

ANALYTICAL DATA REPORT

Client Company: MURWSC
Client Contact: Wes Olstad
Client Project #:

Date Received: Feb 03 2011
Date Reported: Feb 16 2011

Lab File #: 128674

Sample ID: 128674-1, Plant
Date Sampled: Feb 03 2011

Package Name: Trihalomethanes

Parameter Name	Units	Results	Guideline Limits*	Comments
Chloroform	mg/L	0.009		
Bromodichloromethane	mg/L	<0.002	0.016 (MAC)	Pass
Dibromochloromethane	mg/L	<0.002		
Bromoform	mg/L	<0.002		
Total Trihalomethanes	mg/L	0.009	0.1 (MAC)	Pass

*CDWQG = Canadian Drinking Water Quality Guidelines, Health Canada 2008

MAC = Maximum Acceptable Concentration (affects health), AO = Aesthetic Objective (does not affect health but affects color, taste, etc.)

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Client Company: MURWSC
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Date Received: Feb 03 2011
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Lab File #: 128674

Sample ID: 128674-2, MPR - Influent
Date Sampled: Feb 03 2011

Package Name: Trihalomethanes

<u>Parameter Name</u>	<u>Units</u>	<u>Results</u>	<u>Guideline Limits*</u>	<u>Comments</u>
Chloroform	mg/L	0.012		
Bromodichloromethane	mg/L	0.002	0.016 (MAC)	Pass
Dibromochloromethane	mg/L	<0.002		
Bromoform	mg/L	<0.002		
Total Trihalomethanes	mg/L	0.014	0.1(MAC)	Pass

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Date Received: Feb 03 2011
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Lab File #: 128674

Sample ID: 128674-3, MPR - Effluent
Date Sampled: Feb 03 2011

Package Name: Trihalomethanes

Parameter Name	Units	Results	Guideline Limits*	Comments
Chloroform	mg/L	0.017		
Bromodichloromethane	mg/L	<0.002	0.016 (MAC)	Pass
Dibromochloromethane	mg/L	<0.002		
Bromoform	mg/L	<0.002		
Total Trihalomethanes	mg/L	0.017	0.1 (MAC)	Pass

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Client Company: MURWSC
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Date Received: Feb 03 2011
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Lab File #: 128674

Sample ID: 128674-4, Crossfield
Date Sampled: Feb 03 2011

Package Name: Routine Water Potability

Parameter Name	Units	Results	Guideline Limits*	Comments
pH @ 25 °C		7.4	6.5-8.5 (AO)	Acceptable
EC @ 25 °C	mS/cm	0.45		
Dissolved Calcium	mg/L	54.2		
Dissolved Potassium	mg/L	1.43		
Dissolved Magnesium	mg/L	18.3		
Dissolved Sodium	mg/L	7.59	≤200 (AO)	Acceptable
Dissolved Iron	mg/L	<0.002	≤0.3 (AO)	Acceptable
Dissolved Manganese	mg/L	<0.0002	≤0.05 (AO)	Acceptable
Chloride	mg/L	4.53	≤250 (AO)	Acceptable
Fluoride	mg/L	0.14	1.5 (MAC)	Pass
Nitrite-N	mg/L	<0.003	1 (MAC)	Pass
Nitrate-N	mg/L	0.085	10 (MAC)	Pass
Nitrate and Nitrite - N	mg/L	0.085	10 (MAC)	Pass
Phosphate	mg/L	<0.01		
Sulphate	mg/L	45.4	≤500 (AO)	Acceptable
Carbonate	mg/L	<0.01		
Bicarbonate	mg/L	218		
Total Alkalinity as CaCO ₃	mg/L	181		
Hardness as CaCO ₃	mg/L	210		
Total Dissolved Solids	mg/L	240	≤500 (AO)	Acceptable
Turbidity	NTU	0.2	0.3/1.0/0.1 ^a	See note ^a
Color True	TCU	<3	≤15 (AO)	Acceptable
Ionic Balance	%	102		

Package Name: Non-Routine Inorganic Analysis (Primary)

Parameter Name	Units	Results	Guideline Limits*	Comments
Bromate	mg/L	<0.01	<0.01 (MAC)	Pass
Cyanide	mg/L	<0.1	<0.2 (MAC)	Pass

