Township of Southgate

Dundalk Waterworks

2023 Annual Report

Jim Ellis
Public Works Manager

Dundalk Waterworks 2023 Annual Report

Table of Contents

Dundalk Waterworks - Township of Southgate

2023 Annual Water Report

Site:	Village of Dundalk
Operations Address:	75 Dundalk Street, Dundalk, Ontario N0C 1B0
Waterworks #:	220001753
Municipal Drinking Water Licence:	110-101, Issue No. 5
Drinking Water Works Permit:	110-201, Issue No. 5
Period of this Report:	January 1- December 31 **Year:** 2023

Description of System

The water system known as Dundalk Water Works is a ground water source consisting of three production wells, one monitoring well and a distribution system. The system is monitored by a SCADA system installed in 2006 which communicates through RF towers and PLC's in the wells to record data and monitor operations.

Well D3 is equipped with a submersible pump, flow meter, two ultra violet sterilization chambers and a chemical feed pump for sodium hypochlorite and is connected to a 1365 m^3 baffled storage tank with 2 pax mixers. Two turbine high lift pumps pump from storage through a flow meter into a distribution system and a booster chemical feed pump are connected after the reservoir and starts automatically if the chlorine residual begins to fall. This well has a capacity of 1182 m^3/day. This pump house is equipped with two chlorine analyzers, one prior to the reservoir and the second installed prior to entering the distribution system. The entire system is under the control of a PLC system and any failures alarm a dial out system to alert operators. Well D3 is equipped with an 80 kW diesel generator that starts automatically in the event of a power outage and is capable of providing power to maintain this water supply.

Well D4 was constructed in 2004 and is equipped with a submersible pump, flow meter and a chemical feed pump for sodium hypochlorite and is connected to a 187.7 m^3 baffled reservoir. Two turbine high lift pumps pump from storage through a flow meter into a distribution system and a booster chemical feed pump is connected after the reservoir that automatically starts if the chlorine residual begins to fall. This well has a 1637 m^3/day capacity. This pump house is equipped with two chlorine analyzers, one prior to the reservoir and the second installed prior to entering the distribution system. The entire system is under the control of a PLC system and any failures alarm a dial out system to alert operators. Well D4 is equipped with a 100 kW diesel generator with automatic transfer switch for standby power.

Well D5 was drilled in 2017 with the well house and reservoir built in 2019. It is equipped with a 15hp submersible pump that fills a rectangular baffled reservoir with a capacity of 536 cubic meters. Two turbine high lift pumps pump from storage through a flow meter into a distribution system and a booster chemical feed pump is connected after the reservoir that automatically starts if the chlorine residual begins to fall. This well has a 1961 m3/day capacity. This pump house is equipped with two chlorine analysers, one prior to the reservoir and the second installed prior to entering the distribution system. The entire system is under the control of a PLC system and any failures alarm a dial out system to alert operators. Well D5 is equipped with a 150 kW diesel generator with automatic transfer switch for standby power.

In September of 2023, the water tower was added to the system. It is located next to Well 4, which supplies the back up power for the tower. The tower can hold 4000 cubic meters of water. There is a recirculation pump that can be used to cycle the water and also boost chlorine levels if needed.

The distribution system is made up of a network of water mains of varying size with 1,501 service connections.

Summary of all Test Results

Treated Water Recap:

No. of Distribution Samples taken	229
No. of Treated Water Well Samples taken	156
No. of samples with Total Coliform	0
No. of samples with E Coli	0
No. of treated samples with Heterotrophic Plate Count >500	0

Raw Water Recap:

No. of Raw Water Well Samples taken	156
No. of Raw samples with Total Coliform	3
No. of Raw samples with E Coli	0
No. of Raw samples with Heterotrophic Plate Count > 500	0

Heterotrophic Plate Counts are conducted on some treated and distribution system samples. The HPC test is used as a tool to monitor overall quality, but the results are not indicators of water safety. There is not a Drinking Water Quality Standard for HPC.

Summary of Adverse Test Results Reported: -

There was one incident of Adverse Drinking Water:

- March 13, 2023 – Sodium
  On March 13, 2023, the Township received adverse sodium from Well D3 and Well D4. The sodium level for Well D3 was 28.9 mg/L and for

well D4 was 26.6 mg/L with the MAC (Maximum Allowable Concentration) being 20 mg/L.

Description of action taken:

- The Health Unit was advised to notify users, the website was updated, and sodium fact sheet was sent with water bills.
- Reported to MECP – AWQI# 161472, on March 13, 2023.

Description of Major Equipment Expenses:

- Water Tower engineering and construction $3,517,988.28
- Victoria, Ida & Hanbury Street construction= $825,591.58
- Purchased water meters = $92,475.48
- Debt Well D5/ Main St E = $342,473.00
- Water System review, engineering = $19,179.44

New Equipment Installed:

Nothing to report.

Equipment Replaced:

Nothing to report.

Repairs to Equipment:

Nothing to report.

Frozen Water:

Nothing to report.

Township of Southgate - Dundalk Waterworks
Average Day Well Consumption vs. Maximum Flow/Day Allowed Report 2023

Month	Average Day Water Consumption Well #3	Maximum Flow Rate Allowed Well #3/Day	Average Day Water Consumption Well #4	Maximum Flow Rate Allowed Well #4/Day	Average Day Water Consumption Well #5	Maximum Flow Rate Allowed Well #5/Day	Average Day Water Consumption All Wells	Maximum Flow Rate Allowed All Wells/Day
January	255	1,182	290	1,637	274	1,961	819	2,817
February	260	1,182	299	1,637	238	1,961	797	2,817
March	246	1,182	292	1,637	249	1,961	787	2,817
April	245	1,182	310	1,637	205	1,961	760	2,817
May	247	1,182	285	1,637	238	1,961	769	2,817
June	245	1,182	296	1,637	322	1,961	863	2,817
July	244	1,182	296	1,637	283	1,961	823	2,817
August	266	1,182	301	1,637	267	1,961	834	2,817
September	274	1,182	381	1,637	357	1,961	1,012	2,817
October	297	1,182	272	1,637	355	1,961	923	2,817
November	301	1,182	287	1,637	232	1,961	820	2,817
December	304	1,182	269	1,637	295	1,961	867	2,817
Annual Monthly Average in M_3	265	1,182	298	1,637	276	1,961	840	2,817

Note: Flow in above chart is in Cubic Meters

Certificate of Approval Well Pumping Maximum Flow Rate per Day

Well	Maximum Pump Rate in Liters/Min.	Maximum Pump Rate in Liters/Day	Maximum Pump Rate in m_3/Day	Maximum Pump Rate in Gallons/Day
Well #3	820	1,180,800	1181	259,985
Well #4	1137	1,637,280	1636	360,149
Well #5	1362	1,961,280	1961	431,695
Total			2817	620,134

Township of Southgate - Dundalk Waterworks
Maximum One Day Well Consumption vs. Maximum Flow Allowed Report 2023

Month	Maximum One Day Consumption Well #3	Maximum Flow Allowed/Day Well #3	Maximum One Day Consumption Well #4	Maximum Flow Allowed/Day Well #4	Maximum One Day Consumption Well #5	Maximum Flow Allowed/Day Well #5	Maximum One Day Flow All Wells	Maximum Flow Allowed/Day All Wells
January	328	1,182	634	1,637	674	1,961	1,421	2,817
February	350	1,182	355	1,637	316	1,961	912	2,817
March	264	1,182	624	1,637	440	1,961	956	2,817
April	334	1,182	621	1,637	343	1,961	938	2,817
May	306	1,182	491	1,637	428	1,961	970	2,817
June	448	1,182	565	1,637	734	1,961	1,176	2,817
July	272	1,182	338	1,637	410	1,961	957	2,817
August	360	1,182	467	1,637	837	1,961	1,104	2,817
September	424	1,182	1,030	1,637	833	1,961	2,122	2,817
October	442	1,182	470	1,637	567	1,961	1,362	2,817
November	492	1,182	520	1,637	386	1,961	997	2,817
December	359	1,182	368	1,637	373	1,961	1,094	2,817
Annual Maximum for One Day - m_3	492	1182	1030	1637	837	1961	2122	2817
Annual Maximum for One Day - Gal	108,309	260,205	226,744	360,369	184,257	431,695	467,137	620,134

Note: Flow in above chart is in Cubic Meters

Certificate of Approval Well Pumping Maximum Capacity per Day

Well	Maximum Pump Rate in Liters/Min.	Maximum Pump Rate in Liters/Day	Maximum Pump Rate in m_3/Day	Maximum Pump Rate in Gallons/Day
Well #3	822	1,183,680	1181	259,985
Well #4	1134	1,632,960	1636	360,149
Well #5	1362	1,961,280	1961	431,695
Total			2817	620,134

NOTE: On this day the water tower was being filled.

