RHS	7/27/2018
2. Barium	SW6010B	< 100		100	µg/L	1	RHS	7/27/2018
3. Cadmium	SW6010B	< 0.50		0.50	µg/L	1	RHS	7/27/2018
4. Chromium	SW6010B	< 10		10	µg/L	1	RHS	7/27/2018
5. Copper	SW6010B	< 4.0		4.0	µg/L	1	RHS	7/27/2018
6. Lead	SW6010B	< 3.0		3.0	µg/L	1	RHS	7/27/2018
7. Magnesium	SW6010B	23,000		1,000	µg/L	1	RHS	7/27/2018
8. Manganese	SW6010B	< 50		50	µg/L	1	RHS	7/27/2018
9. Nickel	SW6010B	< 20		20	µg/L	1	RHS	7/27/2018
10. Selenium	SW6010B	< 5.0		5.0	µg/L	1	RHS	7/27/2018
11. Silver	SW6010B	< 0.50		0.50	µg/L	1	RHS	7/27/2018
12. Zinc	SW6010B	< 20		20	µg/L	1	RHS	7/27/2018

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Qualifiers (Q): J - Detected below PQL but above MDL: Estimated
S - Spike Recovery Outside Acceptance Limits
B - Analyte detected in associated Method Blank
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Note: The sample results reported are based on the sample aliquot(s) tested.

CLIENT: Cascade Thornapple River Assoc. **Project Number:** N/A
Lab Order: 1807123 **Client Sample ID:** 48th & RR
Project: Water Analysis **Collection Date:** 7/25/2018
Lab Sample ID: 1807123-02A **Matrix:** WATER

Analyses	Method Ref.	Result	Q	PQL	Units	DF	Analyst	Date
Volatiles by GC/MS								
1. 1,1,1,2-Tetrachloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
2. 1,1,1-Trichloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
3. 1,1,2,2-Tetrachloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
4. 1,1,2-Trichloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
5. 1,1-Dichloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
6. 1,1-Dichloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
7. 1,1-Dichloropropene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
8. 1,2,3-Trichlorobenzene	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/27/2018
9. 1,2,3-Trichloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
10. 1,2,4-Trichlorobenzene	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/27/2018
11. 1,2,4-Trimethylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
12. 1,2-Dibromo-3-chloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
13. 1,2-Dibromoethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
14. 1,2-Dichlorobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
15. 1,2-Dichloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
16. 1,2-Dichloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
17. 1,3,5-Trimethylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
18. 1,3-Dichlorobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
19. 1,3-Dichloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
20. 1,4-Dichlorobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
21. 2,2-Dichloropropane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
22. 2-Butanone	SW8260B	< 50		50	µg/L	1	ATD	7/27/2018
23. 2-Chlorotoluene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
24. 2-Hexanone	SW8260B	< 50		50	µg/L	1	ATD	7/27/2018
25. 4-Chlorotoluene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
26. 4-Isopropyltoluene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
27. 4-Methyl-2-pentanone	SW8260B	< 50		50	µg/L	1	ATD	7/27/2018
28. Acetone	SW8260B	< 100		100	µg/L	1	ATD	7/27/2018
29. Benzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
30. Bromobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
31. Bromochloromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
32. Bromodichloromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
33. Bromoform	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
34. Bromomethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
35. Carbon disulfide	SW8260B	< 50		50	µg/L	1	ATD	7/27/2018
36. Carbon tetrachloride	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
37. Chlorobenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
38. Chloroethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
39. Chloroform	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
40. Chloromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018

Definitions: PQL - Practical Quantitation Limit
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Qualifiers (Q): J - Detected below PQL but above MDL: Estimated
S - Spike Recovery Outside Acceptance Limits
B - Analyte detected in associated Method Blank
N - See case narrative for explanation

Note: The sample results reported are based on the sample aliquot(s) tested.

CLIENT: Cascade Thornapple River Assoc. **Project Number:** N/A
Lab Order: 1807123 **Client Sample ID:** 48th & RR
Project: Water Analysis **Collection Date:** 7/25/2018
Lab Sample ID: 1807123-02A **Matrix:** WATER