Package Name: Non-Routine Inorganic and Organic Analysis (Secondary)

Parameter Name	Units	Results	Guideline Limits*	Comments
Ammonia-N	mg/L	<0.01		
Sulphide (as H ₂ S)	mg/L	<0.005	≤0.05 (AO)	Acceptable
Total Organic Carbon	mg/L	1.53		
Total Xylenes	mg/L	<0.004	≤0.3 (AO)	Acceptable

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MAC = Maximum Acceptable Concentration (affects health), AO = Aesthetic Objective (does not affect health but affects color, taste, etc.)

^aBased on conventional treatment/slow sand or diatomaceous earth filtration/membrane filtration. No limits apply for well water not under the influence of surface water. For further details and additional guidance restriction, see Guidelines for Canadian Drinking Water Quality (GCDWQ 2008).

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Lab File #: 128674

Sample ID: 128674-4, Crossfield
Date Sampled: Feb 03 2011

Package Name: Dissolved Metals

Parameter Name	Units	Results	Guideline Limits*	Comments
Dissolved Aluminum	mg/L	<0.05	≤0.1/0.2 (OG) ^b	Acceptable
Dissolved Antimony	mg/L	<0.0002	0.006 (MAC)	Pass
Dissolved Arsenic	mg/L	0.0005	0.01 (MAC)	Pass
Dissolved Barium	mg/L	0.1278	1 (MAC)	Pass
Dissolved Boron	mg/L	<0.02	5 (MAC)	Pass
Dissolved Cadmium	mg/L	<0.0001	0.005 (MAC)	Pass
Dissolved Chromium	mg/L	0.009	0.05 (MAC)	Pass
Dissolved Copper	mg/L	<0.0005	≤1.0 (AO)	Acceptable
Dissolved Lead	mg/L	<0.0002	0.01 (MAC)	Pass
Dissolved Mercury	mg/L	<0.0001	0.001 (MAC)	Pass
Dissolved Selenium	mg/L	0.0011	0.01 (MAC)	Pass
Dissolved Silver	mg/L	<0.0002		
Dissolved Uranium	mg/L	<0.0002	0.02 (MAC)	Pass
Dissolved Zinc	mg/L	0.006	≤5.0 (AO)	Acceptable

Package Name: Organic Chemicals & Pesticides (Primary)

Parameter Name	Units	Results	Guideline Limits*	Comments
Atrazine + Metabolites	mg/L	<0.002	0.005 (MAC)	Pass
Benzene	mg/L	<0.002	0.005 (MAC)	Pass
Benzo(a)pyrene	mg/L	<0.000005	0.00001 (MAC)	Pass
Bromoxynil	mg/L	<0.002	0.005 (MAC)	Pass
Carbon Tetrachloride	mg/L	<0.002	0.005 (MAC)	Pass
Chlorobenzene	mg/L	<0.002	0.08 (MAC)	Pass
Chlorpyrifos	mg/L	<0.002	0.09 (MAC)	Pass
Cyanazine	mg/L	<0.002	0.01 (MAC)	Pass
Diazinon	mg/L	<0.002	0.02 (MAC)	Pass
Dicamba	mg/L	<0.002	0.12 (MAC)	Pass
1,2-Dichlorobenzene	mg/L	<0.002	0.2 (MAC)	Pass
1,4-Dichlorobenzene	mg/L	<0.002	0.005 (MAC)	Pass
1,2-Dichlorethane	mg/L	<0.002	0.005 (MAC)	Pass
Dichloromethane	mg/L	<0.005	0.05 (MAC)	Pass
2,4-Dichlorophenol	mg/L	<0.002	0.9 (MAC)	Pass
2,4-D	mg/L	<0.002	0.1 (MAC)	Pass
Diclofop-methyl	mg/L	<0.002	0.009 (MAC)	Pass
Diuron	mg/L	<0.003	0.15 (MAC)	Pass
Dimethoate	mg/L	<0.002	0.02 (MAC)	Pass
Ethylbenzene	mg/L	<0.002	≤0.0024 (AO)	Acceptable

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MAC = Maximum Acceptable Concentration (affects health), AO = Aesthetic Objective (does not affect health but affects color, taste, etc.)

