

2021 Annual Water System Report



Jeff Hume, Utility Foreman
City of Dauphin
February 8th, 2022
jeffh@dauphin.ca

Water System Information

Name of Public Water System: Dauphin Public Water System

Name of the Legal Owner: City of Dauphin

Contact Person: Jeff Hume, Utility Foreman

Phone: 204.648-4133

Email: jeffh@dauphin.ca

Website: www.dauphin.ca

Emergency Phone Number: 204.622-3202

Names of Water Treatment Plant Operators:

Jeff Hume

Oblin N. Sofan

Chad McCrady

Jason Lobert

Curt Flett

Curtis Smith

Water Treatment Plant Phone Number: 204.622.3287

Date Completed: March 30th, 2022

Jeff Hume

Utility Foreman, City of Dauphin

February 8th, 2022

Contents

Water System Information.....	0
Introduction	1
Description of Water System	1
Water Supply Source	1
Water Treatment process	2
Distribution System.....	2
Storage Reservoir.....	3
Number of Connections and Population served	3
Classification and Certifications	4
Disinfection System in Use.....	4
Type of Disinfection system used.....	4
Equipment Redundancy and Monitoring Requirements	5
Disinfectant Residual Overall Performance/Results	5
List of Water Quality Standards.....	5
Water Treatment Failures and Corrective Actions.....	9
Additional Records Required	9
Drinking Water Safety Orders and Actions Taken in Response	9
Boil Water Advisories and Actions Taken in Response	9
Warnings Issued or Charges Laid on the System in Accordance with the Drinking Water Safety Act	9
Major Expenses Incurred	10
Future System Expansion and/or Increased Production.....	10
Appendix A	Bacteriological Results



Introduction

The 2021 Annual Report for the City of Dauphin summarized the Water Utility's ability to produce safe potable water and meet the requirements of all provincial regulations

Description of Water System

The City of Dauphin Public Water System (PWS) provides potable drinking water to a population of 8368 residents (2021 Census). Dauphin's PWS also supplies potable water to a private water system in the RM of Dauphin; Eclipse Water Coop. Treated water produced from the water treatment plant meets all health and aesthetic objectives as stated in the *Guidelines for Canadian Drinking Water Quality*.

Water Supply Source

The City of Dauphin (City) obtains surface water from Edwards Creek. The intake structure is located just south of the southern tip of the Lower Reservoir. The city can draw water from Edwards Lake inside Riding Mountain National Park when required depending on the available supply naturally occurring in Edwards Creek. Vermillion Reservoir Dam is operated by Manitoba Water Stewardship and is also used when needed. The intake structure is located approximately 6.5 km from the water treatment plant (WTP) site. Raw water is drawn from two 45m cast iron pipes 400mm in diameter. The opening is screened by a stainless steel mesh. The water is then pumped from the reservoir via the Vermillion Raw Water Pumping Station to the Lower Reservoir located at the WTP site via 300 mm diameter pipe. It is then pumped into the WTP via the Low-lift Pumping Station via 300 mm diameter pipe. The pumping station consists of two alternating 50 hp pumps.

Water Treatment Process

Raw water is stored at the WTP in what is referred to as the Lower Reservoir. Raw water is pumped from the Lower Reservoir via the Low Lift Pumping Station and enters the facility on the north side of the building and is split to feed the two process trains. Treated water is stored in two reservoirs: the WTP Reservoir and the Brown Avenue Reservoir and distributed to the consumers via water mains. A Pressure Reducing Station located along Hwy #10 aids in the transfer of the treated water to the City of Dauphin (City) distribution system.

The existing treatment process consists of the following:

- Flash Mixing/Flocculation/Sedimentation, using aluminum sulphate (alum), caustic soda (seasonal) and polymer.
- Ozonation, for disinfection, oxidation and taste & odor.
- Filtration, polishing step using sand and anthracite rapid gravity filters.
- Chlorination with contact time for primary disinfection.
- Fluoridation, using hydrofluosilic acid (HFSA) for consumers' dental health.

These processes are designed to clarify the water and remove microbial contaminants, such as bacteria, and organic materials that are naturally found in surface waters.

Distribution System

The existing water distribution network is made up of pipes of various, age, size and material. The distribution network is made up of pipe ranging from 100 mm to 300 mm diameter, with most of the pipe being 150 mm in diameter. The system is gravity fed.

The City has a proactive plan to renew a many water lines each year as possible in order to maintain an efficient water system. This proves difficult both financially and with our short construction season. Our water loss for 2021 was 37%.

