MUNICIPAL DRINKING WATER SUPPLIES

ANNUAL REPORT

NOTE: ANNUAL REPORT MUST BE SUBMITTED ON OR BEFORE APRIL 1.

YEAR: 2023

TOWN OF PICTOU

TOWN OF PICTOU WATER UTILITY

APPROVAL TO OPERATE: 2012-080096-09

WATER WITHDRAWAL APPROVAL NO. 2002-026956-07

I certify that information provided in this report is a complete and accurate representation of Water System operation.

Offences under the Environment Act:

158 A person who

(a) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information;
(b) provides false or misleading information pursuant to a requirement under this Act to provide information;
(c) does not provide information as required pursuant to this Act;
(d) hinders or obstructs an inspector or administrator who is exercising powers or carrying out duties, or attempting to do so, pursuant to this Act;
(e) knowingly contravenes a term or condition of an approval, an environmental assessment approval, a temporary approval, a certificate of variance or a certificate of qualification;

Name of the person in overall direct responsible charge

[Print Name]: Dan Campbell

Signature.....

Manager responsible for water system [Print Name]: Iain MacIsaac

Signature.....

This report was prepared in accordance with the Town's Approval to Operate Section 14 d. Heading of this report align with the reporting requirements listed in subsection i to xvii.

Section i - Summary of Water Production

Month	Raw water flow (m^3) Source: Well No. 8 Well No, Lake or River Name		Raw water flow (m^3) Source: Well No. 11 Well No, Lake or River Name	
	Average Daily Volume (m^3/d)	**Max Daily Volume (m^3/d)**	**Average Daily Volume (m^3/d)**	**Max Daily Volume (m^3/d)**
January	64.2	70.3	30.4	57.7
February	59.2	67.2	0.1	0.6
March	14.3	64.0	3.6	61.2
April	7.6	21.4	0.1	0.2
May	66.5	79.2	59.9	72.3
Jun	74.2	90.2	69.0	77.6
July	78.2	79.4	71.2	72.2
August	51.9	78.9	56.5	71.9
September	62.5	79.9	66.5	72.1
October	50.1	75.6	19.1	64.5
November	37.2	72.4	10.6	70.8
December	0.1	0.1	6.5	47.9
Total for the year.....	17,191.8		12,048.2	
Water withdraw Approval No. 2002-026956-07	Withdraw limit: (all sources)		Withdraw limit: (all sources)	
Maximum Year Month Day (average/max)	28,908 m^3 2,376 m^3 79.2/93.6 m^3		26,280 m^3 2,160 m^3 72/79.2 m^3	

Month	Raw water flow (m^3) Source: Well No. 12 Well No, Lake or River Name		Raw water flow (m^3) Source: Well No. 14 Well No, Lake or River Name	
	Average Daily Volume (m^3/d)	**Max Daily Volume (m^3/d)**	**Average Daily Volume (m^3/d)**	**Max Daily Volume (m^3/d)**
January	93.9	129.6	233.7	**288.2**
February	46.9	129.5	**261.2**	**288.1**
March	28.0	88.6	257.0	259.3
April	15.1	39.2	255.4	258.9
May	93.8	129.6	258.0	259.3
Jun	53.7	130.7	257.7	259.4
July	59.8	104.2	256.9	259.5
August	10.6	76.9	239.5	259.2
September	60.5	135.2	246.1	259.3
October	51.1	117.5	243.5	259.2
November	18.6	121.5	237.8	244.9
December	0.1	0.5	244.8	244.9
Total for the year.....	16,209.8		90,962.4	
Water withdraw Approval No. 2002-026956-07	Withdraw limit: (all sources)		Withdraw limit: (all sources)	
Maximum Year Month Day (average/max)	52,560 m^3 4,320 m^3 144/172.8 m^3		94,608 m^3 7,776 m^3 259.2/288 m^3	

Month	Raw water flow (m^3) Source: #15 Well No, Lake or River Name		Raw water flow (m^3) Source: #17 Well No, Lake or River Name	
	Average Daily Volume (m^3/d)	**Max Daily Volume (m^3/d)**	**Average Daily Volume (m^3/d)**	**Max Daily Volume (m^3/d)**
January	187.1	288.2	121.2	124.1
February	241.0	288.1	121.1	125.3
March	259.2	259.3	115.8	120.0
April	258.2	258.9	108.8	112.9
May	245.6	259.3	107.0	108.6
Jun	245.2	259.4	104.9	108.6
July	226.7	259.5	97.7	109.6
August	227.1	259.2	60.9	120.9
September	236.5	259.3	87.7	122.4
October	238.3	259.2	96.8	167.0
November	233.2	244.9	159.6	169.4
December	227.8	244.9	15.6	114.9
Total for the year.....	85,904.6		36,282.2	
Water withdraw Approval No. 2002-026956-07	Withdraw limit: (all sources)		Withdraw limit: (all sources)	
Maximum Year Month Day (average/max)	115,632 m^3 9,5046 m^3 316.8/396 m^3		69,379 m^3 5,702.4 m^3 190.08/217.440 m^3	

Month	Raw water flow (m^3) Source: D. Rd. Well Well No, Lake or River Name		Raw water flow (m^3) Source: B. Rd. Well Well No, Lake or River Name	
	Average Daily Volume (m^3/d)	**Max Daily Volume (m^3/d)**	**Average Daily Volume (m^3/d)**	**Max Daily Volume (m^3/d)**
January	259.4	260.4	193.0	216.0
February	242.7	262.6	143.5	216.0
March	245.4	256.4	136.0	181.2
April	239.6	253.7	124.5	139.8
May	251.7	259.2	180.4	216.1
Jun	248.9	259.2	161.0	216.1
July	259.2	259.2	171.8	216.1
August	256.8	259.2	66.0	180.4
September	253.1	259.2	0.1	0.1
October	244.0	259.2	0.1	0.2
November	213.9	244.8	0.1	0.1
December	244.6	244.8	0.1	0.1
Total for the year.....	90,057.3		35,759.9	
Water withdraw Approval No. 2002-026956-07	Withdraw limit: (all sources)		Withdraw limit: (all sources)	
Maximum Year Month Day (average/max)	105,120 m^3 8,640 m^3 288/302.4 m^3		78,840 m^3 6,480 m^3 216/288 m^3	

Month	Raw water flow (m^3) Source: Well 18 Well No, Lake or River Name	
	Average Daily Volume (m^3/d)	**Max Daily Volume (m^3/d)**
January	0.1	0.1
February	0.1	0.1
March	0.1	0.1
April	0.1	0.1
May	0.1	0.1
Jun	0.1	0.1
July	0.1	0.1
August	124.8	333.9
September	50.7	332.4
October	206.8	334.3
November	193.3	296.0
December	256.2	344.3
Total for the year.....	25,556 m^3	
Water withdraw Approval No. 2002-026956-07	Withdraw limit: (all sources)	
Maximum Year Month Day (average/max)	194,472 m^3 15,984 m^3 532.8/532.8 m^3	

Section ii - Analytical Results

Annual Sampling - RCAP

Well #8 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100		19	08/16/2023	
Antimony	6	-		<5	08/16/2023	
Arsenic	10	-		<2	08/16/2023	
Barium	1000	-		141	08/16/2023	
Boron	5000	-		16	08/16/2023	
Cadmium	5	-		<0.100	08/16/2023	
Calculated TDS		500		107	08/16/2023	
Chloride		250		17	08/16/2023	
Chromium	50			<1	08/16/2023	
Copper	2000	1000		<4	08/16/2023	
Fluoride	1.5	-		<0.12	08/16/2023	
Iron		300		<57	08/16/2023	
Lead	5	-		<0.9	08/16/2023	
Manganese	120	20		5	08/16/2023	
Nitrate as N	10	-		0.27	08/16/2023	
Nitrite as N	1			<0.05	08/16/2023	
pH		7-10.5		7.17	08/16/2023	
Selenium	50	-		<1	08/16/2023	
Sodium		200		13.2	08/16/2023	
Strontium	7000			166	08/16/2023	
Sulphate		500		7	08/16/2023	
True Color		15		<5.00	08/16/2023	
Turbidity	0.1-1	-		**1.76**	08/16/2023	
Uranium	20	-		0.4	08/16/2023	
Zinc		5000		<5	08/16/2023	
% Difference/ Ion Balance (NS)				6.3	08/16/2023	

Well #8 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Alkalinity				64	08/16/2023	
Ammonia as N				<0.03	08/16/2023	
Anion Sum				1.92	08/16/2023	
Beryllium				<2	08/16/2023	
Bicarb. Alkalinity (as CaCO3)				64	08/16/2023	
Bismuth				<2	08/16/2023	
Calcium				22.3	08/16/2023	
Carb. Alkalinity (as CaCO3)				<10	08/16/2023	
Cation sum				2.19	08/16/2023	
Cobalt				<1	08/16/2023	
Electrical Conductivity				204	08/16/2023	
Hardness				77.9	08/16/2023	
Hydroxide				<5	08/16/2023	
Langelier Index (@ 4C)				-1.59	08/16/2023	
Langelier Index (@20C)				-1.27	08/16/2023	
Magnesium				5.4	08/16/2023	
Molybdenum				<2	08/16/2023	
Nickel				<3	08/16/2023	
Nitrate + Nitrite as N				0.27	08/16/2023	
Organic Carbon				0.7	08/16/2023	
Ortho-Phosphate as P				0.03	08/16/2023	
Phosphorous				2.8	08/16/2023	
Potassium				2	08/16/2023	
Reactive Silica as SiO2				7.9	08/16/2023	
Saturation pH (@ 20C)				8.44	08/16/2023	
Saturation pH (@ 4C)				8.76	08/16/2023	
Silver				<0.4	08/16/2023	

Well #8 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Thallium				<0.2	08/16/2023	
Tin				<2	08/16/2023	
Titanium				<5	08/16/2023	
Vanadium				<2	08/16/2023	

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

This site is pre-treatment. All results post treatment meet Health Canada guidelines.