^bThis Operational Guideline applies only to drinking water treatment plants using aluminum-based coagulants: conventional systems - 0.1 mg/L, other systems - 0.2 mg/L

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Sample ID: 128674-4, Crossfield
Date Sampled: Feb 03 2011

Package Name: Organic Chemicals & Pesticides (Primary) - continues

Parameter Name	Units	Results	Guideline Limits*	Comments
Glyphosate	mg/L	<0.02	0.28 (MAC)	Pass
Malathion	mg/L	<0.002	0.19 (MAC)	Pass
Methoxychlor	mg/L	<0.002	0.9 (MAC)	Pass
Metolachlor	mg/L	<0.002	0.05 (MAC)	Pass
Metribuzin	mg/L	<0.002	0.08 (MAC)	Pass
Microcystin	mg/L	<0.0004	0.0015 (MAC)	Pass
Nitritotriacetic Acid (NTA)	mg/L	<0.4	0.4 (MAC)	Pass
Pentachlorophenol	mg/L	<0.002	0.06 (MAC)	Pass
Picloram	mg/L	<0.002	0.19 (MAC)	Pass
Simazine	mg/L	<0.002	0.01 (MAC)	Pass
Terbufos	mg/L	<0.0005	0.001 (MAC)	Pass
Tetrachloroethylene	mg/L	<0.002	0.03 (MAC)	Pass
2,3,4,6-Tetrachlorophenol	mg/L	<0.002	0.1 (MAC)	Pass
Toluene	mg/L	<0.002	≤0.024 (AO)	Acceptable
Triallate	mg/L	<0.002		
Trichloroethylene	mg/L	<0.002	0.005 (MAC)	Pass
2,4,6-Trichlorophenol	mg/L	<0.002	0.005 (MAC)	Pass
Trifluralin	mg/L	<0.002	0.045 (MAC)	Pass
Vinyl Chloride	mg/L	<0.002	0.002 (MAC)	Pass

Package Name: Miscellaneous

Parameter Name	Units	Results	Guideline Limits*	Comments
Total Residual Chlorine ^c	mg/L	0.46		

Package Name: Trihalomethanes

Parameter Name	Units	Results	Guideline Limits*	Comments
Chloroform	mg/L	0.025		
Bromodichloromethane	mg/L	<0.002	0.016 (MAC)	Pass
Dibromochloromethane	mg/L	<0.002		
Bromoform	mg/L	<0.002		
Total Trihalomethanes	mg/L	0.025	0.1 (MAC)	Pass

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MAC = Maximum Acceptable Concentration (affects health), AO = Aesthetic Objective (does not affect health but affects color, taste, etc.)

^cTotal residual chlorine analysis is performed in lieu of chloramines analysis.

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Comments:

Test Methodologies*:

Alkalinity (water): Based on APHA 2320B
Ammonia: Based on EPA 300.1 & APHA 4110B
Benzo(a)pyrene: Based on EPA 8270C by GC-MS
Bromate: Based on EPA 300.1
Carbonate (water): Based on APHA 2320B
Chlorophenols: Based on EPA 8270C by GC-MS
Cyanide: Based on EPA 335.3
Dissolved Mercury: Based on EPA 7471 A
Dissolved Metals: Based on APHA 3120B
EC (water): Based on APHA 2510B & Hach Manual
Hardness (water): Based on APHA 1030F
Major Ions: Based on EPA 300.1 & APHA 4110B
Microcystin: Enviroligix Qualitube™ kit for Microcystin
Pesticides & Herbicides: Based on EPA 8270 by GC-MS
pH (water): Based on APHA 4500-H+B
Sulphide: Based on APHA 4500-SE-Auto-Colorimetry
Volatile Organic Compounds: Based on SW-846 8260
Total Organic Carbon: Based on APHA 5310
Total Chlorine: Based on APHA Method 4500-Cl
True Color (water): Based on APHA 2120C
Turbidity (water): Based on APHA 2130B

QA/QC Reviewed By: _____

Lab Manager: _____

A. Salcedo

*Detailed test methodologies available upon request