Storage Reservoirs

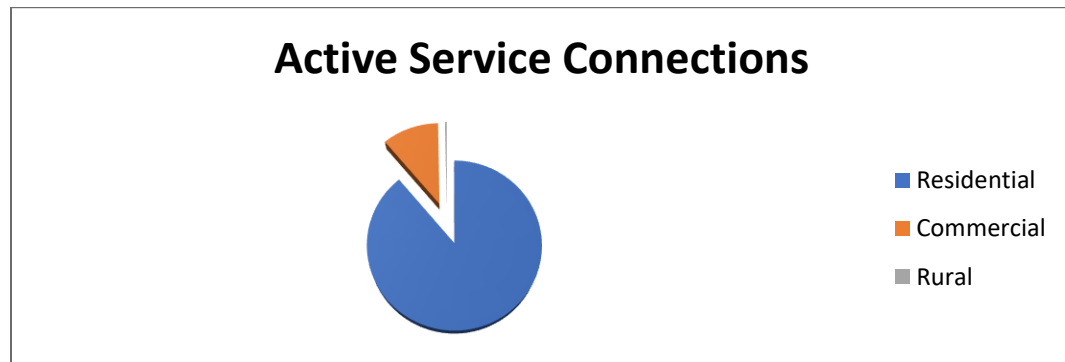
The water storage system incorporates one (1) raw water and two (2) treated water reservoirs. The table below summarizes their capacities.

Capacity of Reservoirs

	Imperial Units (Imp. Gallons)	Metric Units (ML)	Year Constructed
Edwards Reservoir (Raw)	11,300,000	51.4	
WTP (Treated)	792,000	3.6	1999 & 2001
Brown Avenue (Treated)	1,000,000	4.54	1981

Number of Connections, Population Served and Types of Water Users

The Dauphin distribution system is comprised of 3337 active service connections servicing a population of 8368 residents (2021 Census). All service connections are metered with 88.8% being residential services, 10.8% being commercial services and 0.4% being rural services.



Classification and Certification

The water system facility classifications for the 2021 year:

Class 4 Water Treatment Facility Classification

Class 2 Water Distribution Facility Classification

The water system staff and certification levels for the 2021 year:

Staff Member	Water Treatment	Water Distribution
Jeffrey J. Hume, C. TECH	Class IV	Class III
Jeff J. Weselowski		Class II
Gary Burla		Class II
Oblin N. Sofan	Class IV	Class II
Chad McCready	Class III	Class II
Jason Lobert	Class III	Class II
Curt Flett	Class I	Class II
Curtis Smith	Class I	Class II
Devon Mullen	OIT	OIT
Ronald Johnson	OIT	OIT

Disinfection System in Use

The final step in the treatment of safe water is disinfection. Disinfection is the selective destruction or inactivation of potential disease-causing organisms in water. As per the Drinking Water Safety Act the Dauphin PWS is required to ensure a disinfectant residual of at least:

- 0.5 mg/L of Free Chlorine entering the distribution system following a minimum contact time of 30 minutes.
- 0.1 mg/L of Free available Chlorine at all times at any point in the water distribution system

Primary disinfection of the filtered water is accomplished using chlorine gas. Chlorine is added to the treated water to produce Free Chlorine. Chlorine gas is added to the water using a Wallace and Tiernan V-Notch gas feeder system. Sodium Hypochlorite can also be added at Brown Avenue Reservoir using a diaphragm pump when required to assist in maintaining a safe level of chlorine in the drinking water.

Equipment Redundancy and Monitoring Requirements

Chlorine gas is stored in a separate room in 68 kg cylinders. Two banks of two cylinders each are always connected to the chlorine feed system and an automatic transfer system is in place.

Each of the two banks of cylinders can supply the full amount of chlorine required for disinfection at peak demand. Parts and maintenance kits for all chlorination equipment are always kept at the WTP.

Disinfectant Residual Overall Performance/Results

For 2021, the Dauphin PWS has met all regulatory requirements regarding monitoring and reporting disinfection residuals in the water leaving the water treatment plant as well as in the distribution system.

List of Water Quality Standards

The Province of Manitoba has adopted a number of water quality standards from the *Guidelines for Canadian Drinking Water Quality*, developed by Health Canada. The parameters are health-based and they express the maximum acceptable concentration for a surface water supply source. Concentration values in excess constitute a health-related issue and require corrective actions.