Action taken:

Certified Lab: AGAT Laboratories

Beeches Road Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100		<8	08/16/2023	
Antimony	6	-		<5	08/16/2023	
Arsenic	10	-		4	08/16/2023	
Barium	1000	-		135	08/16/2023	
Boron	5000	-		258	08/16/2023	
Cadmium	5	-		<0.100	08/16/2023	
Calculated TDS		500		**1650**	08/16/2023	
Chloride		250		**846**	08/16/2023	
Chromium	50			<1	08/16/2023	
Copper	2000	1000		<4	08/16/2023	
Fluoride	1.5	-		<0.12	08/16/2023	
Iron		300		<57	08/16/2023	
Lead	5	-		<0.9	08/16/2023	
Manganese	120	20		**2140**	08/16/2023	
Nitrate as N	10	-		<0.05	08/16/2023	
Nitrite as N	1			0.08	08/16/2023	
pH		7-10.5		7.14	08/16/2023	
Selenium	50	-		<1	08/16/2023	
Sodium		200		**424**	08/16/2023	
Strontium	7000			588	08/16/2023	
Sulphate		500		113	08/16/2023	
True Color		15		<5.00	08/16/2023	
Turbidity	0.1-1	-		**77.7**	08/16/2023	
Uranium	20	-		1.6	08/16/2023	
Zinc		5000		<5	08/16/2023	
% Difference/ Ion Balance (NS)				2.5	08/16/2023	
Alkalinity				131	08/16/2023	
Ammonia as N				0.1	08/16/2023	

Beeches Road Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Anion Sum				28.8	08/16/2023	
Beryllium				<2	08/16/2023	
Bicarb. Alkalinity (as CaCO3)				131	08/16/2023	
Bismuth				<2	08/16/2023	
Calcium				104	08/16/2023	
Carb. Alkalinity (as CaCO3)				<10	08/16/2023	
Cation sum				30.3	08/16/2023	
Cobalt				7	08/16/2023	
Electrical Conductivity				3280	08/16/2023	
Hardness				580	08/16/2023	
Hydroxide				<5	08/16/2023	
Langelier Index (@ 4C)				-0.75	08/16/2023	
Langelier Index (@20C)				-0.43	08/16/2023	
Magnesium				77.8	08/16/2023	
Molybdenum				<2	08/16/2023	
Nickel				<3	08/16/2023	
Nitrate + Nitrite as N				0.08	08/16/2023	
Organic Carbon				22.4	08/16/2023	
Ortho-Phosphate as P				<0.01	08/16/2023	
Phosphorous				2.7	08/16/2023	
Potassium				8.5	08/16/2023	
Reactive Silica as SiO2				10.4	08/16/2023	
Saturation pH (@ 20C)				7.57	08/16/2023	
Saturation pH (@ 4C)				7.89	08/16/2023	
Silver				<0.4	08/16/2023	
Thallium				<0.2	08/16/2023	
Tin				<2	08/16/2023	
Titanium				<5	08/16/2023	

Beeches Road Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Vanadium				<2	08/16/2023	

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

This site is pre-treatment. All results post treatment meet Health Canada guidelines.

Action taken:

Certified Lab: AGAT Laboratories

Division Road Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100		32	08/16/2023	
Antimony	6	-		<5	08/16/2023	
Arsenic	10	-		3	08/16/2023	
Barium	1000	-		88	08/16/2023	
Boron	5000	-		93	08/16/2023	
Cadmium	5	-		<0.100	08/16/2023	
Calculated TDS		500		213	08/16/2023	
Chloride		250		37	08/16/2023	
Chromium	50			<1	08/16/2023	
Copper	2000	1000		<4	08/16/2023	
Fluoride	1.5	-		<0.12	08/16/2023	
Iron		300		76	08/16/2023	
Lead	5	-		<0.9	08/16/2023	
Manganese	120	20		**176**	08/16/2023	
Nitrate as N	10	-		<0.05	08/16/2023	
Nitrite as N	1			<0.05	08/16/2023	
pH		7-10.5		7.36	08/16/2023	
Selenium	50	-		<1	08/16/2023	
Sodium		200		35.4	08/16/2023	
Strontium	7000			425	08/16/2023	
Sulphate		500		20	08/16/2023	
True Color		15		<5.00	08/16/2023	
Turbidity	0.1-1	-		<0.50	08/16/2023	
Uranium	20	-		<0.3	08/16/2023	
Zinc		5000		<5	08/16/2023	
% Difference/ Ion Balance (NS)				3.3	08/16/2023	
Alkalinity				120	08/16/2023	

Division Road Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Ammonia as N				<0.03	08/16/2023	
Anion Sum				3.86	08/16/2023	
Beryllium				<2	08/16/2023	
Bicarb. Alkalinity (as CaCO3)				120	08/16/2023	
Bismuth				<2	08/16/2023	
Calcium				38.2	08/16/2023	
Carb. Alkalinity (as CaCO3)				<10	08/16/2023	
Cation sum				4.12	08/16/2023	
Cobalt				<1	08/16/2023	
Electrical Conductivity				411	08/16/2023	
Hardness				125	08/16/2023	
Hydroxide				<5	08/16/2023	
Langelier Index (@ 4C)				-0.92	08/16/2023	
Langelier Index (@20C)				-0.6	08/16/2023	
Magnesium				7.3	08/16/2023	
Molybdenum				<2	08/16/2023	
Nickel				<3	08/16/2023	
Nitrate + Nitrite as N				<0.05	08/16/2023	
Organic Carbon				<0.5	08/16/2023	
Ortho-Phosphate as P				<0.01	08/16/2023	
Phosphorous				3.8	08/16/2023	
Potassium				2.4	08/16/2023	
Reactive Silica as SiO2				14.8	08/16/2023	
Saturation pH (@ 20C)				7.96	08/16/2023	
Saturation pH (@ 4C)				8.28	08/16/2023	
Silver				<0.4	08/16/2023	
Thallium				<0.2	08/16/2023	

Division Road Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Tin				<2	08/16/2023	
Titanium				<5	08/16/2023	
Vanadium				<2	08/16/2023	

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

This site is pre-treatment. All results post treatment meet Health Canada guidelines.

Action taken:

Certified Lab: AGAT Laboratories

#11 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100		<8	08/16/2023	
Antimony	6	-		<5	08/16/2023	
Arsenic	10	-		<2	08/16/2023	
Barium	1000	-		96	08/16/2023	
Boron	5000	-		9	08/16/2023	
Cadmium	5	-		0.146	08/16/2023	
Calculated TDS		500		344	08/16/2023	
Chloride		250		80	08/16/2023	
Chromium	50			<1	08/16/2023	
Copper	2000	1000		<4	08/16/2023	
Fluoride	1.5	-		<0.12	08/16/2023	
Iron		300		<57	08/16/2023	
Lead	5	-		<0.9	08/16/2023	
Manganese	120	20		**1180**	08/16/2023	
Nitrate as N	10	-		<0.05	08/16/2023	
Nitrite as N	1			<0.05	08/16/2023	
pH		7-10.5		7.57	08/16/2023	
Selenium	50	-		<1	08/16/2023	
Sodium		200		39.9	08/16/2023	
Strontium	7000			233	08/16/2023	
Sulphate		500		39	08/16/2023	
True Color		15		<5.00	08/16/2023	
Turbidity	0.1-1	-		**1.63**	08/16/2023	
Uranium	20	-		<0.3	08/16/2023	
Zinc		5000		<5	08/16/2023	
% Difference/ Ion Balance (NS)				2.6	08/16/2023	
Alkalinity				156	08/16/2023	

#11 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Ammonia as N				<0.03	08/16/2023	
Anion Sum				6.19	08/16/2023	
Beryllium				<2	08/16/2023	
Bicarb. Alkalinity (as CaCO3)				156	08/16/2023	
Bismuth				<2	08/16/2023	
Calcium				80.6	08/16/2023	
Carb. Alkalinity (as CaCO3)				<10	08/16/2023	
Cation sum				6.52	08/16/2023	
Cobalt				<1	08/16/2023	
Electrical Conductivity				692	08/16/2023	
Hardness				235	08/16/2023	
Hydroxide				<5	08/16/2023	
Langelier Index (@ 4C)				-0.29	08/16/2023	
Langelier Index (@20C)				0.03	08/16/2023	
Magnesium				8.1	08/16/2023	
Molybdenum				<2	08/16/2023	
Nickel				<3	08/16/2023	
Nitrate + Nitrite as N				<0.05	08/16/2023	
Organic Carbon				0.6	08/16/2023	
Ortho-Phosphate as P				<0.01	08/16/2023	
Phosphorous				4.4	08/16/2023	
Potassium				2	08/16/2023	
Reactive Silica as SiO2				15.8	08/16/2023	
Saturation pH (@ 20C)				7.54	08/16/2023	
Saturation pH (@ 4C)				7.86	08/16/2023	
Silver				<0.4	08/16/2023	
Thallium				<0.2	08/16/2023	
Tin				<2	08/16/2023	

#11 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Titanium				<5	08/16/2023	
Vanadium				<2	08/16/2023	

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

This site is pre-treatment. All results post treatment meet Health Canada guidelines.

