2023 Annual Drinking Water System Summary Report

Tillsonburg Drinking Water System

1. GENERAL INFORMATION

Oxford County (the County) prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail information required for Annual Reports and Summary Reports under the Ontario Regulation (O. Reg.) 170/03 of the *Safe Drinking Water Act* including the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County at the address and phone number listed below or by email at water@oxfordcounty.ca.

Drinking Water System:	Tillsonburg Drinking Water System
Drinking Water System Number:	220000683
Reporting Period:	January 1, 2023 – December 31, 2023

Drinking Water System Owner & Contact Information:

Oxford County Public Works Department - Water Services
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1.1 System Description

The Tillsonburg Drinking Water System (DWS) is a large municipal residential water system as defined by O. Reg. 170/03 and services a population of approximately 19,120. The system consists of eleven well sources, seven of which are classified as GUDI (Groundwater Under Direct Influence of surface water) with effective in-situ filtration (wells 1A, 2, 4, 5, 7A, 9 and 10) and three are secure groundwater wells (wells 3, 6A, 11 and 12). The treatment for each Water Treatment Facility (WTF) is summarized below.

Treatment Facility	*Wells*	*Treatment*
Mall Rd. WTF	1A & 2	Filtration for iron removal and disinfection with ultraviolet (UV) and chlorine gas.
Fairview WTF	3 (offline), 4, 5 & 7A	Disinfection with chlorine gas (Well 4 and Well 5) and sodium hypochlorite (Well 7A), disinfection with UV and secondary disinfection with sodium hypochlorite.
Plank Line WTF	6A	Not operational in 2023
Bell Mill Rd. WTF	9, 10 & 11	Filtration for iron removal and disinfection with UV and chlorine gas.
Rokeby Rd. WTF	12	Disinfection with chlorine gas.

The treatment facilities each house high lift pumps, monitoring and treatment equipment for the supply wells. Three standby generators are available to run Mall Road, Fairview and Bell Mill facilities in the event of a power failure. Water storage and system pressure is provided by a 9,100 m^3 reservoir located north of the Town of Tillsonburg. Fairview WTF boosts water to the north service area which is at a higher elevation.

In 2023, approximately 4,760 kg of chlorine gas and 12,500 L of sodium hypochlorite were used in the water treatment process. The chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by O. Reg. 170/03. Alarms automatically notify operators in the event of a failure of critical operational requirements. Tillsonburg does not supply drinking water to any other drinking water systems. A bulk water station is located at 30 John Pound Road for customer convenience.

1.2 Major Expenses

Planning for major drinking water system expenses is included within Oxford County's Water Services Master Plan and managed according to our Asset Management and Capital Replacement Program.

In 2023, the Tillsonburg Drinking Water System had forecasted operating and maintenance expenditures of approximately $2,700,000.

In addition to regular operational and maintenance expenditures, Capital improvement projects for Tillsonburg totaled $2,500,000 for improvements to water treatment systems and replacement of distribution mains in the Tillsonburg Drinking Water System.

Town of Tillsonburg Capital improvement projects included:

- $890,000 in distribution projects;
- $527,000 well rehabilitations;
- $335,000 for pressure improvement projects;
- $300,000 UV upgrades;
- $175,000 for improved groundwater modelling;
- $130,000 Well 3 Upgrades; and
- $50,000 Well 7A Filtration Upgrades.

Capital Improvement projects for all systems included:

- $390,000 to develop Countywide SCADA Master Plan for all water systems;
- $70,000 to develop Countywide Water Servicing Master Plan for all water systems; and
- $38,000 to develop the County Development Charges Technical Study.

2. MICROBIOLOGICAL TESTING

2.1 E. coli and Total Coliform

Bacteriological tests for *E.coli* and *Total coliforms* are required weekly from the raw and treated water at the facility and from the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E.coli* or *Total coliform* results above the Maximum Allowable Concentration (MAC) of 0 colonies per 100 mL in treated water samples must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the annual sampling program are shown on the table below. There were no adverse test results from 586 treated water samples in this reporting period.