Water Quality Standards		Percent Compliance	Corrective Action Forms
Bacterial			
E. coli	Less than one E. coli bacteria detectable per 100mL in all treated water	100%	N/A
Total coliform	Less than one total coliform bacteria detectable per 100mL in all treated water	100%	N/A
E. coli	Less than one E. coli bacteria detectable per 100mL in all distributed water	100%	N/A
Total coliform	Less than one total coliform bacteria detectable per 100mL in all distributed water	100%	N/A
Water Quality Standards		Percent Compliance	Corrective Action Forms
Disinfection			
Chlorine residual	A free chlorine residual of at least 0.5 mg/L in water entering the distribution system following a minimum contact time of 30 minutes	100%	N/A
	A free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system, when free chlorine disinfection is being practiced	100%	N/A
	A monochloramine residual of at least 0.3 mg/L at all times at any point in the water distribution system, when monochloramine disinfection is being practiced	100%	N/A
Physical			
Turbidity	Less than or equal to 0.3 NTU in 95% of the measurements in a month of the effluent from each operating particulate filter.	100%	N/A
	Not exceed 0.3 NTU for more than 12 consecutive hours of filter operation	100%	N/A
	Not exceed 1.0 NTU for any continuous measurement	100%	N/A

Chemical		
Total trihalomethanes (to include: bromodichloromethane, bromoform, chloroform, dibromochloromethane)	Less than or equal to 0.10 mg/L as annual average of quarterly samples	0.05
Manganese	Less than 0.02 mg/L	0.002
Sodium	Less than 200 mg/L	27.5
Total Dissolved Solids	Less Than 500 mg/L	380
Sulfate	Less than or equal to 500 mg/L	113
Aluminum	Less than or equal to 0.100 mg/L	0.025
Lead	Less than or equal to 0.05 mg/L	0.00
Arsenic	Less than or equal to 0.01 mg/L	0.0003
Fluoride	Less than or equal to 0.9 mg/L	0.71
Nitrate	Less than or equal to 10 mg/L measured as nitrogen	0.083
Total Haloacetic Acids	Less than or equal to 0.08 mg/L as an annual average	0.02

Monitoring Requirements		Percent Compliance
Bacterial		
Total coliform and E. coli	Bi-weekly sampling program with each set of samples consisting of one raw, one treated, and a minimum of 4 distribution samples.	100%
	Consecutive sample sets must be separated by at least 12 days	100%
Disinfection		
Free chlorine (treated water)	One sample per day at the treated water sampling location established by the Drinking Water Officer	100%
	Continuous sampling of water entering the distribution system following at least thirty minutes of contact time	100%
Total chlorine (treated water)	One sample per day of water entering the distribution system following at least thirty minutes of contact time	100%
Total chlorine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling	100%
Monochloramine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling when being practiced	100%



Physical		
Turbidity	One raw water sample per day.	100%
	Continuous sampling of the effluent from each operating particulate filter	100%
	A confirmatory sample to be taken daily at a location established by the Drinking Water Officer	100%
Chemistry		
General chemistry (to include arsenic, fluoride, nitrate, and Lead)	One raw and one treated water sample once each year	100%
Trihalomethanes (THMs)	"1" preserved distribution system samples taken on a quarterly basis during February May, August, and November, every year	100%
Total Haloacetic Acid (HAA)	"2" preserved distribution system samples taken on a quarterly basis during February May, August, and November, every year	100%

Reporting Requirements		
Disinfection	Submit original monthly disinfection report forms within seven days after the end of each calendar month	100%
Physical	Submit original monthly turbidity report forms within seven days after the end of each calendar month	100%
Corrective Actions	Submit original corrective action report for minor exceedance's as described in the most recent version of the Office of Drinking Water "Operational Guidelines for Public and Semi-public Water Systems", along with the monthly disinfection, or turbidity report form	100%
Emergency	Immediately notify the Office of Drinking Water of any condition that may affect the ability of the water system to produce or deliver safe drinking water including treatment upsets or bypass conditions, contamination of the source water or treated water, a filtration or disinfection system failure, or a distribution system failure	NA

Water System Failures and Corrective Actions

In 2021, there were no water system failures or associated corrective actions required.

Additional Records Required

As part of Manitoba Health's fluoridation program, water samples are collected on a daily basis at the WTP and City Hall and tested on site. Daily fluoride results are recorded and a 14 day composite sample is submitted by-weekly for analysis. The Dauphin PWS strives to maintain a 0.70 mg/L fluoride level. The operating range for fluoride, as identified by Manitoba Health, is 0.50-0.90 mg/L. In 2021, fluoride levels never exceeded the 0.90 mg/L recommended limit.