Action taken:

Certified Lab: AGAT Laboratories

#12 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100		<8	08/16/2023	
Antimony	6	-		<5	08/16/2023	
Arsenic	10	-		5	08/16/2023	
Barium	1000	-		74	08/16/2023	
Boron	5000	-		24	08/16/2023	
Cadmium	5	-		<0.100	08/16/2023	
Calculated TDS		500		210	08/16/2023	
Chloride		250		56	08/16/2023	
Chromium	50			<1	08/16/2023	
Copper	2000	1000		<4	08/16/2023	
Fluoride	1.5	-		<0.12	08/16/2023	
Iron		300		<57	08/16/2023	
Lead	5	-		<0.9	08/16/2023	
Manganese	120	20		81	08/16/2023	
Nitrate as N	10	-		<0.05	08/16/2023	
Nitrite as N	1			<0.05	08/16/2023	
pH		7-10.5		7.65	08/16/2023	
Selenium	50	-		<1	08/16/2023	
Sodium		200		39.9	08/16/2023	
Strontium	7000			283	08/16/2023	
Sulphate		500		18	08/16/2023	
True Color		15		<5.00	08/16/2023	
Turbidity	0.1-1	-		**1.43**	08/16/2023	
Uranium	20	-		0.6	08/16/2023	
Zinc		5000		<5	08/16/2023	
% Difference/ Ion Balance (NS)				3	08/16/2023	
Alkalinity				92	08/16/2023	
Ammonia as N				<0.03	08/16/2023	

#12 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Anion Sum				3.79	08/16/2023	
Beryllium				<2	08/16/2023	
Bicarb. Alkalinity (as CaCO3)				92	08/16/2023	
Bismuth				<2	08/16/2023	
Calcium				27.9	08/16/2023	
Carb. Alkalinity (as CaCO3)				<10	08/16/2023	
Cation sum				4.03	08/16/2023	
Cobalt				<1	08/16/2023	
Electrical Conductivity				431	08/16/2023	
Hardness				111	08/16/2023	
Hydroxide				<5	08/16/2023	
Langelier Index (@ 4C)				-0.88	08/16/2023	
Langelier Index (@20C)				-0.56	08/16/2023	
Magnesium				10.1	08/16/2023	
Molybdenum				<2	08/16/2023	
Nickel				<3	08/16/2023	
Nitrate + Nitrite as N				<0.05	08/16/2023	
Organic Carbon				<0.5	08/16/2023	
Ortho-Phosphate as P				<0.01	08/16/2023	
Phosphorous				2.6	08/16/2023	
Potassium				2.8	08/16/2023	
Reactive Silica as SiO2				10.4	08/16/2023	
Saturation pH (@ 20C)				8.21	08/16/2023	
Saturation pH (@ 4C)				8.53	08/16/2023	
Silver				<0.4	08/16/2023	
Thallium				<0.2	08/16/2023	
Tin				<2	08/16/2023	

#12 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Titanium				<5	08/16/2023	
Vanadium				<2	08/16/2023	

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

This site is pre-treatment. All results post treatment meet Health Canada guidelines.

Action taken:

Certified Lab: AGAT Laboratories

#14 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100		<8	08/16/2023	
Antimony	6	-		<5	08/16/2023	
Arsenic	10	-		<2	08/16/2023	
Barium	1000	-		196	08/16/2023	
Boron	5000	-		<8	08/16/2023	
Cadmium	5	-		<0.100	08/16/2023	
Calculated TDS		500		122	08/16/2023	
Chloride		250		9	08/16/2023	
Chromium	50			<1	08/16/2023	
Copper	2000	1000		<4	08/16/2023	
Fluoride	1.5	-		<0.12	08/16/2023	
Iron		300		<57	08/16/2023	
Lead	5	-		<0.9	08/16/2023	
Manganese	120	20		<2	08/16/2023	
Nitrate as N	10	-		<0.05	08/16/2023	
Nitrite as N	1			<0.05	08/16/2023	
pH		7-10.5		7.57	08/16/2023	
Selenium	50	-		<1	08/16/2023	
Sodium		200		5.9	08/16/2023	
Strontium	7000			46	08/16/2023	
Sulphate		500		6	08/16/2023	
True Color		15		<5.00	08/16/2023	
Turbidity	0.1-1	-		**1.25**	08/16/2023	
Uranium	20	-		0.8	08/16/2023	
Zinc		5000		<5	08/16/2023	

#14 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
% Difference/ Ion Balance (NS)				2.3	08/16/2023	
Alkalinity				103	08/16/2023	
Ammonia as N				<0.03	08/16/2023	
Anion Sum				2.44	08/16/2023	
Beryllium				<2	08/16/2023	
Bicarb. Alkalinity (as CaCO3)				103	08/16/2023	
Bismuth				<2	08/16/2023	
Calcium				28.1	08/16/2023	
Carb. Alkalinity (as CaCO3)				<10	08/16/2023	
Cation sum				2.55	08/16/2023	
Cobalt				<1	08/16/2023	
Electrical Conductivity				263	08/16/2023	
Hardness				114	08/16/2023	
Hydroxide				<5	08/16/2023	
Langelier Index (@ 4C)				-0.88	08/16/2023	
Langelier Index (@20C)				-0.56	08/16/2023	
Magnesium				10.6	08/16/2023	
Molybdenum				<2	08/16/2023	
Nickel				<3	08/16/2023	
Nitrate + Nitrite as N				<0.05	08/16/2023	
Organic Carbon				<0.5	08/16/2023	
Ortho-Phosphate as P				<0.01	08/16/2023	
Phosphorous				2.4	08/16/2023	
Potassium				0.9	08/16/2023	
Reactive Silica as SiO2				8.8	08/16/2023	

#14 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Saturation pH (@ 20C)				8.13	08/16/2023	
Saturation pH (@ 4C)				8.45	08/16/2023	
Silver				<0.4	08/16/2023	
Thallium				<0.2	08/16/2023	
Tin				<2	08/16/2023	
Titanium				<5	08/16/2023	
Vanadium				<2	08/16/2023	

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

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Action taken:

Certified Lab: AGAT Laboratories

#15 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100		<8	08/16/2023	
Antimony	6	-		<5	08/16/2023	
Arsenic	10	-		<2	08/16/2023	
Barium	1000	-		226	08/16/2023	
Boron	5000	-		<8	08/16/2023	
Cadmium	5	-		<0.100	08/16/2023	
Calculated TDS		500		145	08/16/2023	
Chloride		250		22	08/16/2023	
Chromium	50			<1	08/16/2023	
Copper	2000	1000		<4	08/16/2023	
Fluoride	1.5	-		<0.12	08/16/2023	
Iron		300		<57	08/16/2023	
Lead	5	-		<0.9	08/16/2023	
Manganese	120	20		29	08/16/2023	
Nitrate as N	10	-		0.06	08/16/2023	
Nitrite as N	1			<0.05	08/16/2023	
pH		7-10.5		7.69	08/16/2023	
Selenium	50	-		<1	08/16/2023	
Sodium		200		9.3	08/16/2023	
Strontium	7000			233	08/16/2023	
Sulphate		500		8	08/16/2023	
True Color		15		<5.00	08/16/2023	
Turbidity	0.1-1	-		**1.02**	08/16/2023	
Uranium	20	-		1.4	08/16/2023	
Zinc		5000		<5	08/16/2023	
% Difference/ Ion Balance (NS)				3	08/16/2023	
Alkalinity				102	08/16/2023	

#15 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Ammonia as N				<0.03	08/16/2023	
Anion Sum				2.83	08/16/2023	
Beryllium				<2	08/16/2023	
Bicarb. Alkalinity (as CaCO3)				102	08/16/2023	
Bismuth				<2	08/16/2023	
Calcium				27.6	08/16/2023	
Carb. Alkalinity (as CaCO3)				<10	08/16/2023	
Cation sum				3.01	08/16/2023	
Cobalt				<1	08/16/2023	
Electrical Conductivity				308	08/16/2023	
Hardness				128	08/16/2023	
Hydroxide				<5	08/16/2023	
Langelier Index (@ 4C)				-0.78	08/16/2023	
Langelier Index (@20C)				-0.46	08/16/2023	
Magnesium				14.3	08/16/2023	
Molybdenum				<2	08/16/2023	
Nickel				<3	08/16/2023	
Nitrate + Nitrite as N				0.06	08/16/2023	
Organic Carbon				<0.5	08/16/2023	
Ortho-Phosphate as P				<0.01	08/16/2023	
Phosphorous				2.5	08/16/2023	
Potassium				2	08/16/2023	
Reactive Silica as SiO2				9.2	08/16/2023	
Saturation pH (@ 20C)				8.15	08/16/2023	
Saturation pH (@ 4C)				8.47	08/16/2023	
Silver				<0.4	08/16/2023	
Thallium				<0.2	08/16/2023	

#15 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Tin				<2	08/16/2023	
Titanium				<5	08/16/2023	
Vanadium				<2	08/16/2023	

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

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Action taken:

Certified Lab: AGAT Laboratories

#17 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100		30	08/16/2023	
Antimony	6	-		<5	08/16/2023	
Arsenic	10	-		9	08/16/2023	
Barium	1000	-		201	08/16/2023	
Boron	5000	-		11	08/16/2023	
Cadmium	5	-		<0.100	08/16/2023	
Calculated TDS		500		187	08/16/2023	
Chloride		250		15	08/16/2023	
Chromium	50			<1	08/16/2023	
Copper	2000	1000		<4	08/16/2023	
Fluoride	1.5	-		<0.12	08/16/2023	
Iron		300		**2220**	08/16/2023	
Lead	5	-		<0.9	08/16/2023	
Manganese	120	20		**1850**	08/16/2023	
Nitrate as N	10	-		<0.05	08/16/2023	
Nitrite as N	1			<0.05	08/16/2023	
pH		7-10.5		7.59	08/16/2023	
Selenium	50	-		<1	08/16/2023	
Sodium		200		16.4	08/16/2023	
Strontium	7000			250	08/16/2023	
Sulphate		500		9	08/16/2023	
True Color		15		<5.00	08/16/2023	
Turbidity	0.1-1	-		**7.6**	08/16/2023	
Uranium	20	-		0.4	08/16/2023	
Zinc		5000		<5	08/16/2023	
% Difference/ Ion Balance (NS)				4	08/16/2023	
Alkalinity				144	08/16/2023	
Ammonia as N				<0.03	08/16/2023	

#17 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Anion Sum				3.49	08/16/2023	
Beryllium				<2	08/16/2023	
Bicarb. Alkalinity (as CaCO3)				144	08/16/2023	
Bismuth				<2	08/16/2023	
Calcium				48	08/16/2023	
Carb. Alkalinity (as CaCO3)				<10	08/16/2023	
Cation sum				3.78	08/16/2023	
Cobalt				<1	08/16/2023	
Electrical Conductivity				361	08/16/2023	
Hardness				143	08/16/2023	
Hydroxide				<5	08/16/2023	
Langelier Index (@ 4C)				-0.5	08/16/2023	
Langelier Index (@20C)				-0.18	08/16/2023	
Magnesium				5.6	08/16/2023	
Molybdenum				<2	08/16/2023	
Nickel				<3	08/16/2023	
Nitrate + Nitrite as N				<0.05	08/16/2023	
Organic Carbon				2.4	08/16/2023	
Ortho-Phosphate as P				<0.01	08/16/2023	
Phosphorous				3	08/16/2023	
Potassium				2.2	08/16/2023	
Reae Silica as SiO2				10.4	08/16/2023	
Saturation pH (@ 20C)				7.77	08/16/2023	
Saturation pH (@ 4C)				8.09	08/16/2023	
Silver				<0.4	08/16/2023	
Thallium				<0.2	08/16/2023	
Tin				<2	08/16/2023	
Titanium				<5	08/16/2023	

#17 Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Vanadium				<2	08/16/2023	

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

This site is pre-treatment. All results post treatment meet Health Canada guidelines.

Action taken:

Certified Lab: AGAT Laboratories

Water Treatment Plant Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Aluminum		100	24		08/16/2023	
Antimony	6	-	<5		08/16/2023	
Arsenic	10	-	<2		08/16/2023	
Barium	1000	-	144		08/16/2023	
Boron	5000	-	56		08/16/2023	
Cadmium	5	-	<0.100		08/16/2023	
Calculated TDS		500	209		08/16/2023	
Chloride		250	48		08/16/2023	
Chromium	50		<1		08/16/2023	
Copper	2000	1000	<4		08/16/2023	
Fluoride	1.5	-	<0.12		08/16/2023	
Iron		300	<57		08/16/2023	
Lead	5	-	<0.9		08/16/2023	
Manganese	120	20	<2		08/16/2023	
Nitrate as N	10	-	0.14		08/16/2023	
Nitrite as N	1		<0.05		08/16/2023	
pH		7-10.5	7.44		08/16/2023	
Selenium	50	-	<1		08/16/2023	
Sodium		200	29.2		08/16/2023	
Strontium	7000		232		08/16/2023	
Sulphate		500	16		08/16/2023	
True Color		15	<5.00		08/16/2023	
Turbidity	0.1-1	-	0.79		08/16/2023	
Uranium	20	-	0.6		08/16/2023	
Zinc		5000	429		08/16/2023	
% Difference/ Ion Balance (NS)			0.1		08/16/2023	
Alkalinity			112		08/16/2023	
Ammonia as N			<0.03		08/16/2023	

Water Treatment Plant Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Anion Sum			3.94		08/16/2023	
Beryllium			<2		08/16/2023	
Bicarb. Alkalinity (as CaCO3)			112		08/16/2023	
Bismuth			<2		08/16/2023	
Calcium			35.4		08/16/2023	
Carb. Alkalinity (as CaCO3)			<10		08/16/2023	
Cation sum			3.93		08/16/2023	
Cobalt			<1		08/16/2023	
Electrical Conductivity			429		08/16/2023	
Hardness			130		08/16/2023	
Hydroxide			<5		08/16/2023	
Langelier Index (@ 4C)			-0.9		08/16/2023	
Langelier Index (@20C)			-0.58		08/16/2023	
Magnesium			10.1		08/16/2023	
Molybdenum			<2		08/16/2023	
Nickel			<3		08/16/2023	
Nitrate + Nitrite as N			0.14		08/16/2023	
Organic Carbon			0.6		08/16/2023	
Ortho-Phosphate as P			0.45		08/16/2023	
Phosphorous			2.8		08/16/2023	
Potassium			1.9		08/16/2023	
Reactive Silica as SiO2			11.4		08/16/2023	
Saturation pH (@ 20C)			8.02		08/16/2023	
Saturation pH (@ 4C)			8.34		08/16/2023	
Silver			<0.4		08/16/2023	
Thallium			<0.2		08/16/2023	
Tin			<2		08/16/2023	

Water Treatment Plant Parameter	Health based guideline	AO [or OG]	Treated (maximum this year)	Raw (maximum this year)	Date	Location
Titanium			<5		08/16/2023	
Vanadium			<2		08/16/2023	
Has any of the parameter exceeded Guidelines Yes..... No [X]						
If Yes provide date of occurrence and date when Department was notified:						
Action taken:						
Certified Lab: AGAT Laboratories						

MAC Sampled Nov 6, 2023	Unit	G / S	RDL	Well 11	Well 15	Well 17
Cyanide, SAD	mg/L	0	0.002	<0.002	<0.002	<0.002
Sulphide	mg/L	500 AO	0.05	<0.05	<0.05	<0.05
Total Aluminum	ug/L	2900, 100 OG AO	10	37	<10	**421**
Total Antimony	ug/L	6	2	<2	<2	<2
Total Arsenic	ug/L	10	2	<2	<2	4
Total Barium	ug/L	2000	5	92	233	187
Total Boron	ug/L	5000	5	<5	<5	5
Total Cadmium	ug/L	7	0.3	<0.3	<0.3	0.4
Total Chromium	ug/L	50	2	<2	<2	<2
Total Copper	ug/L	2000, 1000 AO	2	<2	<2	<2
Total Iron	ug/L	300 AO	50	65	<50	**1390**
Total Lead	ug/L	5	0.5	<0.5	<0.5	<0.5
Total Manganese	ug/L	120, 20 AO	2	**1020**	43	**1200**
Total Selenium	ug/L	50	2	<2	<2	<2
Total Strontium	ug/L	7000	5	204	227	266
Total Uranium	ug/L	20	0.2	0.3	1.4	0.5
Total Zinc	ug/L	5000 AO	5	<5	<5	<5
Total Sodium	mg/L	200 AO	0.1	25.9	9.8	18.3
Mercury	ug/L	1	0.05	<0.05	<0.05	<0.05
pH		7.0-10.5 OG		7.18	7.15	7.35
Turbidity	NTU	1.0	0.5	**4.56**	<0.5	**40.9**
True Color	TCU	15 AO	5.00	<5.00	<5.00	<5.00
Chloride	mg/L	250 AO	1	55	26	14
Fluoride	mg/L	1.5	0.12	<0.12	<0.12	<0.12

MAC Sampled Nov 6, 2023	Unit	G / S	RDL	Well 11	Well 15	Well 17
Nitrate as N	mg/L	10	0.05	<0.05	0.08	0.07
Nitrite as N	mg/L	1.0	0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	500 AO	2	44	8	9
Total Dissolved Solids	mg/L	500 AO	5	282	112	134
Bromate	mg/L	0.01	0.01	<0.01	<0.01	<0.01
Chlorate	mg/L	1	0.02	<0.02	<0.02	<0.02
Chlorite	mg/L	1	0.02	<0.02	<0.02	<0.02
Dimethoate	µg/L		1.5	<1.5	<1.5	<1.5
Malathion	µg/L		1	<1	<1	<1
Chlorpyrifos	µg/L		1	<1	<1	<1
Bromoxynil	µg/L		0.5	<0.5	<0.5	<0.5
Dicamba	µg/L		0.05	<0.05	<0.05	<0.05
2,4-Dichlorophenol	µg/L		0.05	<0.05	<0.05	<0.05
MCPA	ug/L		5	<5	<5	<5
Pentachlorophenol	µg/L		0.1	<0.1	<0.1	<0.1
DCAA	%		1	85	76	77
Chloroacetic Acid	ug/L		0.5	<0.5	<0.5	<0.5
Bromoacetic Acid	ug/L		0.5	<0.5	<0.5	<0.5
Dichloroacetic Acid	ug/L		0.5	<0.5	<0.5	<0.5
Trichloroacetic Acid	ug/L		0.5	0.7	0.7	0.7
Bromochloroacetic Acid	ug/L		0.5	0.7	0.7	0.7
Dibromoacetic Acid	ug/L		0.5	1	1	1
Haloacetic Acids	ug/L	80	4.0	<4.0	<4.0	<4.0
2-Bromobutanoic acid	%		0	110	89	85
Benzo(a)pyrene	mg/L	0.00004	0.00001	<0.00001	<0.00001	<0.00001