Source	*Number of Samples*	*Range of E. coli Min - Max MAC = 0 (colonies / 100 mL)*	*Range of Total Coliform Min - Max MAC = 0 (colonies / 100 mL)*
Raw	462	0	0 - 2
Treated	208	0	0
Distribution	378	0	0

2.2 Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system

bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. Annual results are shown in the following table.

Source	*Number of Samples*	*Range of HPC Min – Max (colonies / mL)*
Treated	208	0 – 18
Distribution	112	0 – >500

3. CHEMICAL TESTING

The *Safe Drinking Water Act* requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix 'A'. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the MAC under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by O. Reg. 170/03. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix 'A'. Additional information on common chemical parameters specific to the Tillsonburg Drinking Water System is provided below.

3.1 Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, sodium will not impair the taste of the water. The latest test results are provided in Appendix 'A'.

When sodium levels are above 20 mg/L the MECP and MOH are notified. Southwestern Public Health maintains an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/advisories-alerts-and-information.aspx#2024 in order to help people on sodium restricted diets control their sodium intake.

3.2 Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. Samples for hardness are collected at a minimum

every three years from raw water. The hardness of the wells was tested in 2022 and ranged from 253 - 377 mg/L (15 - 22 grains/gallon).

3.3 Required Additional Testing

Under O. Reg. 170/03, additional quarterly sampling is required when a parameter listed in Schedule 23 or 24 exceeds half of the MAC. Based on the latest test results no additional testing is required under O. Reg. 170/03.

No additional testing requirements are listed in the Municipal Drinking Water Licence.

4. OPERATIONAL MONITORING

4.1 Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the WTF. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. A summary of the chlorine residual readings is provided in the table below in section 4.3. There were no reportable incidents in 2023.

4.2 Nitrate

Nitrate levels are continuously monitored at the point of entry of the Fairview WTF to the distribution system. A nitrate level higher than 10.0 mg/L must be reported and corrective action taken. A summary of Fairview facility's nitrate level readings is provided in the table below in section 4.3. There were no reportable incidents in 2023.

4.3 Turbidity

Turbidity of treated water is continuously monitored at the treatment facility as a change in turbidity can indicate an operational problem. As a minimum, turbidity for each well is required to be tested monthly. Turbidity is measured in nephelometric turbidity units (NTU). Under O.Reg. 170/03 turbidity in groundwater from a secure well or a well with effective in-situ filtration is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the annual monitoring results is provided in the following table.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Bell Mill Road WTF		
Chlorine residual after treatment (mg/L)	Continuous	(0.91 – 2.16) 1.48
Well 9 turbidity before treatment (NTU)	53	(0.26 – 28.1) 1.93
Well 10 turbidity before treatment (NTU)	52	(0.16 – 20.0) 3.25
Well 11 turbidity before treatment (NTU)	45	(0.14 – 4.34) 1.10
Turbidity after treatment (NTU)	Continuous	(0.03 – 4.00) 0.05
Fairview WTF		
Chlorine residual after treatment (mg/L)	Continuous	(0.29 – 5.00) 1.27
Nitrate level after treatment (mg/L)	Continuous	(0.01 – 8.40) 4.86
Well 4 turbidity before treatment (NTU)	52	(0.05 – 1.62) 0.40
Well 5 turbidity before treatment (NTU)	51	(0.06 – 1.29) 0.38
Well 7A turbidity before treatment (NTU)	51	(0.12 – 1.87) 0.74
Mall Road WTF		
Chlorine residual after treatment (mg/L)	Continuous	(0.45 – 3.60) 1.55
Well 1A turbidity before treatment (NTU)	51	(0.08 – 8.89) 1.02
Well 2 turbidity before treatment (NTU)	51	(0.15 – 8.87) 1.00
Turbidity after treatment (NTU)	Continuous	(0.05 – 4.00) 0.05
Plank Line WTF		
Chlorine residual after treatment (mg/L)	Continuous	Not running in 2023
Well 6A turbidity before treatment (NTU)	NA	Not running in 2023
Turbidity after treatment (NTU)	Continuous	Not running in 2023
Rokeby Road WTF		
Chlorine residual after treatment (mg/L)	Continuous	(0.49 – 2.88) 1.23
Well 12 turbidity before treatment (NTU)	52	(0.10 – 1.80) 0.62
Turbidity after treatment (NTU)	Continuous	(0.04 – 4.00) 0.09
Distribution System		
Chlorine residual in distribution (mg/L)	Continuous	(0.19 – 4.74) 0.93