Township of Southgate - Dundalk Waterworks
Total Well Consumption vs. Maximum Flow Allowed Report 2023

Month	Water Consumption Well #3	Monthly Flow Allowed Well #3	Water Consumption Well #4	Monthly Flow Allowed Well #4	Water Consumption Well #5	Monthly Flow Allowed Well #5	# of Days in Month
January	7,917	36,611	8,991	50,716	8,495	60,791	31
February	7,273	33,068	8,375	45,808	6,677	54,908	28
March	7,620	36,611	9,051	50,716	7,730	60,791	31
April	7,357	35,430	9,294	49,080	6,155	58,830	30
May	7,648	36,611	8,823	50,716	7,379	60,791	31
June	7,351	35,430	8,883	49,080	9,655	58,830	30
July	7,574	36,611	9,162	50,716	8,784	60,791	31
August	8,236	36,611	9,340	50,716	8,292	60,791	31
September	8,233	35,430	11,416	49,080	10,709	58,830	30
October	9,205	36,611	8,422	50,716	10,992	60,791	31
November	9,028	35,430	8,610	49,080	6,951	58,830	30
December	9,415	36,611	8,333	50,716	9,130	60,791	31
Annual Flow in m3	96,857	431,065	108,700	597,140	100,949	715,765	

Certificate of Approval Well Pumping Maximum Flow Rate per Day

Well	Maximum Pump Rate in Liters/Min.	Maximum Pump Rate in Liters/Day	Maximum Pump Rate in m_3/Day	Maximum Pump Rate in Gallons/Day	Water Consumption in m3 by Well in 2023	Annual Flow Allowed at each Wells
Well #3	822	1,183,680	1181	259,985	96,857	431,065
Well #4	1134	1,632,960	1636	360,149	108,700	597,140
Well #5	1362	1,961,280	1961	431,695	100,949	715,765
Total			2817	620,134	306,506	1,743,970

Ontario **Drinking-Water Systems Regulation O. Reg. 170/03**

OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	**220001753**
Drinking-Water System Name:	Dundalk Waterworks
Drinking-Water System Owner:	Township of Southgate
Drinking-Water System Category:	Large Municipal – Residential
Period being reported:	January 1 to December 31, 2023

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [x]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

- Southgate Municipal Office (near Hopeville) 185667 Grey Road 9, RR 1 Dundalk ON N0C 1B0
- Dundalk Works Depot 75 Dundalk St Dundalk ON N0C 1B0
- Dundalk Library 80 Proton Street North

Complete for all other Categories.

Number of Designated Facilities served: 3

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [x] No [ ]

Number of Interested Authorities you report to: 3

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [x] No [ ]

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?
Yes [ ] No [x]

Indicate how you notified system users that your annual report is available, and is free of charge.

[x] Public access/notice via the web
[x] Public access/notice via Government Office
[x] Public access/notice via a newspaper
[x] Public access/notice via Public Request
[x] Public access/notice via a Public Library
[ ] Public access/notice via other method _____

Describe your Drinking-Water System

Dundalk Waterworks has three operational wells. The Township has a 1306 m^3 of storage in an above ground baffled reservoir at Well 3, a 187.7 m^3 baffled reservoir at Well D4 and a 536 m3 baffled reservoir at Well D5. The water is pumped by high lift pumps into the distribution and fills the Dundalk Water Tower adjacent to Well D4. Well pumping and tower refilling are programmed for off peak hydro rates savings. All wells, and the water tower communicate by fiber-& wireless-connections to control which well is in the lead and all other operating parameters and alarms are monitored by SCADA through the same communications system.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite

Were any significant expenses incurred to?

[ ] Install required equipment
[ ] Repair required equipment
[ ] Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

- Water Tower engineering and construction $3,517,988.28
- Victoria, Ida & Hanbury Street construction= $825,591.58
- Purchased water meters = $92,475.48
- Debt Well D5/ Main St E = $342,473.00
- Water System review, engineering = $19,179.44

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
4/7/23	Sodium	28.1	Mg/L	N/R	N/A
4/7/23	Sodium	24.9	Mg/L	N/R	N/A
7/3/23	Sodium	28.9	Mg/L	N/R	N/A
7/3/23	Sodium	26.6	Mg/L	N/R	N/A
19/7/22	Sodium	27.6	Mg/L	N/R	N/A
19/7/22	Sodium	30.2	Mg/L	N/R	N/A
8/2/22	Sodium	27.5	Mg/L	N/R	N/A
8/3/22	Sodium	29.9	Mg/L	N/R	N/A
12/7/21	Sodium	28.5	Mg/L	N/R	N/A
12/7/21	Sodium	30.0	Mg/L	N/R	N/A
1/3/21	Sodium	31.6	Mg/L	N/R	N/A
1/3/21	Sodium	30.2	Mg/L	N/R	N/A
7/6/20	Sodium	31.6	Mg/L	N/R	N/A
7/6/20	Sodium	27.6	Mg/L	N/R	N/A
3/9/20	Sodium	29.5	Mg/L	N/R	N/A
3/9/20	Sodium	30.2	Mg/L	N/R	N/A
7/2/19	Sodium	26.7	Mg/L	N/R	N/A
7/2/19	Sodium	25.0	Mg/L	N/R	N/A
3/4/19	Sodium	23.5	Mg/L	N/R	N/A
3/4/19	Sodium	22.8	Mg/L	N/R	N/A
3/9/18	Sodium	36.3	Mg/l	Re-sampled	3/13/18
3/9/18	Sodium	31.9	Mg/l	Re-sampled	3/13/18
3/5/18	Sodium	36.3	mg/l		
3/6/17	Sodium	28.2	mg/l	N/R	N/A
7/5/16	Sodium	28	mg/l	N/R	N/A
3/10/16	Sodium	28.8	mg/l	Re-sampled	7/5/16

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	156	0-0	0-1	156	0-270
Treated	156	0-0	0-0	156	0-230
Distribution	229	0-0	0-0	229	0-420

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	**36**	**0.02 - 0.14**
Chlorine	**365** **8760 – D3** **8760 – D4** **8760 – D5**	**Distribution Free 0.36 – 1.62** **Treated Free 0.68 – 1.58** **Treated Free 0.32 – 1.51** **Treated Free 0.81 – 1.26**
Fluoride (If the DWS provides fluoridation)		

***NOTE**: For continuous monitors use 8760 as the number of samples.*

***NOTE**: Record the unit of measure if it is **not** milligrams per litre.*

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
Drinking Water License 110-101 Issue Number 5 (01/28/2021), Permit 110-201 Issue Number 5 (01/28/2021),	**Sodium**	**4/7/23** **7/3/23**	**D3-28.1** **D4-24.9** **D5-12.7** **D3-28.9** **D4-26.6** **D5-13.2**	Mg/L
	Sodium	**19/7/22** **8/3/22**	**D3-30.2** **D4-27.6** **D5-15.1** **D3-29.9** **D4-27.5** **D5-14.4**	Mg/L
“	**Radionuclides**	**7/3/23**		
“	**D3 Gross Alpha**	**“**	**<0.10**	Bq/L
“	**D3 Gross Beta**	**“**	**<0.10**	Bq/L
“	**D3 Tritium**	**“**	**<15**	Bq/L
“	**D4 Gross Alpha**	**“**	**<0.10**	Bq/L
“	**D4 Gross Beta**	**“**	**<0.10**	Bq/L
“	**D4 Tritium**	**“**	**<15**	Bq/L
“	**D5 Gross Alpha**	**“**	**<0.10**	Bg/L
“	**D5 Gross Beta**	**“**	**<0.10**	Bg/L
“	**D5 Tritium**	**“**	**<15**	Bg/L

Drinking Water License 110-101 Issue Number 5 (01/28/2021), Permit 110-201 Issue Number 5 (01/28/2021),	**Sodium**	**3/9/20** **7/6/20**	**D3-29.5** **D4-30.2** **D5-16.3** **D3-31.6** **D4-27.6** **D5-15.7**	
“	**Sodium**	**3/8/19**	**D3-22.8** **D4-23.5**	mg/l
“	**Sodium**	**3/6/17**	**D3-28.2** **D4-26.3**	mg/l
Drinking Water License 110-101(01/02/2016), Permit 110-201(02/02/2016)	**Sodium**	**July 5/16**	**D3-27.9** **D4-28**	mg/l
“	**Sodium**	**March 8/16**	**D3-28.8** **D4-27.7**	mg/l
“	**Sodium**	**March 9/15**	**D3-28.7**	mg/l
“	**Sodium**	**”**	**D4 – 18.1**	mg/l