Drinking Water Safety Orders and Actions Taken in Response

In 2021, no Drinking Water Safety Orders were issued for the Dauphin Public Water System.

Boil Water Advisories and Actions Taken in Response

In 2021, no Boil Water Advisories or Action were Taken.

Warnings Issued or Charges Laid on the System in Accordance with the Drinking Water Safety Act

In 2021, no Warnings were issued for the Dauphin Public Water System.

Major Expenses Incurred

- Replaced distribution line on 200 block of MacLeod Avenue
- Relined distribution pipe on Aster Bay
- Relined distribution pipe on Crocus Bay
- Replaced raw water feed pump at WTP
- Desludged South Drying bed

Future system Expansion and/or Increased Production

The City of Dauphin is currently undergoing an upgrade to include Orthophosphates to assist in the reduction of lead at the consumers tap. It is caused by lead service lines associated with homes built prior to 1950 and soldering inside homes built prior to 1990.

The City is also adding a structure onto the Water Treatment Plant creating the ability to use Ultraviolet Disinfection. This will allow another barrier to protect the city's treated water supply from contaminants. Construction should be completed by spring of 2022.

Appendix A

Bacteriological Results

Date	Location	Sample Identification	TC	EC
01-05-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	200	0
01-05-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
01-05-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
01-05-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
01-05-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
01-05-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
01-19-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	130	0
01-19-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
01-19-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
01-19-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
01-19-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
01-19-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
02-02-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	83	0
02-02-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
02-02-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
02-02-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
02-02-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
02-02-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
02-16-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	83	1
02-16-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
02-16-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
02-16-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
02-16-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
02-16-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
03-02-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	50	3
03-02-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
03-02-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
03-02-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
03-02-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
03-02-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
03-16-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	118	0
03-16-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
03-16-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
03-16-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
03-16-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0

03-16-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
03-30-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	56	0
03-30-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
03-30-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
03-30-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
03-30-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
03-30-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
04-13-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	70	0
04-13-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
04-13-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
04-13-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
04-13-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
04-13-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
04-27-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	43	0
04-27-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
04-27-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
04-27-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
04-27-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
04-27-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
05-11-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	109	0
05-11-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
05-11-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
05-11-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
05-11-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
05-11-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
05-25-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	101	0
05-25-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
05-25-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
05-25-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
05-25-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
05-25-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
06-08-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	>200	4
06-08-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
06-08-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
06-08-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
06-08-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
06-08-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0

06-22-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	>200	1
06-22-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
06-22-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
06-22-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
06-22-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
06-22-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
07-06-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	>200	24
07-06-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
07-06-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
07-06-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
07-06-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
07-06-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
07-20-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	200	50
07-20-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
07-20-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
07-20-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
07-20-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
07-20-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
08-03-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	>200	3
08-03-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
08-03-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
08-03-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
08-03-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
08-03-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
08-17-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	>200	9
08-17-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
08-17-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
08-17-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
08-17-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
08-17-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
09-01-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	>200	9
09-01-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
09-01-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
09-01-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
09-01-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
09-01-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0

09-14-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	145	5
09-14-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
09-14-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
09-14-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
09-14-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
09-14-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
09-28-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	>200	4
09-28-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
09-28-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
09-28-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
09-28-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
09-28-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
10-12-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	130	3
10-12-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
10-12-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
10-12-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
10-12-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
10-12-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
10-26-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	200	0
10-26-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
10-26-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
10-26-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
10-26-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
10-26-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
11-09-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	140	0
11-09-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
11-09-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
11-09-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
11-09-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
11-09-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
11-23-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	62	0
11-23-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
11-23-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
11-23-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
11-23-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
11-23-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0



12-07-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	145	0
12-07-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
12-07-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
12-07-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
12-07-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
12-07-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0
12-21-21	DAUPHIN WATER PLANT	DAUPHIN 1 - RAW	74	1
12-21-21	DAUPHIN WATER PLANT	DAUPHIN 2 - TREATED @ WTP	0	0
12-21-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Hall	0	0
12-21-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ City Shop	0	0
12-21-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ PRV Station	0	0
12-21-21	DAUPHIN WATER PLANT	DAUPHIN 3 - DISTRIBUTION @ Brown Avenue	0	0

Appendix B