4.4 Ultra Violet (UV) Disinfection

Supply wells that have been classified as being GUDI require “enhanced disinfection” through ultra violet light (UV) followed by chlorination. A minimum UV dosage of 40 mJ/cm² is maintained to inactivate any microorganisms that may be present from contact with surface water. Insufficient dosage of UV lasting more than 10 minutes must be reported as inadequate disinfection. There were no occurrences of inadequate UV disinfection in 2023.

5. WATER QUANTITY

Continuous monitoring of flow rates from supply wells into the treatment system and from the WTF into the distribution system is required by O. Reg. 170/03. The Permit to Take Water (PTTW) and Municipal Drinking Water License (MDWL) issued by the MECP regulate the amount of water that can be utilized over a given time period.

Terms used to evaluate capacity and current values for the Tillsonburg DWS are provided in the following table.

Capacity Term	*Definition*	*Capacity (m^3/day)*
Supply Capacity	The limiting capacity of either the PTTW or MDWL.	16,130
Dynamic Supply Capacity	Accounts for any current constraints on the water supply (such as offline wells, reduced well capacity, water quality considerations).	9,504
Firm Capacity	Firm Capacity is defined as the removal of the highest producing well in an emergency or operational / maintenance situation with the ability to transport a maximum of 100 m^3/day to maintain system integrity if appropriate.	13,135
Dynamic Firm Capacity	Considers the removal of the largest production well and other current system constraints. Trucked in water may be considered for some systems.	8,381

This system consists of 11 wells which are treated at five independent treatment facilities. The PTTW include Wells 3 and 6A which are currently offline. Dynamic Capacity conditions take offline wells into account as well as reduced well yields. Trucked in water is not considered for this system.

A summary comparing flows in 2023 to current capacities is provided in the table below and presented graphically in Appendix 'B'.

Flow Summary	*Supply Capacity (m^3/day)*	*Dynamic Supply Capacity (m^3/day)*	*Max Daily Flow (m^3/day)*	*Average Daily Flow (m^3/day)*	*Average Monthly Flow (m^3/month)*	*Total Yearly Flow (m^3/year)*
Mall Rd WTF	3,600	1,987	2,106	1,254	38,137	457,646
Fairview WTF	6,307	3,499	3,838	2,340	71,161	853,933
Plank Ln. WTF	982	0	Offline in 2023			
Bell Mill Rd WTF	3,931	2,647	2,647	1,449	44,082	528,987
Rokeby Rd WTF	1,310	1,253	1,293	474	14,429	173,152
Tillsonburg DWS	**16,130**	**9,504**	**9,345**	**5,517**	**167,809**	**2,013,709**

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1 Non-Compliance Findings

At the time that this report was drafted the 2023 Annual MECP Inspection for the Tillsonburg DWS had not yet taken place.

6.2 Adverse Results

Any adverse bacteriological or chemical results or observations of operational conditions that may indicate adverse water quality are reported as required and corrective actions are taken. There were no reportable incidents in 2023.

APPENDIX 'A': SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing the County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document PSIB 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines" available at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf.

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (µg/L). 1 mg/L is equal to 1000 µg/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring. In the event that some samples results are ND, and other results are above the MDL, the value of the MDL will be used in place of the ND where an average result must be calculated. Where all collected samples are ND the average sample result will be assumed to be ND.

Nitrate and nitrite samples are required every three months in normal operation.

Parameter	*Number of Tests*	*Result Range (Min – Max) Average (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite				
Bell Mill Road WTF	4	ND	1.0	0.003
Fairview WTF	53 *	ND	1.0	0.003
Mall Road WTF	4	(ND – 0.004) ND	1.0	0.003
Plank Line WTF	Offline in 2023		1.0	0.003
Rokeby Road WTF	4	ND	1.0	0.003
Nitrate				
Bell Mill Road WTF	4	(3.67 – 3.87) 3.79	10.0	0.006
Fairview WTF	53 *	(4.94 – 7.99) 6.74	10.0	0.006
Mall Road WTF	4	(1.92 – 2.34) 2.14	10.0	0.006
Plank Line WTF	Offline in 2023		10.0	0.006
Rokeby Road WTF	4	(4.71 – 5.22) 4.93	10.0	0.006

** Additional samples are taken at Fairview WTF to confirm accuracy of the continuously monitored nitrate analyzer*

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every three months from the distribution system.