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	**March/1/21**	**<0.0001**	mg/l	
Arsenic	**March/1/21**	**D3-0.0012** **D4-0.0003** **D5-0.0008**	“	
Barium	**March/1/21**	**D3-0.105** **D4-0.096** **D5-0.105**	“	
Boron	**March/1/21**	**D3-0.054** **D4-0.040** **D5-0.048**	“	
Cadmium	**March/1/21**	**D3-<0.000015** **D4-<0.000015** **D5-<0.000015**	“	
Chromium	**March/1/21**	**D3-<0.002** **D4-<0.002** **D5-<0.002**	“	
***Lead**	**March 16-18/21** **Sept 23/21 to Oct 4/21**	**Low-0.00009** **High-0.00093** **Low-0.00009** **High-0.00117**	mg/l	
Mercury	**March/1/21**	**D3-<0.00002** **D4-<0.00002** **D5-<0.00002**	“	
Selenium	**March/1/21**	**D3-<0.001** **D4-<0.001** **D5-<0.001**	“	
Sodium	**July/4/23**	**D3-28.1** **D4-24.9** **D5-12.7**	mg/l	

Uranium	**March/1/21**	**D3-0.00193** **D4-0.00175** **D5-0.00035**	mg/l	
Fluoride	**April/4/23**	**D3-0.5** **D4-0.7** **D5-2.1**	mg/l	
Nitrite	**October 10/23**	**D3-0.07** **D4-<0.05** **D5-<0.05**	"	
Nitrate	**October 10/23**	**D3-0.78** **D4-1.75** **D5-<0.05**	"	

*Only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

Summary of lead testing under Schedule 15.1 during this reporting period

(Applicable to the following drinking water systems; large municipal residential systems**,** small municipal residential systems, and non-municipal year-round residential systems)

*Note: Municipality is on reduced sampling schedule currently.

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Residential	**Exempt from sampling**		
Non-Residential	**Exempt from sampling**		
Distribution	**Alkalinity only**	245mg/L to 262 mg/L	0

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	March 5/18	**0.02**	**ug/l**	
Aldicarb	March 9/15	**0.01**	"	
Aldrin + Dieldrin	March 9/15	**0.01**	"	
Atrazine + N-dealkylated metobolites	March 5/18	**0.01**	"	
Azinphos-methyl	March 5/18	**0.05**	**ug/l**	
Bendiocarb	March 9/15	**0.01**	"	
Benzene	March 1/21	**<0.5**	"	
Benzo(a)pyrene	March 1/21	**<0.006**	"	
Bromoxynil	March 5/18	**0.33**	"	
Carbaryl	March 5/18	**0.05**	"	
Carbofuran	March 5/18	**0.01**	"	

Carbon Tetrachloride	March 1/21	**<0.2**	"	
Chlordane (Total)	March 9/15	**0.01**	"	
Chlorpyrifos	March 5/18	**0.02**	"	
Cyanazine	March 9/15	**0.03**	"	
Diazinon	March 5/18	**0.02**	"	
Dicamba	March 5/18	**0.20**	"	
1,2-Dichlorobenzene	March 1/21	**<0.5**	"	
1,4-Dichlorobenzene	March 1/21	**<0.5**	"	
Dichlorodiphenyltrichloroethane (DDT) + metabolites	March 9/15	**0.01**	"	
1,2-Dichloroethane	March 1/21	**<0.5**	"	
1,1-Dichloroethylene (vinylidene chloride)	March 1/21	**<0.5**	"	
Dichloromethane	March 1/21	**<5**	"	
2-4 Dichlorophenol	March 5/18	**0.15**	"	
2,4-Dichlorophenoxy acetic acid (2,4-D)	March 5/18	**0.19**	"	
Diclofop-methyl	March 5/18	**0.40**	"	
Dimethoate	March 5/18	**0.03**	"	
Dinoseb	March 9/15	**0.36**	"	
Diquat	March 5/18	**1.00**	"	
Diuron	March 5/18	**0.03**	"	
Glyphosate	March 5/18	**1.00**	"	
Heptachlor + Heptachlor Epoxide	March 9/15	**0.01**	"	
Haloacetic Acids (Bromoacetic Acid, Chloroacetic Acid, Dichloroacetic Acid, Dibromoacetic Acid, and Trichloroacetic Acid)	October 10/23	**5.3**	"	
Lindane (Total)	March 9/15	**0.01**	"	
Malathion	March 5/18	**0.02**	"	
Methoxychlor	March 5/18	**0.03**	"	
2-methyl-4-chlorophenoxyacetuc acid	March 5/18	**0.00012**	mg/l	
Metolachlor	March 9/15	**0.06**	ug/l	
Metribuzin	March 5/18	**0.02**	"	
Monochlorobenzene	March 1/21	**<0.5**	"	
Paraquat	March 5/18	**1.00**	"	
Parathion	March 9/15	**0.02**	"	
Pentachlorophenol	March 5/18	**0.15**	"	
Phorate	March 5/18	**0.01**	"	
Picloram	March 5/18	**1.0**	"	
Polychlorinated Biphenyls(PCB)	March 5/18	**0.04**	"	
Prometryne	March 5/18	**0.03**	"	
Simazine	March 5/18	**0.01**	"	
THM (NOTE**:** show latest running annual average**)**	October 10/23	**13.5**	ug/l	
Temephos	March 9/15	**0.01**	"	

Terbufos	March 5/18	**0.01**	"	
Tetrachloroethylene	March 1/21	**<0.5**	"	
2,3,4,6-Tetrachlorophenol	March 5/18	**0.20**	"	
Triallate	March 5/18	**0.01**	"	
Trichloroethylene	March 5/18	**0.44**	"	
2,4,6-Trichlorophenol	March 5/18	**0.25**	"	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	March 9/15	**0.22**	"	
Trifluralin	March 5/18	**0.02**	"	
Vinyl Chloride	March 1/21	**<0.2**	"	

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample

Annual Sampling Results 2023

Year: 2023

Parameter	Ecoli						Total Coliform						HPC						Background		Raw Water Turbidity		Treated Chlorine Free		Treated Turbidity		Distribution Chlorine Free		Distribution Turbidity	
	Raw		Treated		Distribution		Raw		Treated		Distribution		RW-Raw		TW-Treated		DW-Distribution													
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
January	0	0	0	0	0	0	0	1	0	0	0	0	<10	80	<10	10	<10	10			0.06	0.11	0.32	1.21	0.05	0.32	0.50	1.15	0.05	0.39
February	0	0	0	0	0	0	0	0	0	0	0	0	<10	20	<10	30	<10	60			0.06	0.08	0.92	1.32	0.03	0.31	0.58	1.32	0.06	0.42
March	0	0	0	0	0	0	0	1	0	0	0	0	<10	<10	<10	20	<10	20			0.07	0.08	0.95	1.33	0.03	0.30	0.66	1.34	0.05	0.27
April	0	0	0	0	0	0	0	0	0	0	0	0	<10	10	<10	10	<10	10			0.07	0.08	0.88	1.28	0.04	0.29	0.36	1.15	0.05	0.32
May	0	0	0	0	0	0	0	0	0	0	0	0	<10	20	<10	10	<10	60			0.05	0.07	0.82	1.40	0.04	0.26	0.66	1.18	0.06	0.26
June	0	0	0	0	0	0	0	0	0	0	0	0	<10	30	<10	20	<10	30			0.06	0.09	0.86	1.58	0.04	0.28	0.52	1.43	0.07	0.35
July	0	0	0	0	0	0	0	0	0	0	0	0	<10	10	<10	60	<10	210			0.08	0.14	0.68	1.35	0.04	0.30	0.56	1.40	0.05	0.28
August	0	0	0	0	0	0	0	0	0	0	0	0	<10	270	<10	50	<10	30			0.02	0.14	0.48	1.44	0.03	0.32	0.43	1.43	0.07	0.30
September	0	0	0	0	0	0	0	0	0	0	0	0	<10	260	<10	60	<10	110			0.03	0.12	0.88	1.51	0.04	0.33	0.53	1.28	0.06	0.28
October	0	0	0	0	0	0	0	0	0	0	0	0	<10	230	<10	230	<10	420			0.07	0.08	0.93	1.55	0.05	0.35	0.52	1.50	0.06	0.33
November	0	0	0	0	0	0	0	0	0	0	0	0	<10	10	<10	10	<10	430			0.08	0.11	0.82	1.26	0.04	0.38	0.48	1.62	0.11	0.32
December	0	0	0	0	0	0	0	1	0	0	0	0	<10	40	<10	100	<10	310			0.08	0.09	0.81	1.39	0.08	0.38	0.72	1.19	0.09	0.34
Recap for Year	0	0	0	0	0	0	0	1	0	0	0	0	0	270	0	230	0	430	-	-	0.02	0.14	0.32	1.58	0.03	0.38	0.36	1.62	0.05	0.42

Lab Reports

Annual Summary - Distribution System Bacteriological Data

Water Works Name: Dundalk Water Works
Year: 2023
Serviced Population: 2803
Laboratories Which Performed Analyses: Caduceon Labs