MAC Sampled Nov 6, 2023	Unit	G / S	RDL	Well 11	Well 15	Well 17
Vinyl Chloride	ug/L		0.6	<0.6	<0.6	<0.6
Chloroethane	ug/L		5	<5	<5	<5
1,1-Dichloroethylene	ug/L		0.6	<0.6	<0.6	<0.6
Chloroform	ug/L		1	<1	<1	<1
1,2-Dichloroethane	ug/L		2	<2	<2	<2
Carbon Tetrachloride	ug/L		0.56	<0.56	<0.56	<0.56
Benzene	ug/L		1	<1	<1	<1
Trichloroethylene	ug/L		1	<1	<1	<1
Bromodichloromethane	ug/L		1	<1	<1	<1
Toluene	ug/L		2	<2	<2	<2
Dibromochloromethane	ug/L		1	<1	<1	<1
Tetrachloroethylene	µg/L		2	<2	<2	<2
Chlorobenzene	ug/L		1.0	<1.0	<1.0	<1.0
Ethylbenzene	ug/L		2	<2	<2	<2
Bromoform	ug/L		1	<1	<1	<1
1,4-Dichlorobenzene	ug/L		1	<1	<1	<1
1,2-Dichlorobenzene	ug/L		0.7	<0.7	<0.7	<0.7
Total Trihalomethanes	ug/L		0.001	<0.001	<0.001	<0.001
Toluene-d8	%		0	75	73	76
Diquat	µg/L	70	5	<5	<5	<5
Nitriloacetic Acid (NTA)	mg/L	0.4	0.03	<0.03	<0.03	<0.03
Microcystin - LR	ug/L	1.5	0.15	<0.15	<0.15	<0.15
N-Nitrosodimethylamine (NDMA)	ug/L	0.04	0.0009	<0.0009	<0.0009	<0.0009

MAC Sampled Nov 6, 2023	Unit	G / S	RDL	Well 11	Well 15	Well 17
Radionuclides - Gross Alpha*	Bq/L	0.5	0.1	<0.18	<0.10	<0.12
Radionuclides - Gross Beta*	Bq/L	1.0	0.1	0.14±0.03	0.12±0.02	0.21±0.04
Glyphosate	ug/L		15	<15	<15	<15
Nitriloacetic Acid (NTA)	mg/L	0.4	0.03	<0.03	<0.03	<0.03
Microcystin - LR	ug/L	1.5	0.15	<0.15	<0.15	<0.15
N-Nitrosodimethylamine (NDMA)	ug/L	0.04	0.0009	<0.0009	<0.0009	<0.0009
1, 4-Dioxane			3	<3	<3	<3
Trifluralin	µg/L		1.0	<1.0	<1.0	<1.0
Atrazine	µg/L		0.5	<0.5	<0.5	<0.5
Atrazine + N-dealkylated metabolites	µg/L		1.0	<1.0	<1.0	<1.0
Metribuzin	µg/L		0.25	<0.25	<0.25	<0.25
Chloromethane	µg/L		1	<1	<1	<1
Vinyl Chloride	µg/L		0.6	<0.6	<0.6	<0.6
Bromomethane	µg/L		0.89	<0.89	<0.89	<0.89
Trichlorofluoromethane	µg/L		5	<5	<5	<5
Acetone	µg/L		10	<10	<10	<10
1,1-Dichloroethylene	µg/L		0.6	<0.6	<0.6	<0.6
trans-1,2-Dichloroethylene	µg/L		2	<2	<2	<2
1,1-Dichloroethane	µg/L		1	<1	<1	<1
cis-1,2-Dichloroethylene	ug/L		2	<2	<2	<2
1,1,1-Trichloroethane	µg/L		1	<1	<1	<1

MAC Sampled Nov 6, 2023	Unit	G / S	RDL	Well 11	Well 15	Well 17
cis-1,3-Dichloropropene	µg/L		0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	µg/L		0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L		1	<1	<1	<1
Toluene	µg/L		2	<2	<2	<2
2-Hexanone	µg/L		10.0	<10.0	<10.0	<10.0
1,2-Dibromoethane	µg/L		0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	µg/L		0.5	<0.5	<0.5	<0.5
m,p-Xylenes	µg/L		4	<4	<4	<4
Styrene	µg/L		1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L		1	<1	<1	<1
o-Xylene	µg/L		1	<1	<1	<1
1,3-Dichlorobenzene	µg/L		1	<1	<1	<1
1,4-Dichlorobenzene	µg/L		1	<1	<1	<1
1,2-Dichlorobenzene	µg/L		0.7	<0.7	<0.7	<0.7
Xylenes	µg/L		0.5	<0.5	<0.5	<0.5
Toluene-d8	%		0	75	73	76
Perfluorobutanoic acid (PFBA)	ng/L		1.0	<1.0	<1.0	<1.0
13C4-PFBA	%			84	73	86
13C5-PFPeA	%			94	98	81
13C5-PFHxA	%			94	96	94
13C4-PFHpA	%			92	93	93
13C8-PFOA	%			92	93	91
13C9-PFNA	%			91	91	92

MAC Sampled Nov 6, 2023	Unit	G / S	RDL	Well 11	Well 15	Well 17
13C6-PFDA	%			89	92	91
13C7-PFUnDA	%			85	88	86
13C2-PFDoA	%			83	86	83
13C2-PFTeDA	%			74	79	78
13C3-PFBS	%			92	95	89
13C3-PFHxS	%			93	94	94
13C8-PFOS	%			90	93	92
13C8-PFOSA	%			86	89	86
D3-NMeFOSAA	%			83	86	81
D5-N-EtFOSAA	%			83	85	81

Has any of the parameter exceeded Guidelines Yes..... No [X]

If Yes provide date of occurrence and date when Department was notified:

Action taken:
This site is pre-treatment. All results post treatment meet Health Canada guidelines.

Certified Lab: AGAT Laboratories

Quarterly - Distribution System THM's

Month	Site A Location: Standpipe	Site B Location: Haliburton Rd.	Site C Location: Prince St.
	THM total ug/L	THM total ug/L	THM total ug/L
January 23rd	29	67	22
February			
March 15st Qt			
April 26th	11	33	14
May			
Jun			
July			
August 15th	49	59	20
September			
October 30th	111	24	13
November			
December			
Annual Average	50	46	17.25
Limits	100 ug/l THM's - Locational running annual average based on a minimum of four quarterly samples.		
Action taken:			

Quarterly - Distribution System HAA's

Month	Site A Location: Pool	Site B Location: Hospital	Site C Location: Standpipe	Site D Location: Town Office
	HAA (5) ug/L	HAA (5) ug/L	HAA (5) ug/L	HAA (5) ug/L
January 23rd	18.4	16.1	13.5	14.2
February				
March				
April 26th	9.4	6.9	9.5	9.4
May				
Jun				
July 25th	<4.0	6.9	<4.0	<4.0
August				
September				
October 30th	8.5	10.9	7.9	8.9
November				
December				
Annual Average	9.6	10.2	8.2	8.6
Limits	80. ug/l HAA's - Locational running annual average based on a minimum of four quarterly samples.			
Action taken:				

Quarterly - Distribution System Bacteriology and Disinfection Residual

Site : A	Location: Pictou Hospital										
Month	*E.coli*				Total Coliforms				Chlorine		
	Present	Absent	Total number of samples	% Absent	Present	Absent	Total number of samples	% Absent	Min mg/l	Max mg/l	No. below Approval Limits
January	0	4	4	100	0	4	4	100	0.75	1.16	0
February	0	4	4	100	0	4	4	100	1.08	1.28	0
March	0	4	4	100	0	5	5	100	1.28	1.34	0
April	0	4	4	100	0	4	4	100	1.17	1.27	0
May	0	4	4	100	0	4	4	100	1.11	1.24	0
Jun	0	4	4	100	0	4	4	100	1.06	1.24	0
July	0	5	5	100	0	5	5	100	1.10	1.22	0
August	0	4	4	100	0	4	4	100	0.75	0.97	0
September	0	4	4	100	0	4	4	100	0.94	1.14	0
October	0	5	5	100	0	5	5	100	1.13	1.54	0
November	0	4	4	100	0	4	4	100	1.60	1.81	0
December	0	4	4	100	0	4	4	100	1.61	1.84	0
If Approval limits exceeded, provide date of occurrence and date when Department was notified:											
Action taken:											

Site : B	**Location: East End Grocery**										
Month	***E.coli***				**Total Coliforms**				**Chlorine**		
	Present	Absent	Total number of samples	% Absent	Present	Absent	Total number of samples	% Absent	Min mg/l	Max mg/l	No. below Approval Limits
January	0	4	4	100	0	4	4	100	0.46	0.66	0
February	0	4	4	100	0	4	4	100	0.62	0.85	0
March	0	5	5	100	0	5	5	100	0.97	1.07	0
April	0	4	4	100	0	4	4	100	0.62	0.82	0
May	0	6	6	100	1	5	6	84	0.74	0.8	0
Jun	0	4	4	100	0	4	4	100	0.57	0.66	0
July	0	4	4	100	0	4	4	100	0.46	0.57	0
August	0	5	5	100	0	5	5	100	0.42	0.52	0
September	0	5	5	100	1	4	5	80	0.41	0.53	0
October	0	5	5	100	0	5	5	100	0.62	1.06	0
November	0	4	4	100	0	4	4	100	0.67	1.11	0
December	0	4	4	100	0	4	4	100	1.48	1.53	0
Was E.Coli or Total Coliform present in any sample this year **Yes [x] No**											
If Yes provide date of occurrence and date when Department was notified: May 23, 2023 and Sept 22, 2023.											
Resamples were taken as instructed by NSECC and no coliforms were present in re-tests. Sampling error attributed to the failure (not thoroughly cleaning public faucet)											