Parameter	*Annual Average*	*Result Value (µg/L)*	*MAC (µg/L)*	*MDL (µg/L)*
Trihalomethane (THM)	2023	33.0	100	0.37
Haloacetic Acids (HAA)	2023	5.5	80	5.3

The following Table summarizes the most recent test results for sodium and fluoride. Testing and reporting any adverse results is required every five years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium				
Bell Mill Road WTF	August 16, 2021	6.5	20 *	0.01
Fairview WTF	May 27, 2019	40.8	20 *	0.01
Mall Road WTF	August 16, 2021	11.1	20 *	0.01
Plank Line WTF +	August 22, 2016	39.3	20 *	0.01
Rokeby Road WTF	August 16, 2021	2.6	20 *	0.01
Fluoride				
Bell Mill Road WTF	August 16, 2021	0.07	1.5 **	0.06
Fairview WTF	May 27, 2019	0.35	1.5 **	0.06
Mall Road WTF	August 16, 2021	ND	1.5 **	0.06
Plank Line WTF +	August 22, 2016	1.51	1.5 **	0.06
Rokeby Road WTF	August 16, 2021	ND	1.5 **	0.06

** Sodium levels between 20 – 200 mg/L must be reported every 5 years*
*** Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years*
+ Plank Line WTF not running in 2023

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every three years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity 2023	179 – 243 mg/L	8	30 – 500 mg/L
Distribution pH 2023	7.35 – 7.62	8	6.5 – 8.5
Distribution Lead 2021	0.08 – 1.32 µg/L	8	10 µg/L MAC

Table (A) summarizes annual Schedule 23 parameter test results for Bell Mill Rd., Fairview and Mall Rd. Testing is required annually for water treatment facilities supplied by GUDI wells.

(A) *Parameter*	*Results (µg/L) Bell Mill Rd. WTF (Nov. 27, 2023)*	*Results (µg/L) Fairview WTF (Nov. 27, 2023)*	*Results (µg/L) Mall Rd. WTF (Nov. 27, 2023)*	*MAC (µg/L)*	*MDL (µg/L)*
Antimony	ND	ND	ND	6	0.6
Arsenic	ND	2.4	ND	10	0.2
Barium	31.5	173	60.5	1000	0.02
Boron	14	67	17	5000	2
Cadmium	0.003	0.004	0.006	5	0.003
Chromium	0.25	0.34	0.17	50	0.08

(A) *Parameter*	*Results (µg/L) Bell Mill Rd. WTF (Nov. 27, 2023)*	*Results (µg/L) Fairview WTF (Nov. 27, 2023)*	*Results (µg/L) Mall Rd. WTF (Nov. 27, 2023)*	*MAC (µg/L)*	*MDL (µg/L)*
Mercury	ND	ND	ND	1	0.01
Selenium	0.15	0.22	0.11	50	0.04
Uranium	0.625	0.355	1.97	20	0.002

Table (B) summarizes the most recent Schedule 23 parameter test results for Plank Line and Rokeby Road. Testing is required every three years for water treatment facilities supplied by secure groundwater wells.

(B) Parameter	*Results (ug/L) Plank Line WTF + June 6/16*	*Results (ug/L) Rokeby Road WTF May 30/22*	*MAC (µg/L)*	*MDL (µg/L)*
Antimony	ND	ND	6	0.6
Arsenic	10.0	ND	10	0.2
Barium	52.4	26.7	1000	0.02
Boron	153	23	5000	2
Cadmium	ND	0.008	5	0.003
Chromium	3.94	0.68	50	0.08
Mercury	ND	ND	1	0.01
Selenium	0.09	0.39	50	0.04
Uranium	0.185	1.31	20	0.002

+ Plank Line WTF offline in 2023

Table (C) summarizes annual Schedule 24 parameter test results for Bell Mill Road., Fairview and Mall Road WTFs. Testing is required annually for water treatment facilities supplied by GUDI wells.