Distribution System

Month	Total Coliform			Fecal Coliform/Escherichia Coli			HPC or MF		
	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"
January	20	20	0	20	20	0	20	20	0
February	16	16	0	16	16	0	16	16	0
March	16	16	0	16	16	0	16	16	0
April	16	16	0	16	16	0	16	16	0
May	20	20	0	20	20	0	20	20	0
June	16	16	0	16	16	0	16	16	0
July	16	16	0	16	16	0	16	16	0
August	24	24	0	24	24	0	24	24	0
September	20	20	0	20	20	0	20	20	0
October	25	25	0	25	25	0	25	25	0
November	20	20	0	20	20	0	20	20	0
December	20	20	0	20	20	0	20	20	0
Total	229	229	0	229	229	0	229	229	0

Input into the Distribution System Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well #3
Year: 2023
Serviced Population: 2803
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water

Month	Total Coliform			Fecal Coliform/Escherichia Coli			HPC or MF		
	No. of Samples	No. of Samples "Safe"	No. of Samples "Unsafe"	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"
January	5	5	0	5	5	0	5	5	0
February	4	4	0	4	4	0	4	4	0
March	4	4	0	4	4	0	4	4	0
April	4	4	0	4	4	0	4	4	0
May	5	5	0	5	5	0	5	5	0
June	4	4	0	4	4	0	4	4	0
July	4	4	0	4	4	0	4	4	0
August	5	5	0	5	5	0	5	5	0
September	4	4	0	4	4	0	4	4	0
October	5	5	0	5	5	0	5	5	0
November	4	4	0	4	4	0	4	4	0
December	4	4	0	4	4	0	4	4	0
Total	52	52	0	52	52	0	52	52	0

Input into the Distribution System Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 4
Year: 2023
Serviced Population: 2803
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water

Month	Total Coliform			Fecal Coliform/Escherichia Coli			HPC or MF		
	No. of Samples	No. of Samples "Safe"	No. of Samples "Unsafe"	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"
January	5	5	0	5	5	0	5	5	0
February	4	4	0	4	4	0	4	4	0
March	4	4	0	4	4	0	4	4	0
April	4	4	0	4	4	0	4	4	0
May	5	5	0	5	5	0	5	5	0
June	4	4	0	4	4	0	4	4	0
July	4	4	0	4	4	0	4	4	0
August	5	5	0	5	5	0	5	5	0
September	4	4	0	4	4	0	4	4	0
October	5	5	0	5	5	0	5	5	0
November	4	4	0	4	4	0	4	4	0
December	4	4	0	4	4	0	4	4	0
Total	52	52	0	52	52	0	52	52	0

Input into the Distribution System Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 5
Year: 2023
Serviced Population: 2803
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water

Month	Total Coliform			Fecal Coliform/Escherichia Coli			HPC or MF		
	No. of Samples	No. of Samples "Safe"	No. of Samples "Unsafe"	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"	No. of Samples Collected	No. of Samples "Safe"	No. of Samples "Unsafe"
January	5	5	0	5	5	0	5	5	0
February	4	4	0	4	4	0	4	4	0
March	4	4	0	4	4	0	4	4	0
April	4	4	0	4	4	0	4	4	0
May	5	5	0	5	5	0	5	5	0
June	4	4	0	4	4	0	4	4	0
July	4	4	0	4	4	0	4	4	0
August	5	5	0	5	5	0	5	5	0
September	4	4	0	4	4	0	4	4	0
October	5	5	0	5	5	0	5	5	0
November	4	4	0	4	4	0	4	4	0
December	4	4	0	4	4	0	4	4	0
Total	52	52	0	52	52	0	52	52	0

Annual Summary - Raw Water (A Separate Sheet Should Be Completed For Each Raw Water Input To The Treatment Works) Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 3
Year: 2023
Serviced Population: 2803
Laboratories Which Performed Analyses: Caduceon Labs

Raw Water

Month	Total Coliform			Fecal Coliform/Escherichia Coli		
	No. of Samples	No. of Samples 0 Organisms/100 ml	No. of Samples > 0 Organisms/100ml	No. of Samples Collected	No. of Samples 0 Org./100 ml	No. of Samples > 0 Organisms/100ml
January	5	4	1	5	5	0
February	4	4	0	4	4	0
March	4	3	1	4	4	0
April	4	4	0	4	4	0
May	5	5	0	5	5	0
June	4	4	0	4	4	0
July	4	4	0	4	4	0
August	5	5	0	5	5	0
September	4	4	0	4	4	0
October	5	5	0	5	5	0
November	4	4	0	4	4	0
December	4	4	0	4	4	0
Total	52	50	2	52	52	0

Annual Summary - Raw Water (A Separate Sheet Should Be Completed For Each Raw Water Input To The Treatment Works) Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 4
Year: 2023
Serviced Population: 2803
Laboratories Which Performed Analyses: Caduceon Labs

Raw Water

Month	Total Coliform			Fecal Coliform/Escherichia Coli		
	No. of Samples	No. of Samples 0 Organisms/100 ml	No. of Samples > 0 Organisms/100ml	No. of Samples Collected	No. of Samples 0 Org./100 ml	No. of Samples > 0 Organisms/100ml
January	5	5	0	5	5	0
February	4	4	0	4	4	0
March	4	4	0	4	4	0
April	4	4	0	4	4	0
May	5	5	0	5	5	0
June	4	4	0	4	4	0
July	4	4	0	4	4	0
August	5	5	0	5	5	0
September	4	4	0	4	4	0
October	5	5	0	5	5	0
November	4	4	0	4	4	0
December	4	3	1	4	4	0
Total	52	51	1	52	52	0

Annual Summary - Raw Water (A Separate Sheet Should Be Completed For Each Raw Water Input To The Treatment Works) Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 5
Year: 2023
Serviced Population: 2803
Laboratories Which Performed Analyses: Caduceon Labs

Raw Water

Month	Total Coliform			Fecal Coliform/Escherichia Coli		
	No. of Samples	No. of Samples 0 Organisms/100 ml	No. of Samples > 0 Organisms/100ml	No. of Samples Collected	No. of Samples 0 Org./100 ml	No. of Samples > 0 Organisms/100ml
January	5	5	0	5	5	0
February	4	4	0	4	4	0
March	4	4	0	4	4	0
April	4	4	0	4	4	0
May	5	5	0	5	5	0
June	4	4	0	4	4	0
July	4	4	0	4	4	0
August	5	5	0	5	5	0
September	4	4	0	4	4	0
October	5	5	0	5	5	0
November	4	4	0	4	4	0
December	4	4	0	4	4	0
Total	52	52	0	52	52	0

Input into the Distribution System Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 3
Year: 2023
Serviced Population: 2803
Design Capacity: 1181 m3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water

Month	Treated Water Flow			Influent	Treated Water Turbidity			Treated Disinfectant		Dist. System Disinfectant	
	Average m3	Maximum Day m3	Monthly Total m3	Wastewater Monthly Total m3	No. of Samples Collected	No. of Samples > 1 NTU	Average Turbidity NTU	No. of Treated Samples Collected	Average Free Residual (mg/L)	No. of Dist. Samples	No. of Samples without Required Chlorine Residual
January	250	327	7752	45307	31	0	0.29	31	1.04	31	0
February	250	475	6998	41360	28	0	0.27	28	1.10	28	0
March	245	326	7610	53479	31	0	0.25	31	1.19	31	0
April	249	324	7473	72329	30	0	0.23	30	1.05	30	0
May	250	336	7748	41637	31	0	0.23	31	1.03	31	0
June	245	344	7364	21609	30	0	0.26	30	1.29	30	0
July	251	420	7782	26586	31	0	0.28	31	1.02	31	0
August	270	376	8373	25672	31	0	0.28	31	1.17	31	0
September	279	470	8373	22734	30	0	0.30	30	1.16	30	0
October	301	362	9321	25158	31	0	0.3	31	1.36	31	0
November	301	409	9028	30863	30	0	0.32	30	1.15	30	0
December	303	341	9405	44059	31	0	0.34	31	1.12	31	0
Total			97227	450793	365	0		365		365	0
Average	266.167						0.28		1.14		
Maximum		475.000									

Disinfectant Compound Used:
(eg. Chlorine Gas, NaOCl, Etc.) **NaOCl**

Form of Residual Displayed on Above Table:
(I. E. Free, Combined, or Total) **Free**

Distribution System Target Residual (mg./L): **> 0.2 Free**

Recap for Month
Recap for Month

Input into the Distribution System Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 4
Year: 2023
Serviced Population: 2803
Design Capacity: 1636 m3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water