Twice a Year - Distribution System Manganese

Month	Site A Location: Water Treatment Plant	Site B Location: 237 Welsford St	Site C Location: 199 Elliot St
	Manganese ug/L	Manganese ug/L	Manganese ug/L
January 23rd	<2	<2	<2
February			
March **15st Qt**			
April 26th	<2	<2	<2
May			
Jun			
July 25th	N/A	3	4
August			
September			
October 30th			
November			
December	255	<2	2
Annual Average	86	<2	2
Limits	120 ug/l Mn - Locational running annual average based on a minimum of four quarterly samples.		
Action taken:			

Section iii - Corrosion Control Program and Lead

pH, Alkalinity, Temperature, Conductivity, Dissolved Oxygen, Chlorine Residual

Q1

Sample Description		Min	Max	**Haliburton Rd**	**Prince Street**	**Wellington Street**	**Standpipe**
Date Sampled				**01/23/2023**	**01/23/2023**	**01/23/2023**	**01/23/2023**
pH		7.0	10.5	7.83	7.83	7.79	7.75
Alkalinity as CaCO3	mg/L			21	118	130	33
Temperature	°C		15	10	10	10	10
Electrical Conductivity	umho/cm			178	579	939	310
Dissolved Oxygen	mg/L			9.56	9.2	9.47	9.64
Chlorine Residual	mg/L	0.2	4.0	0.4	1.34	0.41	1.79

Bold values were not sampled based on Lab error. Nearby sampling sites were used as proxies.

Q2

Sample Description		Min	Max	**Haliburton Rd**	**Prince Street**	**Wellington Street**	**Standpipe**
Date Sampled				**04/26/2023**	**04/26/2023**	**04/26/2023**	**04/26/2023**
pH		7.0	10.5	7.64	7.65	7.60	7.48
Alkalinity as CaCO3	mg/L			147	145	145	142
Temperature	°C		15	10	10	10	10
Electrical Conductivity	umho/cm			427	401	414	419
Dissolved Oxygen	mg/L						
Chlorine, Total Residual	mg/L	0.2	4.0	0.46	1.08	0.43	2.15

Q3

Sample Description		Min	Max	Haliburton Rd	Prince Street	Wellington Street	Standpipe
Date Sampled				**25/07/2023**	**25/07/2023**	**25/07/2023**	**25/07/2023**
pH		7.0	10.5	7.39	7.43	7.31	7.44
Alkalinity as CaCO3	mg/L			116	114	114	112
Temperature	^{o}C		15	10	10	10	10
Electrical Conductivity	umho/cm			612	544	619	580
Dissolved Oxygen	mg/L			8.1	11.9	8.3	11
Chlorine Residual	mg/L	0.2	4.0	0.36	0.82	0.05	2.2

Bold values were resampled based on Lab error. Nearby sampling sites were used as proxies (Wellington St chlorine residual 2.2 at reservoir base on operator testing).

Q4

Sample Description		Min	Max	Haliburton Rd	Prince Street	Wellington Street	Standpipe
Date Sampled				**10/30/2023**	**10/30/2023**	**10/30/2023**	**10/30/2023**
pH		7.0	10.5	7.57	7.16	7.18	7.25
Alkalinity as CaCO3	mg/L			128	122	119	118
Temperature	^{o}C		15	10	10	10	10
Electrical Conductivity	umho/cm			178447	384	374	373
Dissolved Oxygen	mg/L			10.8	11.4	11	10.9
Chlorine Residual	mg/L	0.2	4.0	0.05	1.58	2.59	2.65

Bold values were resampled based on Lab error. Nearby sampling sites were used as proxies (Haliburton Rd chlorine residual 0.56 at reservoir base on operator testing).

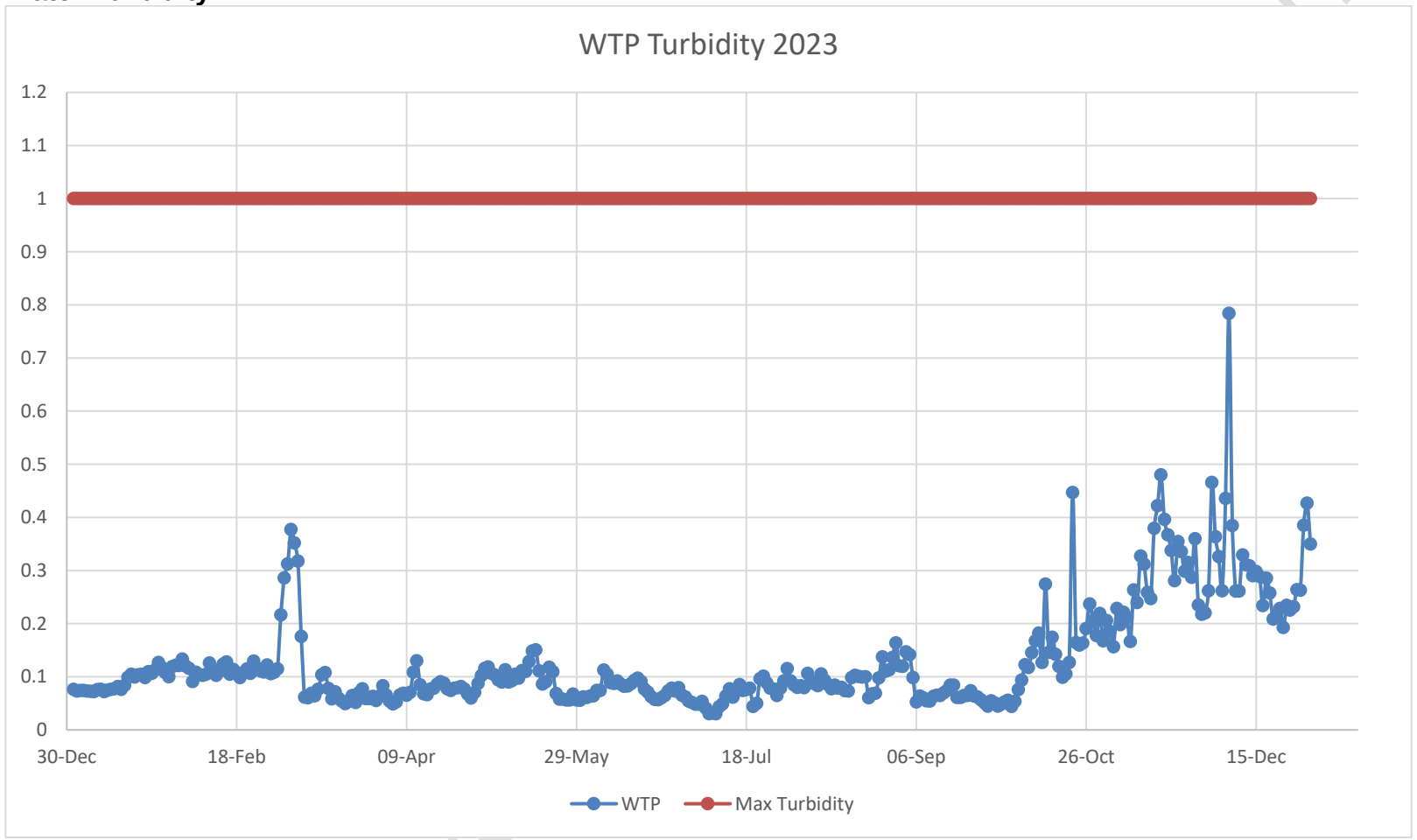
Distribution System Lead and Copper Stagnant

08/10/23	**#11 Pine St.**	**#320 Elliott St.**	**#405 Welsford St.**	**#96 Pine St.**	**#155 Pine St.**	**#38 Caladh Ave.**
Lead	<0.5	<0.5	<0.5	0.6	2.4	4.7
Copper	28	36	41	102	52	89