(C) Parameter	*Results (µg/L) Bell Mill Rd. WTF (Nov. 27, 2023)*	*Results (µg/L) Fairview WTF (Nov. 27, 2023)*	*Results (µg/L) Mall Rd. WTF (Nov. 27, 2023)*	*MAC (µg/L)*	*MDL (µg/L)* *
Alachlor	ND	ND	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	ND	ND	ND	5	0.01
Azinphos-methyl	ND	ND	ND	20	0.05
Benzene	ND	ND	ND	1	0.32
Benzo(a)pyrene	ND	ND	ND	0.01	0.004
Bromoxynil	ND	ND	ND	5	0.33
Carbaryl	ND	ND	ND	90	0.05
Carbofuran	ND	ND	ND	90	0.01
Carbon Tetrachloride	ND	ND	ND	2	0.17
Chlorpyrifos	ND	ND	ND	90	0.02
Diazinon	ND	ND	ND	20	0.02
Dicamba	ND	ND	ND	120	0.20
1,2-Dichlorobenzene	ND	ND	ND	200	0.41
1,4-Dichlorobenzene	ND	ND	ND	5	0.36
1,2-Dichloroethane	ND	ND	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	ND	14	0.33
Dichloromethane	ND	ND	ND	50	0.35

(C) Parameter	*Results (µg/L) Bell Mill Rd. WTF (Nov. 27, 2023)*	*Results (µg/L) Fairview WTF (Nov. 27, 2023)*	*Results (µg/L) Mall Rd. WTF (Nov. 27, 2023)*	*MAC (µg/L)*	*MDL (µg/L)* *
2-4 Dichlorophenol	ND	ND	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	ND	100	0.19
Diclofop-methyl	ND	ND	ND	9	0.40
Dimethoate	ND	ND	ND	20	0.06
Diquat	ND	ND	ND	70	1
Diuron	ND	ND	ND	150	0.03
Glyphosate	ND	ND	ND	280	1
Malathion	ND	ND	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	ND	ND	ND	100	0.12
Metolachlor	ND	ND	ND	50	0.01
Metribuzin	ND	ND	ND	80	0.02
Monochlorobenzene	ND	ND	ND	80	0.30
Paraquat	ND	ND	ND	10	1
Pentachlorophenol	ND	ND	ND	60	0.15
Phorate	ND	ND	ND	2	0.01
Picloram	ND	ND	ND	190	1
Polychlorinated Biphenyls(PCB)	ND	ND	ND	3	0.04
Prometryne	ND	ND	ND	1	0.03
Simazine	ND	ND	ND	10	0.01
Terbufos	ND	ND	ND	1	0.01
Tetrachloroethylene	ND	ND	ND	10	0.35
2,3,4,6-Tetrachlorophenol	ND	ND	ND	100	0.20
Triallate	ND	ND	ND	230	0.01
Trichloroethylene	ND	ND	ND	5	0.44
2,4,6-Trichlorophenol	ND	ND	ND	5	0.25
Trifluralin	ND	ND	ND	45	0.02
Vinyl Chloride	ND	ND	ND	1	0.17

** 2023 Method Detection Limit (MDL) stated*

Table (D) summarizes the most recent Schedule 24 parameter test results for Plank Line and Rokeby Road. WTFs. Testing is required every three years for water treatment facilities supplied by secure groundwater wells.