Month	Treated Water Flow			Influent	Treated Water Turbidity			Treated Disinfectant		Dist. System Disinfectant	
	Average m3	Maximum Day m3	Monthly Total m3	Wastewater Monthly Total m3	No. of Samples Collected	No. of Samples > 1 NTU	Average Turbidity NTU	No. of Treated Samples Collected	Average Free Residual (mg/L)	No. of Dist. Samples Collected	No. of Samples without Required Chlorine Residual
January	292	686	9043	45307	31	0	0.08	31	1.01	31	0
February	302	362	8443	41360	28	0	0.07	28	1.10	28	0
March	293	621	9091	53479	31	0	0.06	31	1.13	31	0
April	312	622	9350	72329	30	0	0.06	30	1.13	30	0
May	286	526	8871	41637	31	0	0.07	31	1.10	31	0
June	298	571	8930	21609	30	0	0.07	30	1.11	30	0
July	297	339	9204	26586	31	0	0.07	31	1.04	31	0
August	303	474	9408	25672	31	0	0.07	31	0.93	31	0
September	383	999	11478	22734	30	0	0.07	30	1.22	30	0
October	273	397	8467	25158	31	0	0.09	31	1.19	31	0
November	288	522	8634	30863	30	0	0.10	30	1.13	30	0
December	270	367	8358	44059	31	0	0.11	31	1.09	31	0
Total			109277	450793	365	0		365		365	0
Average	299.750						0.08		1.10		
Maximum		999.000									

Disinfectant Compound Used:
(eg. Chlorine Gas, NaOCl, Etc.) **NaOCl**

Form of Residual Displayed on Above Table:
(I. E. Free, Combined, or Total) **Free**

Distribution System Target Residual (mg./L): **> 0.2 Free**

Water Consumption Report
Recap for Month

Input into the Distribution System Bacteriological Data

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 5
Year: 2023
Serviced Population: 2803
Design Capacity: 1961 m3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water

Month	Treated Water Flow			Influent	Treated Water Turbidity			Treated Disinfectant		Dist. System Disinfectant	
	Average m3	Maximum Day m3	Monthly Total m3	Wastewater Monthly Total m3	No. of Samples Collected	No. of Samples > 1 NTU	Average Turbidity NTU	No. of Treated Samples Collected	Average Free Residual (mg/L)	No. of Dist. Samples Collected	No. of Samples without Required Chlorine Residual
January	279	594	8657	45307	31	0	0.09	31	1.05	31	0
February	247	332	6927	41360	28	0	0.07	28	1.01	28	0
March	255	419	7917	53479	31	0	0.06	31	1.05	31	0
April	209	373	6282	72329	30	0	0.07	30	1.04	30	0
May	247	452	7653	41637	31	0	0.07	31	0.96	31	0
June	331	716	9929	21609	30	0	0.07	30	1.06	30	0
July	292	385	9049	26586	31	0	0.07	31	1.05	31	0
August	276	860	8561	25672	31	0	0.07	31	0.95	31	0
September	379	787	11372	22734	30	0	0.08	30	1.01	30	0
October	359	564	11132	25158	31	0	0.11	31	1.06	31	0
November	244	380	7329	30863	30	0	0.12	30	1.00	30	0
December	310	446	9613	44059	31	0	0.12	31	0.97	31	0
Total			104421	450793	365	0		365		365	0
Average	285.667						0.08		1.02		
Maximum		860.000									

Disinfectant Compound Used:
(eg. Chlorine Gas, NaOCl, Etc.) **NaOCl**

Form of Residual Displayed on Above Table:
(I. E. Free, Combined, or Total) **Free**

Distribution System Target Residual (mg./L): **> 0.2 Free**

Water Consumption Report
Recap for Month

Annual Report - Flouride, Nitrite, Nitrate, and Colour

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 3
Year: 2023
Serviced Population: 2803
Design Capacity: 1181 m3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Month	Treated Water Fluoride			Treated Water Nitrite			Treated Water Nitrate			Colour	
	No. of Samples Collected	Average Residual (mg/L)	Maximum Residual (mg/L)	No. of Samples Collected	Average Nitrite (mg/L)	Maximum Nitrite (mg/L)	No. of Samples Collected	Average Nitrate (mg/L)	Maximum Nitrate (mg/L)	Average Raw (TCU)	Average Treated (TCU)
January				1	<0.1	<0.1	1	0.8	0.8		
February											
March											
April	1	0.5	0.5	1	<0.05	<0.05	1	0.91	0.91		
May											
June											
July				1	0.11	0.11	1	0.89	0.89		
August											
September											
October				1	0.07	0.07	1	0.78	0.78		
November											
December											
Total	1			4			4				
Average		0.500			0.045			0.845			
Maximum			0.500			0.110			0.910		
ODWO			1.5		0.1	1		1	10		

Where Nitrate and Nitrite are present, the total of the two should not exceed 10mg/L.

Flouride levels above 1.5mg/L should be reported to the Medical Officer of Health.

Annual Report - Flouride, Nitrite, Nitrate, and Colour

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 4
Year: 2023
Serviced Population: 2803
Design Capacity: 1636 m3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Month	Treated Water Fluoride			Treated Water Nitrite			Treated Water Nitrate			Colour	
	No. of Samples Collected	Average Residual (mg/L)	Maximum Residual (mg/L)	No. of Samples Collected	Average Nitrite (mg/L)	Maximum Nitrite (mg/L)	No. of Samples Collected	Average Nitrate (mg/L)	Maximum Nitrate (mg/L)	Average Raw (TCU)	Average Treated (TCU)
January				1	<0.1	<0.1	1	1.2	1.2		
February											
March											
April	1	0.7	0.7	1	<0.05	<0.05	1	1.6	1.6		
May											
June											
July				1	<0.05	<0.05	1	1.9	1.9		
August											
September											
October				1	<0.05	<0.05	1	1.8	1.8		
November											
December											
Total	1			4			4				
Average		0.700			0.000			1.593			
Maximum			0.7			0			1.87		
ODWO			1.5		0.1	1		1	10		

Where Nitrate and Nitrite are present, the total of the two should not exceed 10mg/L.

Flouride levels above 1.5mg/L should be reported to the Medical Officer of Health.

Annual Report - Flouride, Nitrite, Nitrate, and Colour

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 5
Year: 2023
Serviced Population: 2803
Design Capacity: 1961 m3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Month	Treated Water Fluoride			Treated Water Nitrite			Treated Water Nitrate			Colour	
	No. of Samples Collected	Average Residual (mg/L)	Maximum Residual (mg/L)	No. of Samples Collected	Average Nitrite (mg/L)	Maximum Nitrite (mg/L)	No. of Samples Collected	Average Nitrate (mg/L)	Maximum Nitrate (mg/L)	Average Raw (TCU)	Average Treated (TCU)
January				1	<0.1	<0.1	1	<0.1	<0.1		
February											
March											
April	1	1.7	1.7	1	<0.05	<0.05	1	<0.05	<0.05		
May											
June											
July	1	2.2	2.2	1	<0.05	<0.05	1	<0.05	<0.05		
August											
September											
October	1	2.1	2.1	1	<0.05	<0.05	1	<0.05	<0.05		
November											
December											
Total	3			4			4				
Average		6.000			0.000			0.000			
Maximum			2.2			0			0		
ODWO			1.5		0.1	1		1	10		

Where Nitrate and Nitrite are present, the total of the two should not exceed 10mg/L.

Flouride levels above 1.5mg/L should be reported to the Medical Officer of Health.

Annual Data Summary - Treated Water Volatile Organic & Inorganic Data

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name: Dundalk Water Works

Well No. (If applicable) Well #3

Year: 2023

Serviced Population: 2803

Design Capacity: 1181 m3/Day

Laboratories Which Performed Analyses: Caduceon Labs

Treated Water (except for Lead, THM's and HAA's which should be sampled for in the distribution system)