Analyses	Method Ref.	Result	Q	PQL	Units	DF	Analyst	Date
41. cis-1,2-Dichloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
42. cis-1,3-Dichloropropene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
43. Dibromochloromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
44. Dibromomethane	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/27/2018
45. Dichlorodifluoromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
46. Diethyl ether	SW8260B	< 50		50	µg/L	1	ATD	7/27/2018
47. Ethylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
48. Hexachlorobutadiene	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/27/2018
49. Hexachloroethane	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/27/2018
50. Iodomethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
51. Isopropylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
52. m,p-Xylene	SW8260B	< 2.0		2.0	µg/L	1	ATD	7/27/2018
53. Methyl tert-butyl ether	SW8260B	< 4.0		4.0	µg/L	1	ATD	7/27/2018
54. Methylene chloride	SW8260B	< 5.0		5.0	µg/L	1	ATD	7/27/2018
55. n-Butylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
56. n-Propylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
57. o-Xylene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
58. sec-Butylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
59. Styrene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
60. tert-Butylbenzene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
61. Tetrachloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
62. Toluene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
63. trans-1,2-Dichloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
64. trans-1,3-Dichloropropene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
65. trans-1,4-Dichloro-2-butene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
66. Trichloroethene	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
67. Trichlorofluoromethane	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
68. Vinyl chloride	SW8260B	< 1.0		1.0	µg/L	1	ATD	7/27/2018
Coliform by Membrane Filtration								
1. Escherichia Coli	H10029	< 1.0		1.0	CFU/100 mL	1	SCL	7/25/2018
Ammonia Nitrogen								
1. Nitrogen, Ammonia (As N)	E350.3	< 0.10		0.10	mg/L	1	RHS	7/30/2018
Phorphorus by UV/VIS Spec.								
1. Phosphorus, Total (As P)	E365.3	0.034		0.010	mg/L	1	RHS	7/30/2018
Total Inorganic Nitrogen								
1. Total Inorganic Nitrogen	NA	260		0.10	mg/L	1	RHS	7/30/2018

Definitions: PQL - Practical Quantitation Limit
DF - Dilution Factor

Qualifiers (Q): J - Detected below PQL but above MDL: Estimated
S - Spike Recovery Outside Acceptance Limits
B - Analyte detected in associated Method Blank
N - See case narrative for explanation

Note: The sample results reported are based on the sample aliquot(s) tested.

BIO-CHEM Laboratories, Inc.

7/31/2018

Lab Order: 1807123
Client: Cascade Thornapple River Assoc.
Project: Water Analysis

ANALYTICAL DETAIL REPORT

Sample ID	Client Sample ID	Matrix	Test Name	Date Sampled	TCLP/SPLP Date	Prep Date	QC Batch	Analysis Date	Analytical Batch
1807123-01A	Dam & Burger	Water	Ammonia Nitrogen	7/25/2018			R90718	7/30/2018	POTENTIAL_180730D
	Dam & Burger	Water	Anions by Ion Chromatography	7/25/2018			R90680	7/26/2018	IC_A_180726A
	Dam & Burger	Water	Coliform by Membrane Filtration	7/25/2018			R90679	7/25/2018	SCW_180725A
	Dam & Burger	Water	Phorphorus by UV/VIS Spec.	7/25/2018			R90713	7/30/2018	SPEC_A_180730A
	Dam & Burger	Water	Total Inorganic Nitrogen	7/25/2018			R90680	7/30/2018	IC_A_180726A
	Dam & Burger	Water	Total Mercury by CVAA	7/25/2018		7/26/2018	42405	7/26/2018	MTL_D_HY_180726A
	Dam & Burger	Water	Total Metal(s) by ICP	7/25/2018		7/27/2018	42407	7/27/2018	MTL_G_ICP_180727A
	Dam & Burger	Water	Volatiles by GC/MS	7/25/2018			R90687	7/26/2018	GCMS_Q_180726A
1807123-02A	48th & RR	Water	Ammonia Nitrogen	7/25/2018			R90718	7/30/2018	POTENTIAL_180730D
	48th & RR	Water	Anions by Ion Chromatography	7/25/2018			R90680	7/26/2018	IC_A_180726A
	48th & RR	Water	Coliform by Membrane Filtration	7/25/2018			R90679	7/25/2018	SCW_180725A
	48th & RR	Water	Phorphorus by UV/VIS Spec.	7/25/2018			R90713	7/30/2018	SPEC_A_180730A
	48th & RR	Water	Total Inorganic Nitrogen	7/25/2018			R90680	7/30/2018	IC_A_180726A
	48th & RR	Water	Total Mercury by CVAA	7/25/2018		7/26/2018	42405	7/26/2018	MTL_D_HY_180726A
	48th & RR	Water	Total Metal(s) by ICP	7/25/2018		7/27/2018	42407	7/27/2018	MTL_G_ICP_180727A
	48th & RR	Water	Volatiles by GC/MS	7/25/2018			R90687	7/27/2018	GCMS_Q_180726A