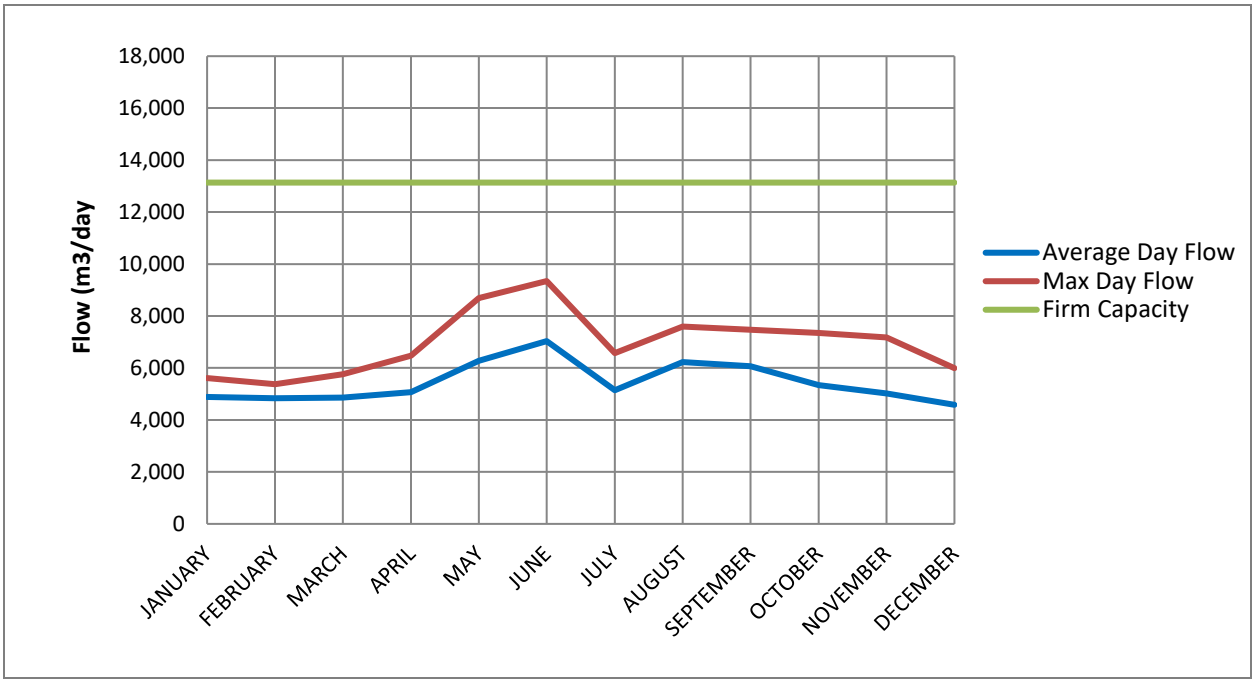
(D) Parameter	*Results (µg/L) Plank Ln. WTF + June 6, 2016*	*Results (µg/L) Rokeby Rd. WTF June 7, 2021*	*MAC (µg/L)*	*Plank MDL (µg/L)*	*Rokeby MDL (µg/L)*
Alachlor	ND	ND	5	0.02	0.02
Atrazine + N-dealkylatedmetobolites	ND	0.02	5	0.01	0.01
Azinphos-methyl	ND	ND	20	0.01	0.05
Benzene	ND	ND	1	0.32	0.32
Benzo(a)pyrene	ND	ND	0.01	0.004	0.004
Bromoxynil	ND	ND	5	0.33	0.33
Carbaryl	ND	ND	90	0.05	0.05
Carbofuran	ND	ND	90	0.01	0.01