Parameters	Analysis No. 1		Analysis No. 2		Analysis No. 3		Analysis No. 4		Sampling Frequency	Last Date Parameter Tested	ODWO MAC/IMAC/AO (ug/L)
TABLE B VOLATILE ORGANICS	Date	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)	<<<<<<<	<<<<<<<	<<<<<<<<<<<
Benzene	1-Mar-21	<0.5	5-Mar-18	0.32	9-Mar-15	0.32	5-Mar-12	0.32	3 years	1-Mar-21	1
Carbon Tetrachloride	1-Mar-21	<0.2	5-Mar-18	0.16	9-Mar-15	0.16	5-Mar-12	0.16	3 years	1-Mar-21	2
1, 2 - Dichlorobenzene	1-Mar-21	<0.5	5-Mar-18	0.41	9-Mar-15	0.41	5-Mar-12	0.41	3 years	1-Mar-21	200
1, 4 - Dichlorobenzene	1-Mar-21	<0.5	5-Mar-18	0.36	9-Mar-15	0.36	5-Mar-12	0.36	3 years	1-Mar-21	5
1, 2 - Dichloroethane	1-Mar-21	<0.5	5-Mar-18	0.35	9-Mar-15	0.35	5-Mar-12	0.35	3 years	1-Mar-21	5
1, 1 - Dichloroethylene	1-Mar-21	<0.5	5-Mar-18	0.33	9-Mar-15	0.33	5-Mar-12	0.33	3 years	1-Mar-21	14
Dichloromethane	1-Mar-21	<5	5-Mar-18	0.35	9-Mar-15	0.35	5-Mar-12	0.35	3 years	1-Mar-21	50
Ethybenzene	1-Nov-00	<0.0024							Aesthetic Objective	1-Nov-00	140
Monochlorobenzene	1-Mar-21	<0.5	5-Mar-18	0.3	9-Mar-15	0.3	5-Mar-12	0.3	3 years	1-Mar-21	80
Tetrachloroethylene	1-Mar-21	<0.5	5-Mar-18	0.35	9-Mar-15	0.35	5-Mar-12	0.35	3 years	1-Mar-21	10
ToluneneTrichloroethylene	1-Mar-21	<0.5	5-Mar-18	0.44	9-Mar-15	0.44	5-Mar-12	0.44	3 years	1-Mar-21	60
Vinyl Chloride	1-Mar-21	<0.2	5-Mar-18	0.17	9-Mar-15	0.17	5-Mar-12	0.17	3 years	1-Mar-21	1
Xylene	1-Nov-00	0.005							Aesthetic Objective	1-Nov-00	90
TABLE C - INORGANICS	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<		<<<<<<<<<<<
Arsenic	1-Mar-21	0.00120	5-Mar-18	2.6	9-Mar-15	2.2	5-Mar-12	2.60	3 years	1-Mar-21	10
Barium	1-Mar-21	0.10500	5-Mar-18	126	9-Mar-15	116	5-Mar-12	122	3 years	1-Mar-21	1000
Boron	1-Mar-21	0.05400	5-Mar-18	55	9-Mar-15	57.6	5-Mar-12	48	3 years	1-Mar-21	5000
Cadmium	1-Mar-21	<0.000015	5-Mar-18	0.003	9-Mar-15	0.005	5-Mar-12	0.003	3 years	1-Mar-21	5
Chromium	1-Mar-21	<0.002	5-Mar-18	0.21	9-Mar-15	0.03	5-Mar-12	0.50	3 years	1-Mar-21	50
Copper	1-Nov-00	<0.005							Aesthetic Objective	1-Nov-00	1000
Iron	13-Jan-13	15	20-Dec-12	10	10-Sep-12	8	18-Jul-12	10	Aesthetic Objective	13-Jan-13	300
Lead	20-Sep-17	1.33	14-Mar-17	0.43	15-Sep-16	0.33	17-Mar-16	3.68		20-Sep-17	10
Manganese	13-Jan-13	5.6	20-Dec-12	6	12-Apr-08	7.0			Aesthetic Objective	13-Jan-13	20
Mercury	1-Mar-21	<0.00002	5-Mar-18	0.01	9-Mar-15	0.01	5-Mar-12	0.02	3 years	1-Mar-21	1
Selenium	1-Mar-21	<0.001	5-Mar-18	0.07	9-Mar-15	1	5-Mar-12	1.00	3 years	1-Mar-21	50
Uranium	1-Mar-21	0.001930	5-Mar-18	1.53	9-Mar-15	2.1	5-Mar-12	2.13	3 years	1-Mar-21	20
Zinc	1-Jan-01	<0.01							Aesthetic Objective	23-Jan-01	5000

Annual Data Summary - Treated Water Volatile Organic & Inorganic Data

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 4
Year: 2023
Serviced Population: 2803
Design Capacity: 1636 m3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water (except for lead, THM's and HAA's which should be sampled for in the distribution system)

Parameters	Analysis No. 1		Analysis No. 2		Analysis No. 3		Analysis No. 4		Sampling Frequency	Last Date Parameter Tested (year)	ODWO MAC/IMAC/AO (ug/L)
TABLE B VOLATILE ORGANICS	Date	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)	<<<<<<<	<<<<<<<	<<<<<<<<<<<
Benzene	1-Mar-21	<0.5	5-Mar-18	0.32	9-Mar-15	0.32	5-Mar-12	0.32	3 years	1-Mar-21	1
Carbon Tetrachloride	1-Mar-21	<0.2	5-Mar-18	0.16	9-Mar-15	0.16	5-Mar-12	0.16	3 years	1-Mar-21	2
1, 2 - Dichlorobenzene	1-Mar-21	<0.5	5-Mar-18	0.41	9-Mar-15	0.41	5-Mar-12	0.41	3 years	1-Mar-21	200
1, 4 - Dichlorobenzene	1-Mar-21	<0.5	5-Mar-18	0.36	9-Mar-15	0.36	5-Mar-12	0.36	3 years	1-Mar-21	5
1, 2 - Dichloroethane	1-Mar-21	<0.5	5-Mar-18	0.35	9-Mar-15	0.35	5-Mar-12	0.43	3 years	1-Mar-21	5
1, 1 - Dichloroethylene	1-Mar-21	<0.5	5-Mar-18	0.33	9-Mar-15	0.33	5-Mar-12	0.33	3 years	1-Mar-21	14
Dichloromethane	1-Mar-21	<5	5-Mar-18	0.35	9-Mar-15	0.35	5-Mar-12	0.35	3 years	1-Mar-21	50
Ethybenzene	22-Dec-04	0.47	1-Jun-02	<0.0005					Aesthetic Objective	22-Dec-04	140
Monochlorobenzene	1-Mar-21	<0.5	5-Mar-18	0.3	9-Mar-15	0.3	5-Mar-12	0.3	3 years	1-Mar-21	80
Tetrachloroethylene	1-Mar-21	<0.5	5-Mar-18	0.35	9-Mar-15	0.35	5-Mar-12	0.35	3 years	1-Mar-21	10
ToluneneTrichloroethylene	1-Mar-21	<0.5	5-Mar-18	0.44	9-Mar-15	0.44	5-Mar-12	0.44	3 years	1-Mar-21	60
Vinyl Chloride	1-Mar-21	<0.2	5-Mar-18	0.17	9-Mar-15	0.17	5-Mar-12	0.17	3 years	1-Mar-21	1
Xylene	1-Jun-02	<0.0015							Aesthetic Objective	1-Jun-02	90
TABLE C - INORGANICS	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<
Arsenic	1-Mar-21	0.00030	5-Mar-18	0.5	9-Mar-15	0.6	5-Mar-12	0.70	3 years	1-Mar-21	10
Barium	1-Mar-21	0.09600	5-Mar-18	113	9-Mar-15	103	5-Mar-12	96.9	3 years	1-Mar-21	1000
Boron	1-Mar-21	0.04000	5-Mar-18	40	9-Mar-15	44.7	5-Mar-12	32	3 years	1-Mar-21	5000
Cadmium	1-Mar-21	<0.000015	5-Mar-18	0.006	9-Mar-15	0.007	5-Mar-12	0.003	3 years	1-Mar-21	5
Chromium	1-Mar-21	<0.002	5-Mar-18	0.14	9-Mar-15	0.03	5-Mar-12	0.50	3 years	1-Mar-21	50
Copper	22-Dec-04	1.2	1-Jun-02	<0.001					Aesthetic Objective	22-Dec-04	1000
Iron	22-Dec-04	<10							Aesthetic Objective	22-Dec-04	300
Lead	20-Sep-17	0.77	14-Mar-17	0.57	14-Sep-16	1.34	17-Mar-16	4.72		20-Sep-17	10
Manganese	22-Dec-04	22							Aesthetic Objective	22-Dec-04	20
Mercury	1-Mar-21	<0.00002	5-Mar-18	0.01	9-Mar-15	0.01	5-Mar-12	0.02	3 years	1-Mar-21	1
Selenium	1-Mar-21	<0.001	5-Mar-18	0.26	9-Mar-15	1	5-Mar-12	1.00	3 years	1-Mar-21	50
Uranium	1-Mar-21	0.001750	5-Mar-18	1.52	9-Mar-15	1.39	5-Mar-12	1.76	3 years	1-Mar-21	20
Zinc	22-Dec-04	3	1-Jun-02	0.006					Aesthetic Objective	22-Dec-04	5000

Annual Data Summary - Treated Water Volatile Organic & Inorganic Data

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 5
Year: 2023
Serviced Population: 2803
Design Capacity: 1961 m3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water (except for lead, THM's and HAA's which should be sampled for in the distribution system)