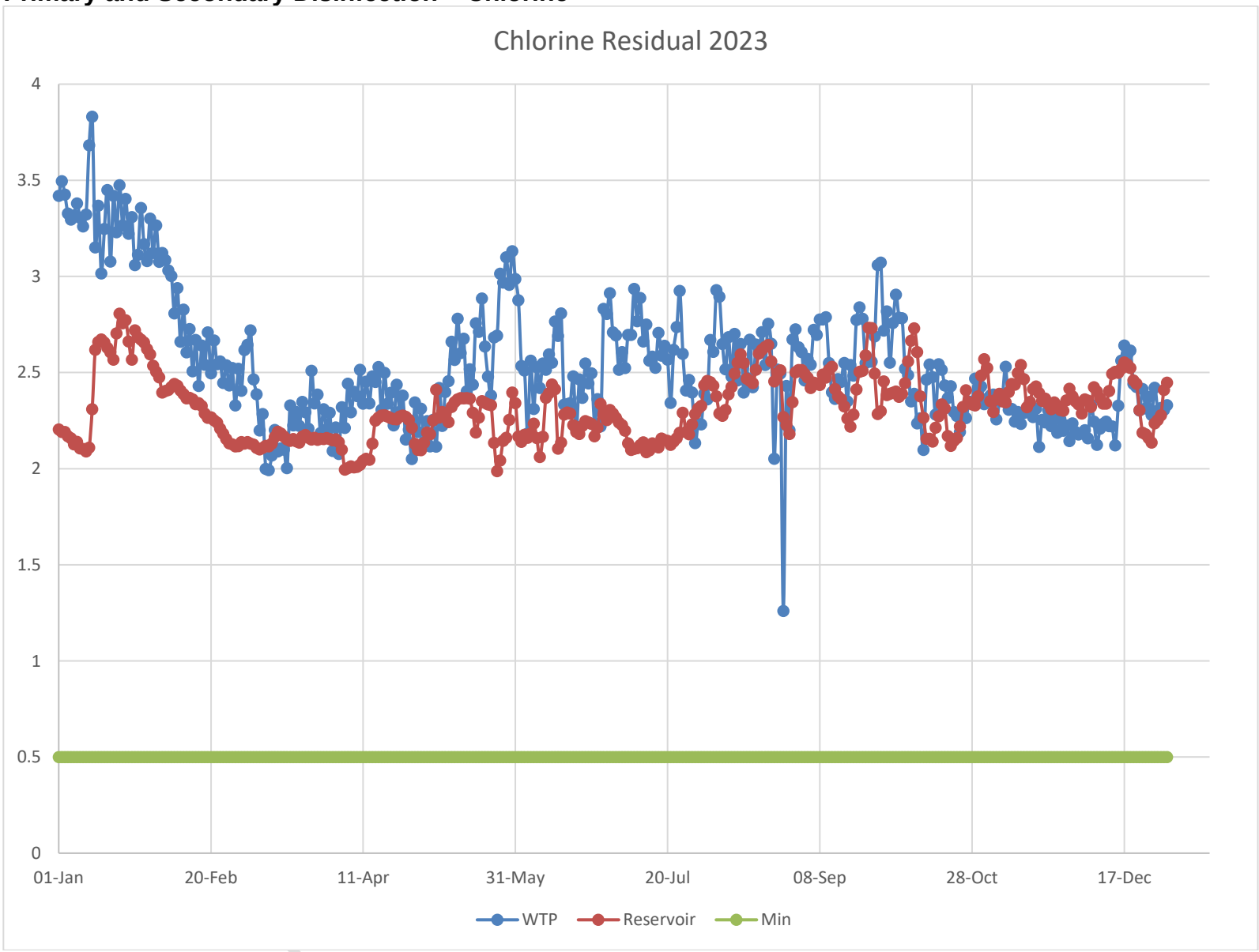
If Approval limits were exceeded provide date of occurrence and date when Department was notified: N/A

Section iv - Continuously Monitored Parameters Graphs

Water Turbidity

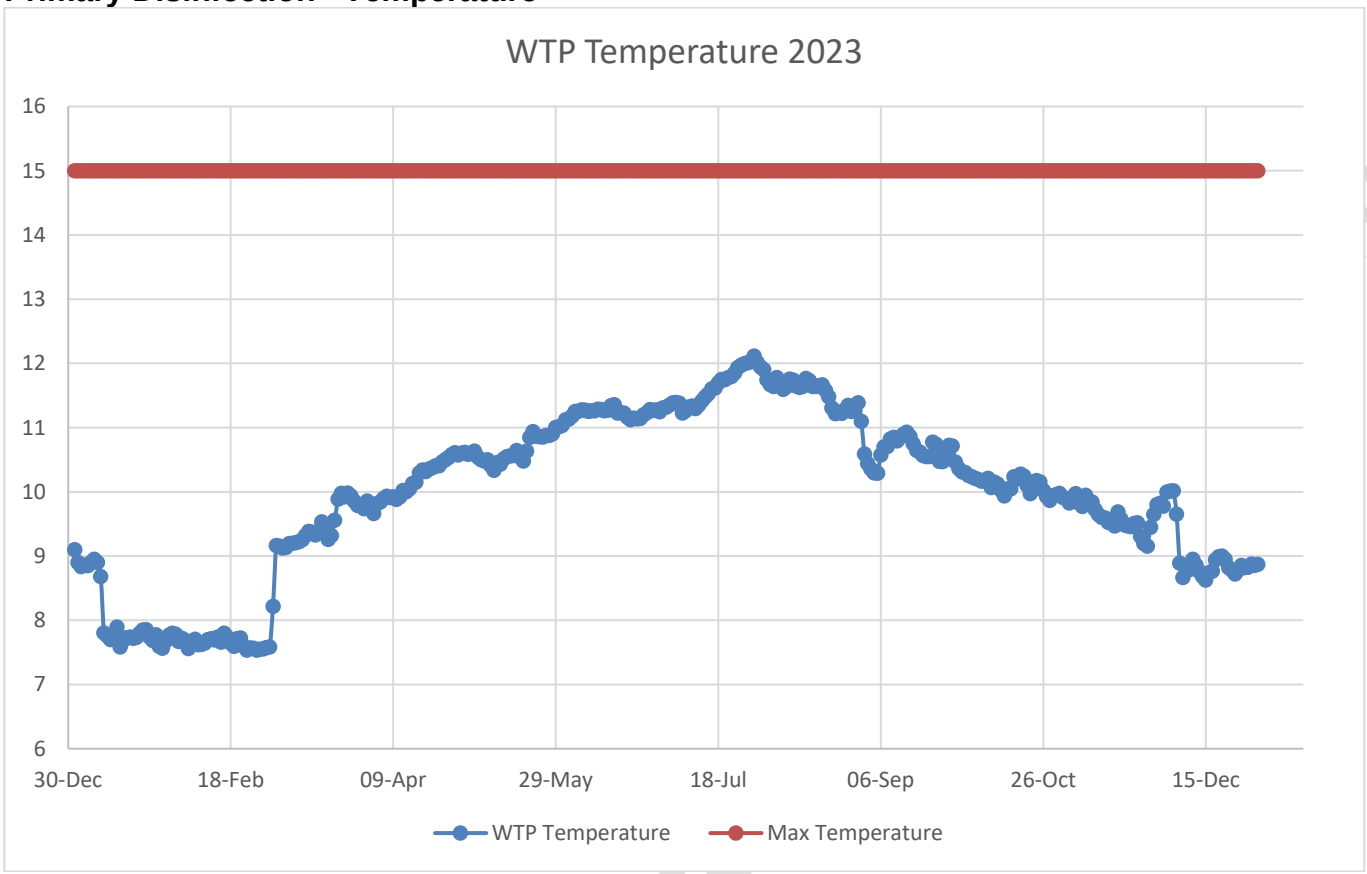


Primary and Secondary Disinfection – Chlorine



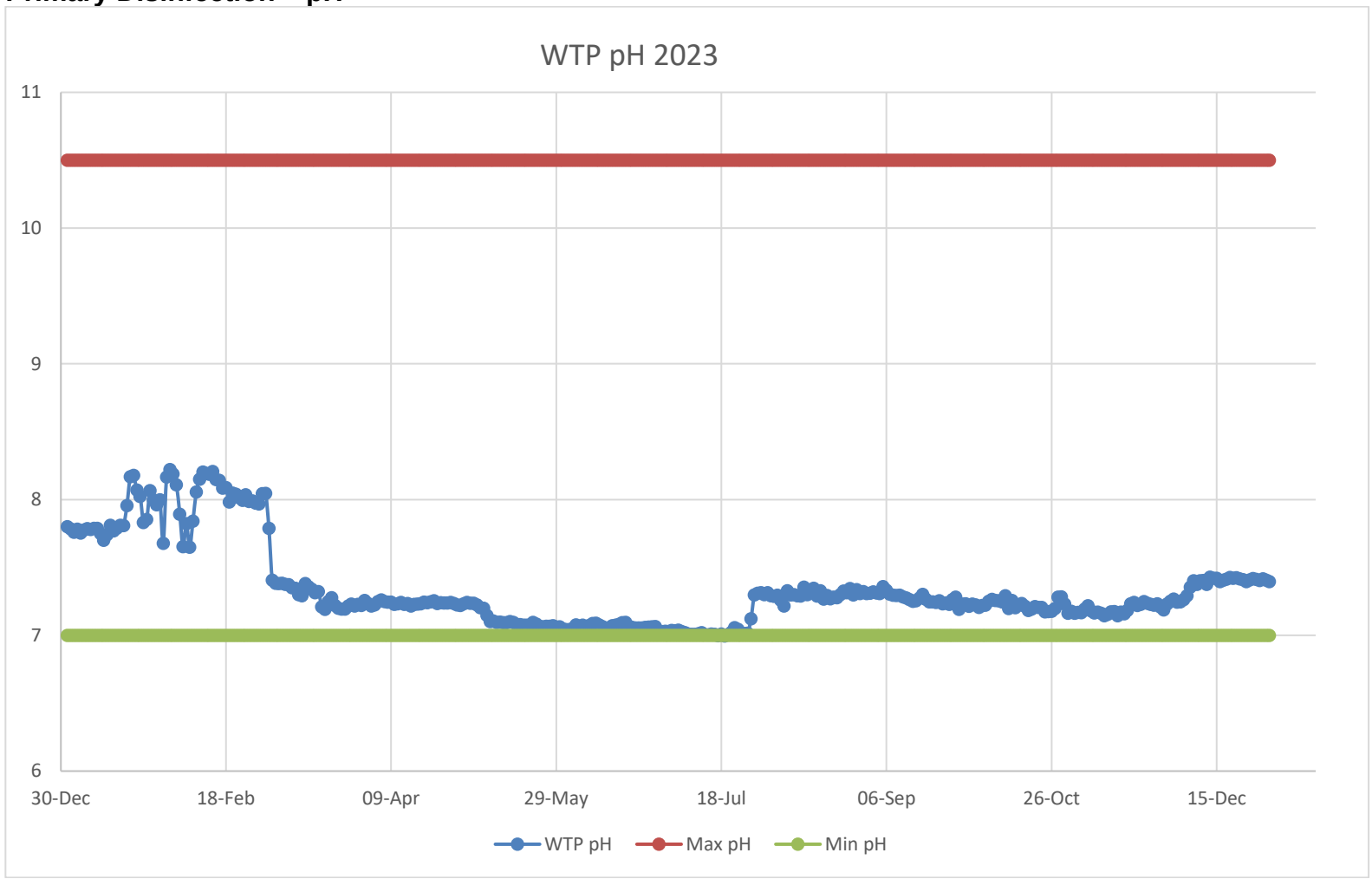
Dips in the graphs are due to backwash cycles activation