(D) Parameter	*Results (µg/L) Plank Ln. WTF + June 6, 2016*	*Results (µg/L) Rokeby Rd. WTF June 7, 2021*	*MAC (µg/L)*	*Plank MDL (µg/L)*	*Rokeby MDL (µg/L)*
Carbon Tetrachloride	ND	ND	2	0.16	0.17
Chlorpyrifos	ND	ND	90	0.002	0.02
Diazinon	ND	ND	20	0.02	0.02
Dicamba	ND	ND	120	0.02	0.20
1,2-Dichlorobenzene	ND	ND	200	0.20	0.41
1,4-Dichlorobenzene	ND	ND	5	0.41	0.36
1,2-Dichloroethane	ND	ND	5	0.36	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	14	0.35	0.33
Dichloromethane	ND	ND	50	0.33	0.35
2-4 Dichlorophenol	ND	ND	900	0.35	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	100	0.15	0.19
Diclofop-methyl	ND	ND	9	0.19	0.40
Dimethoate	ND	ND	20	0.40	0.06
Diquat	ND	ND	70	0.03	1
Diuron	ND	ND	150	1	0.03
Glyphosate	ND	ND	280	0.03	1
Malathion	ND	ND	190	1	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA) *	**	ND	100	0.02	0.12
Metolachlor	ND	ND	50	0.12	0.01
Metribuzin	ND	ND	80	0.01	0.02
Monochlorobenzene	ND	ND	80	0.02	0.30
Paraquat	ND	ND	10	0.30	1
Pentachlorophenol	ND	ND	60	1	0.15
Phorate	ND	ND	2	0.15	0.01
Picloram	ND	ND	190	0.01	1
Polychlorinated Biphenyls(PCB)	ND	ND	3	1	0.04
Prometryne	ND	ND	1	0.04	0.03
Simazine	ND	ND	10	0.03	0.01
Terbufos	ND	ND	1	0.01	0.01
Tetrachloroethylene	ND	ND	10	0.01	0.35
2,3,4,6-Tetrachlorophenol	ND	ND	100	0.35	0.20
Triallate	ND	ND	230	0.14	0.01
Trichloroethylene	ND	ND	5	0.01	0.44
2,4,6-Trichlorophenol	ND	ND	5	0.43	0.25
Trifluralin	ND	ND	45	0.25	0.02
Vinyl Chloride	ND	ND	1	0.02	0.17

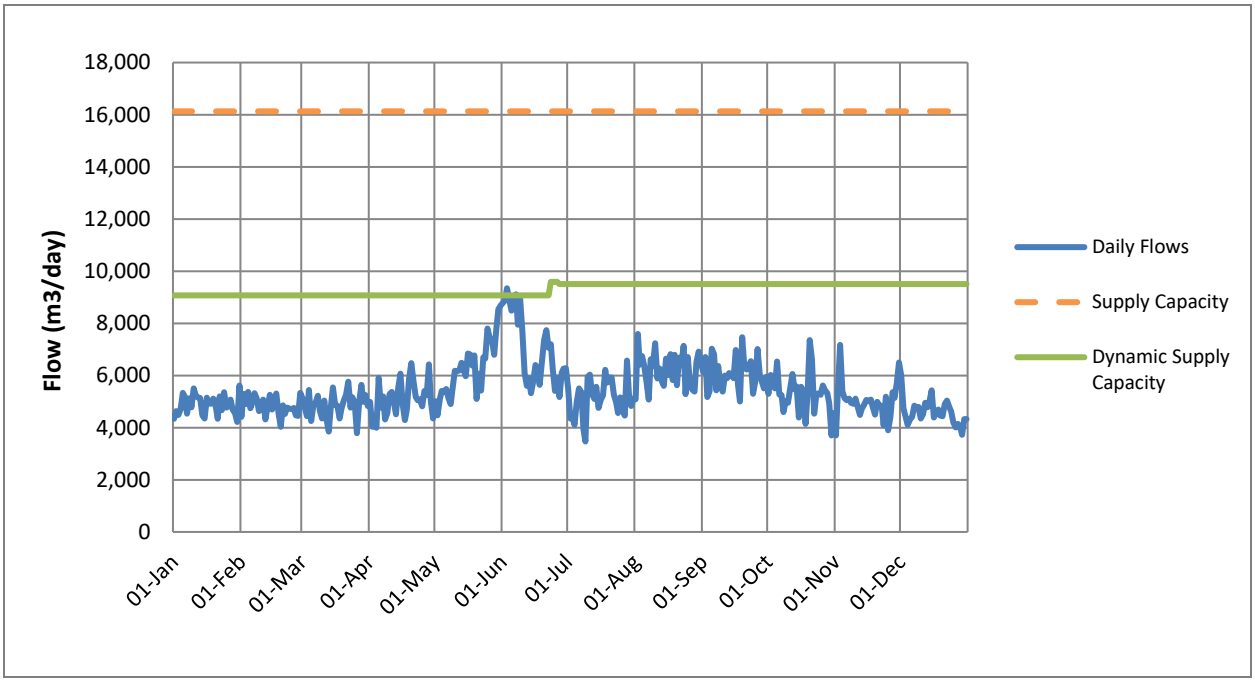
** 2-methyl-4chlorophenoxyacetic acid (MCPA) added in 2017*
+ Plank Line WTF offline in 2023