Parameters	Analysis No. 1		Analysis No. 2		Analysis No. 3		Analysis No. 4		Sampling Frequency	Last Date Parameter Tested (year)	ODWO MAC/IMAC/AO (ug/L)
TABLE B VOLATILE ORGANICS	Date	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)	Date (DD/MMM/YY)	Results (ug/L)			
		<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<	<<<<<<<	<<<<<<<<<<<
Benzene	1-Mar-21	<0.5	22-Jan-20	<0.5	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	1
Carbon Tetrachloride	1-Mar-21	<0.2	22-Jan-20	<0.2	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	2
1, 2 - Dichlorobenzene	1-Mar-21	<0.5	22-Jan-20	<0.5	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	200
1, 4 - Dichlorobenzene	1-Mar-21	<0.5	22-Jan-20	<0.5	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	5
1, 2 - Dichloroethane	1-Mar-21	<0.5	22-Jan-20	<0.5	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	5
1, 1 - Dichloroethylene	1-Mar-21	<0.5	22-Jan-20	<0.5	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	14
Dichloromethane	1-Mar-21	<5	22-Jan-20	<5	27-Jan-17	<2.0	17-Oct-16	<2.0	3 years	1-Mar-21	50
Ethybenzene	27-Jan-17	<0.5	17-Oct-16	<0.5					Aesthetic Objective	27-Jan-17	140
Monochlorobenzene	1-Mar-21	<0.5	22-Jan-20	<0.5	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	80
Tetrachloroethylene	1-Mar-21	<0.5	22-Jan-20	<0.5	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	10
ToluneneTrichloroethylene	1-Mar-21	<0.5	22-Jan-20	<0.5	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	60
Vinyl Chloride	1-Mar-21	<0.2	22-Jan-20	<0.2	27-Jan-17	<0.5	17-Oct-16	<0.5	3 years	1-Mar-21	1
Xylene	27-Jan-17	<1.1	17-Oct-16	<1.1					Aesthetic Objective	27-Jan-17	90
TABLE C - INORGANICS	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<	<<<<<<<	<<<<<<<<<<<	<<<<<<<<<<<
Arsenic	1-Mar-21	0.00080	21-Jan-20	0.0004	27-Jan-17	<0.0010	17-Oct-16	<0.0010	3 years	1-Mar-21	10
Barium	1-Mar-21	0.10500	21-Jan-20	0.098	27-Jan-17	0.095	17-Oct-16	0.106	3 years	1-Mar-21	1000
Boron	1-Mar-21	0.04800	21-Jan-20	0.048	27-Jan-17	<0.050	17-Oct-16	0.053	3 years	1-Mar-21	5000
Cadmium	1-Mar-21	<0.000015	21-Jan-20	<0.000015	27-Jan-17	<0.00010	17-Oct-16	<0.00010	3 years	1-Mar-21	5
Chromium	1-Mar-21	<0.002	21-Jan-20	<0.002	27-Jan-17	<0.0010	17-Oct-16	<0.0010	3 years	1-Mar-21	50
Copper	27-Jan-17	<0.0010	17-Oct-16	<0.0010					Aesthetic Objective	27-Jan-17	1000
Iron	27-Jan-17	0.051	17-Oct-16	0.062					Aesthetic Objective	27-Jan-17	300
Lead	27-Jan-17	<0.00050	17-Oct-16	<0.00062						27-Jan-17	10
Manganese	27-Jan-17	0.001	17-Oct-16	0.0023					Aesthetic Objective	27-Jan-17	20
Mercury	1-Mar-21	<0.00002	23-Jan-20	<0.00002	27-Jan-17	<0.10	17-Oct-16	<0.10	3 years	1-Mar-21	1
Selenium	1-Mar-21	<0.001	21-Jan-20	<0.001	27-Jan-17	<0.0050	17-Oct-16	<0.0050	3 years	1-Mar-21	50
Uranium	1-Mar-21	0.000350	21-Jan-20	0.00016	27-Jan-17	<0.0050	17-Oct-16	<0.0050	3 years	1-Mar-21	20
Zinc	27-Jan-17	<0.0030	17-Oct-16	0.0102					Aesthetic Objective	27-Jan-17	5000

Annual Data Summary - Parameters Not Listed in the Minimum Sampling Program

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 3
Year: 2023
Serviced Population: 2803
Design Capacity: 1181 m_3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water (Except for Lead Which Should Be Sampled For in the Distribution System)

Parameters	Analysis No. 1		Analysis No. 2		Analysis No. 3		Analysis No. 4		Sampling Frequency	Last Date Parameter Tested	ODWO MAC/IMAC/AO (mg/L)
	Date	Results (mg/L)	Date (DD/MMM/YY)	Results (mg/L)	Date (DD/MMM/YY)	Results (mg/L)	Date (DD/MMM/YY)	Results (mg/L)			
OTHER PARAMETERS (List as Required)		<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<< <<<<<<<	<<<<<<< <<<<<<<	<<<<<<<<<<< <<<<<<<<<<<
Hardness	13-Jan-13	281	20-Dec-12	288	12-Apr-08	268			Operational Objective	13-Jan-13	80 - 100
Sodium	4-Jul-23	28.1	7-Mar-23	28.9	19-Jul-22	30.2	8-Mar-22	29.9	Annually	4-Jul-23	20
Fluoride	4-Apr-23	0.5	8-Mar-22	0.4	6-Mar-17	0.86	5-Mar-12	0.06	5 years	4-Apr-23	1.5
Hydrogen Sulphide									Aesthetic Objective		0.05
Alkalinity as Ca CO_3	7-Mar-23	245	7-Mar-23	259	13-Jan-13	251	20-Dec-12	264	Operational Objective	7-Mar-23	30 - 500
Chloride	19-Jul-22	39.1	12-Jul-21	44.6	13-Jan-20	49.4	10-Jan-23	42.9	Operational Objective	19-Jul-22	250
Sulphate	13-Jan-13	17	20-Dec-12	17					Aesthetic Objective	13-Jan-13	500
Organic Nitrogen 6	13-Jan-13	0.14	20-Dec-12	0.05					Operational Objective	13-Jan-13	0.15
Dissolved Organic C	12-Apr-08	0.8							Aesthetic Objective	12-Apr-08	5
Nitrilotriacetic Acid	23-Jan-01	<0.3								23-Jan-01	0.4
Total Dissolved Solids	13-Jan-13	409	12-Apr-08	334					Aesthetic Objective	13-Jan-13	500
Total Cynanide	10-Jan-01	0.2								10-Jan-01	0.2
Benzo (a) Pyrenene	1-Mar-21	<0.006	5-Mar-18	0.004	11-Mar-15	0.004	5-Mar-12	0.004	3 years	1-Mar-21	0.01 ug/l
N-Nitrosodimethylamine	23-Jan-01	<.000007								23-Jan-01	0.000009
Ammonia	10-Oct-23	0.33	14-Oct-22	0.47	16-Oct-17	0.3	11-Apr-17	0.35		10-Oct-23	
Nitrates	10-Oct-23	0.78	4-Jul-23	0.89	4-Apr-23	0.91	3-Jan-23	0.8	Quarterly	10-Oct-23	10
Nitrites	10-Oct-23	0.07	4-Jul-23	0.11	4-Apr-23	<0.05	3-Jan-23	<0.1	Quarterly	10-Oct-23	1
Pesticides & PCB's	1-Mar-21	<0.05	9-Mar-15	0.04	5-Mar-12	0.04	1-Nov-00	0.001		1-Mar-21	3
pH	31-Dec-15	7.58	13-Jan-13	7.98	20-Dec-12	8.01			Operational Objective	31-Dec-15	6.5 - 8.5
Radionuclides-Gross Alpha	7-Mar-23	<0.10	8-Mar-22	0.19	1-Mar-21	<0.10	23-Mar-20	<0.10	Annually	7-Mar-23	0.1 bq/l
Radionuclides-Gross Beta	7-Mar-23	<0.10	8-Mar-22	0.12	1-Mar-21	0.15	23-Mar-20	<0.10	Annually	7-Mar-23	0.5 bq/l
Radionuclides-Tritium	7-Mar-23	<15	8-Mar-22	<15	1-Mar-21	<15	23-Mar-20	<15	Annually	7-Mar-23	7000 bq/l
True Colour (TCU)									Aesthetic Objective		5 TCU

Annual Data Summary - Parameters Not Listed in the Minimum Sampling Program

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name:	Dundalk Water Works
Well No. (If applicable)	Well # 4
Year:	2023
Serviced Population:	2803
Design Capacity:	1636 m_3/Day
Laboratories Which Performed Analyses:	Caduceon Labs

Treated Water (Except for Lead Which Should Be Sampled For in the Distribution System)