Primary Disinfection - Temperature



Sensor broke in Jan 3rd, 2023 and was replaced on Feb 28, 2023

Primary Disinfection – pH



Secondary Disinfection - Bacteriological Quality Standpipe

Month	Total number of samples taken	*E.coli*	Total Coliform	Giardia		Cryptosporidium	
				if tested		if tested	
		No. of Present this month	No. of Present this month	No. of Present this month	Total	No. of Present this month	Total
January	4	0	0				
February	4	0	0				
March	5	0	0				
April	4	0	0				
May	5	0	0				
Jun	4	0	0				
July	4	0	0				
August	5	0	0				
September	4	0	0				
October	4	0	0				
November	5	0	0				
December	3	0	0				

If *E.coli* Present provide date of occurrence and date when Department was notified:

If Total Coliforms Present, provide date of occurrence and date when Department was notified

Action taken:

Certified Lab: AGAT Laboratories

Section v - Upset Conditions

Well 18 RCAP samples were not taken due well 18 being not being in production when samples were taken.

Section vi - Contingency Plans and Emergency Notification

Changes to the Contingency plan, emergency notification of procedure or laboratory change can be found in the Town of Pictou's Operating Procedures.

Staff are notified by review with supervisor. All staff sign off on operations manuals when they receive updates.

Section vii – Laboratories

AGAT Laboratories Ltd – 11 Morris Dr, Unit 122, Dartmouth, NS B3B1M2 – All MAC, RCAP, Quarterly, Lead and other parameters except MPA.

Hyperion Research Limited – 1008 Allowance Ave, SE, Medicine Hat, Ab, T1A3G8 – MPA Parameters

Section viii - Source Water Protection Program

Meetings were held in May and November of 2023.

Meetings consisted of discussions in regard to Well #18 construction and Well 17 and 18 GUDI status.

There have been no changes to the Source Water Protection Plan in 2023. The source water protection plan is current being updated with a submission expected in December 2024.

Section ix - Distribution Chlorine and distribution corrosion control

Month	Site A		Site B		Site C		Site D		Site E	
	Location: East End Groceries		Location: Hospital		Location: Wellington Street		Location: Municipal Building		Location::Justice Building	
	min	max	min	max	min	Max	min	Max	Min	Max
January	0.9	2.3	1.6	2.2	2.8	3.8	0.7	1.0	0.7	1.0
February	0.8	2.1	1.7	2.2	2.3	3.2	1.0	1.4	0.8	1.9
March	0.7	1.6	1.3	1.8	1.7	3.2	0.9	1.4	0.7	1.2
April	0.6	1.3	1.2	1.7	2.2	2.9	1.0	1.1	0.5	0.9
May	0.6	1.9	1.3	1.8	2.1	2.7	0.9	1.7	0.5	1.6
June	0.4	1.2	1.3	1.7	1.8	2.8	0.7	1.6	0.4	1.2
July	0.5	1.1	1.1	1.7	2.2	2.8	0.6	0.9	0.5	0.9
August	0.4	1.0	1.2	1.7	0.6	2.8	0.4	0.7	0.4	1.0
September	0.5	1.6	0.9	1.8	2.2	2.9	0.5	0.8	0.5	1.0
October	0.7	1.5	1.4	1.7	2.1	2.6	0.5	0.7	0.5	1.4
November	1.0	1.6	1.6	2.0	2.4	2.8	0.6	2.0	0.6	1.4
December	1.1	1.5	1.5	2.0	2.4	2.9	0.8	1.3	0.6	1.2
Limits	<0.40 mg/L									
Action taken:										

Year	2023	Corrosion Control																
	East End Variety									Hospital								
	Fe	Mg	pH	Turb	Ortho	Cond.	Temp	Zinc	Cl2	Fe	Mg	pH	Turb	Ortho	Cond.	Temp.	Zinc	Cl2
Month	mg/l	mg/l		NTU	mg/l	Us/cms	Cel	mg/l	mg/l	mg/l	mg/l		NTU	mg/l	Us/cm	Cel.	mg/l	mg/l
January																		
February																		
March																		
April																		
May	0.081	0.026	7.504	0.524	1.643	392.889	10.600	N/A	1.191	0.048	0.006	7.611	0.214	1.754	397.444	11.267	N/A	1.487
June	0.026	0.029	7.439	0.156	1.812	423.333	12.133	N/A	0.994	0.036	0.001	7.578	0.130	1.954	414.556	12.311	N/A	1.482
July	0.050	0.030	7.424	0.208	1.694	468.500	13.575	N/A	0.728	0.040	0.002	7.560	0.131	1.875	482.875	14.238	N/A	1.300
August	0.070	0.037	7.429	0.227	1.359	343.444	14.956	N/A	0.730	0.008	0.003	7.530	0.144	1.509	330.889	13.722	N/A	1.510
September	0.063	0.018	7.418	0.454	1.964	322.125	14.025	N/A	0.883	0.006	0.003	7.481	0.123	2.076	326.750	14.300	N/A	1.599
October	0.058	0.014	7.443	0.252	1.888	326.556	12.933	N/A	0.839	0.016	0.001	7.584	0.137	2.000	330.778	13.189	N/A	1.551
November	0.046	0.011	7.368	0.351	1.989	274.222	12.056	N/A	1.174	0.024	0.001	7.583	0.292	2.119	277.556	12.256	N/A	1.700
December	0.036	0.014	7.507	0.224	2.110	247.857	10.000	N/A	1.177	0.019	0.004	7.689	0.179	2.116	252.429	10.471	N/A	1.774

Section x - Verification of CT/IT

Design Parameters are:

Chemical
pH – 8.0
Temperature - 5 ^{o}C
CT_{req} – 6 mg*min/L

Pipe Volume – 26 m3
Design Flow – 2.08 m^3/min
CT Contact Time 12.5 min
Min Cl_2 Residual – 0.48 mg/L

See the charts in section iv. All parameters meet design limits

Section xi – GUDI well Turbidity

No GUDI Wells were online during 2023

Section xii – non-GUDI well Turbidity

See section iv for continuously monitored parameters of standpipe.

Verification:

Total Samples: 780
Number below 1.0 NTU: 780
% Pass: 100%

Section xii – Residuals removed from facility

All residuals are sent directly to sanitary sewer and are not monitored. Please see residual management plan for more information.

Section xiv – Incidents of Non-Compliance

Standard operating procedures have been/are being made to reduce occurrence of violations of approval, and corrective actions are have been determined and implemented in the Town of Pictou's Operating procedures.

Section xv - Complaints

All Complaints are recorded at the Town Office.

All complaints can fall into the categories of: Water discolouration or water pressure or billing.

Water Discolouration and Pressure incidents were related to water breaks or internal plumbing issues.

Water discoloration complaints were received during hydrant flushing in spring and fall.

A new procedure will be implemented starting September 20th, 2023 to track complaints with a new tracking form. New form presented below.

Billing is outside the scope of this report.

Date: _____ **Time:** _____

_____ _____

Complaint from: _____

Address: _____

Received by: _____

Customer Information:

When did the dirty water begin? _____

Have you had dirty water before? When? _____

Is there a water filter on line? Is the filter dirty? _____

What type of dirty water?

Colored water _____

Black flakes in the water _____

Chlorine smell in the water _____

Musty, swampy smell in water _____

Other _____

_____

Are both the hot and cold water dirty? _____

Is the water dirty at all faucets? _____

Has there been a water leak in the area? _____ **Leak date:** _____

Have you made similar complaints in the past? When? Name of initial contact? _____

OPERATOR USE ONLY

Field Investigation Information:

BEFORE		**AFTER**	
Date: _____	**Time:** _____	**Date:** _____	**Time:** _____
Chlorine residual at tap: _____ mg/L		**Chlorine residual at tap:** _____ mg/L	
pH at tap: _____		**pH at tap:** _____	
Turbidity at tap: _____ NTU		**Turbidity at tap:** _____ NTU	

Pressure Zone of Premises: _____

Is the premises on a dead end? _____

Has there been a water leak in the area? _____ **Leak date:** _____

Action Required:

Comments:

Section xvii – QA/QC

All changes to the QA/QC Program can be found in the Town of Pictou's Operating Procedures.

Staff are notified by review with supervisor. All staff sign off on operations manuals when they receive updates.

Section xviii – Certified Operators

Operator	Water Treatment	Water Distribution
Dan Campbell (Manager/DRC)	Level 2	Level 2
Greg MacKenzie		Level 1
Mike MacKenzie	Level 2	Level 2
Steven Bowen		Level 2
Kevin Crews		Level 2