APPENDIX 'B': WATER QUANTITY SUMMARY

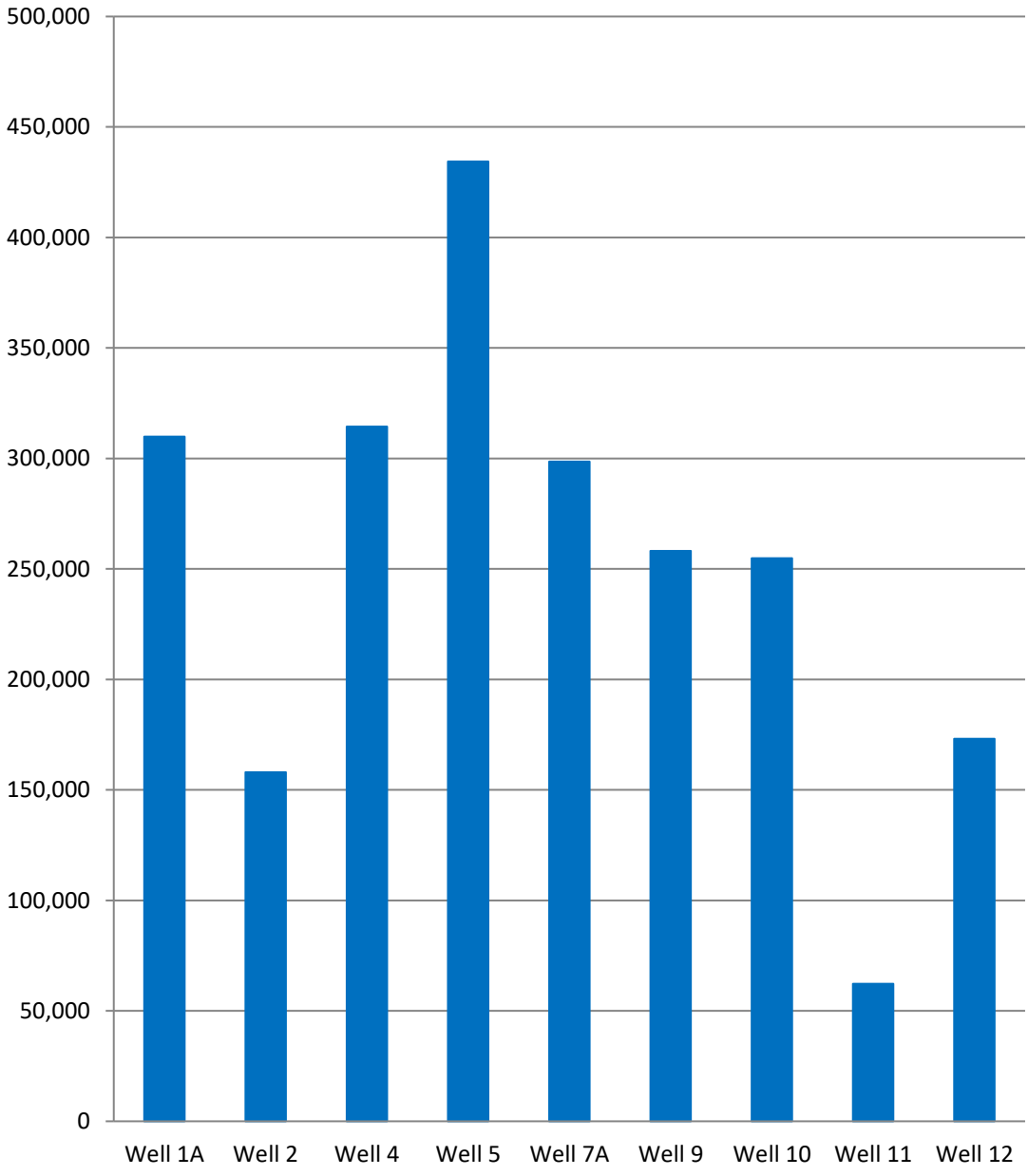
2023 Average vs Maximum Daily Flow Rates



2023 Daily Flow



2023 Total Production by Well



Note: Well 3 and well 6A were not online in 2023.