Parameters	Analysis No. 1		Analysis No. 2		Analysis No. 3		Analysis No. 4		Sampling Frequency	Last Date Parameter Tested	ODWO MAC/IMAC/AO (mg/L)
	Date	Results (mg/L)	Date (MM/DD/YY)	Results (mg/L)	Date (MM/DD/YY)	Results (mg/L)	Date (MM/DD/YY)	Results (mg/L)			
OTHER PARAMETERS (List as Required)		<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<< <<<<<<<	<<<<<<< <<<<<<<	<<<<<<<<<<< <<<<<<<<<<<
Hardness	22-Dec-04	236							Operational Objective	22-Dec-04	80 - 100
Sodium	4-Jul-23	24.9	7-Mar-23	26.6	19-Jul-22	27.6	8-Mar-22	27.5	Annually	4-Jul-23	20
Fluoride	4-Apr-23	0.7	8-Mar-22	0.5	6-Mar-17	0.75	5-Mar-12	0.71	5 years	4-Apr-23	1.5
Hydrogen Sulphide									Aesthetic Objective		0.05
Alkalinity as Ca CO_3	7-Mar-23	245	7-Mar-23	259	22-Dec-04	247			Operational Objective	7-Mar-23	30 - 500
Chloride	10-Jan-23	41.1	19-Jul-22	38.6	12-Jul-21	43.1	13-Jan-20	54.7	Operational Objective	10-Jan-23	250
Sulphate	22-Dec-04	9.8							Aesthetic Objective	22-Dec-04	500
Organic Nitrogen 6	22-Dec-04	0.05							Operational Objective	22-Dec-04	0.15
Dissolved Organic C	22-Dec-04	0.2							Aesthetic Objective	22-Dec-04	5
Nitrilotriacetic Acid	22-Dec-04	0.03								22-Dec-04	0.4
Total Dissolved Solids	22-Dec-04	303							Aesthetic Objective	22-Dec-04	500
Total Cynanide	22-Dec-04	0.2								22-Dec-04	0.2
Benzo (a) Pyrenene	1-Mar-21	<0.006	5-Mar-18	0.004	11-Mar-15	0.004	5-Mar-12	0.32	3 years	1-Mar-21	0.01 ug/l
N-Nitrosodimethylamine	22-Dec-04	0.0012								22-Dec-04	0.000009
Ammonia	22-Dec-04	0.06								22-Dec-04	
Nitrates	10-Oct-23	1.75	4-Jul-23	1.87	4-Apr-23	1.6	3-Jan-23	1.2	Quarterly	10-Oct-23	10
Nitrites	10-Oct-23	<0.05	4-Jul-23	<0.05	4-Apr-23	<0.05	3-Jan-23	<0.1	Quarterly	10-Oct-23	1
Pesticides & PCB's	1-Mar-21	<0.05	9-Mar-15	0.04	5-Mar-12	0.004	3-Feb-09	0.04		1-Mar-21	3
pH	31-Dec-15	7.5							Operational Objective	31-Dec-15	6.5 - 8.5
Radionuclides-Gross Alpha	7-Mar-23	<0.10	8-Mar-22	<0.10	1-Mar-21	0.12	23-Mar-20	<0.10	Annually	7-Mar-23	0.1 bq/l
Radionuclides-Gross Beta	7-Mar-23	<0.10	8-Mar-22	0.13	1-Mar-21	0.11	23-Mar-20	<0.10	Annually	7-Mar-23	0.5 bq/l
Radionuclides-Tritium	7-Mar-23	<15	8-Mar-22	<15	1-Mar-21	<15	23-Mar-20	<15	Annually	7-Mar-23	7000 bq/l
True Colour (TCU)	22-Dec-04	3							Aesthetic Objective	22-Dec-04	5 TCU

Annual Data Summary - Parameters Not Listed in the Minimum Sampling Program

(A Separate Sheet Should Be Completed for Each Input into the Distribution System)

Water Works Name: Dundalk Water Works
Well No. (If applicable) Well # 5
Year: 2023
Serviced Population: 2803
Design Capacity: 1961 m^3/Day
Laboratories Which Performed Analyses: Caduceon Labs

Treated Water (Except for Lead Which Should Be Sampled For in the Distribution System)

Parameters	Analysis No. 1		Analysis No. 2		Analysis No. 3		Analysis No. 4		Sampling Frequency	Last Date Parameter Tested	ODWO MAC/IMAC/AO (mg/L)
	Date	Results (mg/L)	Date (MM/DD/YY)	Results (mg/L)	Date (MM/DD/YY)	Results (mg/L)	Date (MM/DD/YY)	Results (mg/L)			
OTHER PARAMETERS (List as Required)		<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<<<<<< <<<<<<<<<<<	<<<<<<< <<<<<<<	<<<<<<< <<<<<<<	<<<<<<<<<<< <<<<<<<<<<<
Hardness	27-Jan-17	231000	17-Oct-16	265000					Operational Objective	27-Jan-17	80000-100000
Sodium	4-Jul-23	12.7	7-Mar-23	13.2	19-Jul-22	15.1	8-Mar-22	14.4	Annually	4-Jul-23	20
Fluoride	10-Oct-23	2.1	4-Jul-23	2.2	4-Apr-23	1.7	23-Jan-20	2.5	5 years	10-Oct-23	1.5
Hydrogen Sulphide	27-Jan-17	<0.21	17-Oct-16	0.22					Aesthetic Objective	27-Jan-17	0.05
Alkalinity as Ca CO_3	7-Mar-23	245	7-Mar-23	259	27-Jan-17	243	17-Oct-16	248	Operational Objective	7-Mar-23	30 - 500
Chloride	10-Jan-23	15.4	19-Jul-22	15.7	12-Jul-21	18.9	13-Jan-20	22.7	Operational Objective	10-Jan-23	250
Sulphate	27-Jan-17	<0.020	17-Oct-16	0.021					Aesthetic Objective	27-Jan-17	500
Organic Nitrogen 6	27-Jan-17	<0.15							Operational Objective	27-Jan-17	0.15
Dissolved Organic C	27-Jan-17	1.4	17-Oct-16	1.7					Aesthetic Objective	27-Jan-17	5
Nitrilotriacetic Acid	27-Jan-17	<0.20	17-Oct-16	<0.20						27-Jan-17	0.4
Total Dissolved Solids	27-Jan-17	279	17-Oct-16	281					Aesthetic Objective	27-Jan-17	500
Total Cynanide	27-Jan-17	<0.0020	17-Oct-16	<0.0020						27-Jan-17	0.2
Benzo (a) Pyrenene	1-Mar-21	<0.006	27-Jan-17	<0.010	17-Oct-16	<0.010			3 years	1-Mar-21	0.01 ug/l
N-Nitrosodimethylamine	27-Jan-17	1.8	17-Oct-16	0.71						27-Jan-17	9
Ammonia	27-Jan-17	0.056	17-Oct-16	0.051						27-Jan-17	
Nitrates	10-Oct-23	<0.05	4-Jul-23	<0.05	4-Apr-23	<0.05	3-Jan-23	<0.1	Quarterly	10-Oct-23	10
Nitrites	10-Oct-23	<0.05	4-Jul-23	<0.05	4-Apr-23	<0.05	3-Jan-23	<0.1	Quarterly	10-Oct-23	1
Pesticides & PCB's	1-Mar-21	<0.05								1-Mar-21	3
pH	27-Jan-17	7.4	17-Oct-16	8					Operational Objective	27-Jan-17	6.5 - 8.5
Radionuclides-Gross Alpha	7-Mar-23	<0.10	8-Mar-22	0.13	1-Mar-21	0.11	23-Mar-20	<0.10	Annually	7-Mar-23	0.5 bq/l
Radionuclides-Gross Beta	7-Mar-23	<0.10	8-Mar-22	<0.10	1-Mar-21	0.1	23-Mar-20	<0.10	Annually	7-Mar-23	1.0 bq/l
Radionuclides-Tritium	7-Mar-23	<15	8-Mar-22	<15	1-Mar-21	<15	23-Mar-20	<15	Annually	7-Mar-23	7000 bq/l
True Colour (TCU)	27-Jan-17	<2.0	17-Oct-16	<2.0					Aesthetic Objective	27-Jan-17	5 TCU

Annual Data Summary - Distribution System Volatile Organic Compounds Data

Total Haloacetic (HAA) Annual Average Results

Quarter	Quarter Dates	Sample 1	Sample 2	Sample 3	Sample 4	Quarterly Average (ug/L)	**MAC** (maximum allowable concentration)
1-2023	03-Jan-32	5.3	5.3			5.3	
2-2023	04-Apr-23	5.3	5.3			5.3	
3-2023	04-Jul-23	5.3	5.3			5.3	
4-2023	10-Oct-23	5.3	5.3			5.3	
					(RAA) Running Annual Average	5.3	80 ug/L

Total Trihalmethane (THM) Annual Average Results

Quarter	Quarter Dates	Sample 1	Sample 2	Sample 3	Sample 4	Quarterly Average (ug/L)	**MAC** (Maximum allowable concentration)
1-2023	03-Jan-23	13	20			16.5	
2-2023	04-Apr-23	6	11			8.5	
3-2023	04-Jul-23	16	34			25	
4-2023	10-Oct-23	15	16			15.5	
					(RAA) Running Annual Average	16.375	100 ug/L