Wajed Shah
Regional Drinking Water Officer
Office of Drinking Water
Environment and Climate Change
Unit B – 284 Reimer Avenue
Steinbach, MB R5G 0R5

March 21, 2025

Mr. Shah,

Re: 2024 Grunthal Public Water System Report

Please find attached our annual Public Water System Report for the Community of Grunthal.

This report will be posted on our website at **www.hanovermb.ca** by March 31, 2025 and hard copies were made available from our R.M.'s office at 28 Westland Drive in Mitchell, Manitoba. We notified residents that this report is available through our Facebook page.

If you have any questions or concerns, please contact Rob Driedger.

Sincerely,

Rob Driedger, C.E.T.
Manager of Engineering & Utilities
Phone: 204-346-7121
E-Mail: rob.driedger@hanovermb.ca

Grunthal Public Water System
Annual Report

2024

Rural Municipality of Hanover
March 1, 2025

Public Water System Annual Report

LUD of Grunthal – 2024

March 1, 2025

Name of Public Water System: Grunthal Public Water System

Name of legal owner: The Rural Municipality of Hanover

Contact: Rob Driedger, C.E.T., Manager of Engineering & Utilities
Phone: (204) 346-7121
E-Mail: rob.driedger@hanovermb.ca

Website: www.hanovermb.ca

Water Systems Emergency #: (204) 326-4488

Name of Operators: Barry Broesky, Utility Operator, Class II
Phone: (204) 371-0484
E-Mail: barry.broesky@hanovermb.ca

Rob Friesen, Utility Operator, Class II
Phone: (204) 371-8236
E-Mail: rob.friesen@hanovermb.ca

Table of Contents

Introduction

The 2024 Annual Report for the Grunthal Public Water Systems ability to produce safe potable water and to meet Provincial regulations.

1. Description of Water System

The Grunthal Water Treatment Plant provides potable drinking water to approximately 2125 residents within the community. Treated water produced at the water plant meets all health and aesthetic objectives as set forth in the Guidelines for *Canadian Drinking Water Quality.*

1.1 Water Supply Source

The Grunthal Water Treatment Plant receives groundwater from one main drilled well as a well as a back-up well. Both wells draw from a water source at roughly 80 feet to 90 feet below the ground surface. Then main well in use at the time produces water at approximately 10 liters per second and this raw water is pumped to the water treatment plant reservoir. The raw water does contain some iron that it picks up in the rock aquifer but these metals do not pose any health concerns.

1.2 Intake Structures

Not applicable.

1.3 Water Treatment Process

As the raw water enters the water treatment plant it is immediately treated with Chlorine for disinfection along with HIB-5, which is an iron sequester which keeps any iron particles from settling out of the water causing staining in the piping. Once treated, the water is then stored in a 295.5 m^3 reservoir and a 1,195.62 m^3 reservoir from where it can then be distributed throughout the watermain system.

1.4 Distribution System

Treated water from the reservoir is pumped through the mains into the distribution system via three 20hp variable drive duty pumps. The duty pumps distribute the water at pressures of around 60psi through 150mm and 200mm watermains throughout the community. The watermains currently consists of either Asbestos Cement (AC) or High Density Poly pipe (HDPE) construction.

1.5 Storage Reservoirs

As indicated above the storage reservoirs include a 295.5 m^3 and 1,195.62 m^3 reservoir that are above ground reservoirs.

1.6 Number of Connections, Population Served and Types of Water Users

There are approximately 629 water connections with the Grunthal Menno Home and Carleton Hatcheries being the largest users to date. Estimated population use is about 2125 people.

1.7 Classification and Certification

The Grunthal Water Treatment Plant is classified as a Class 1 Water Treatment Facility and is currently operated by two utility operators with certification under the Environment Act Water and Wasterwater Facility Operators Regulation. *(See Appendix A – Operator Certification)*

In addition the plant is regulated under license number PWS-09-325-03 and complies with The Drinking Water Safety Act.

2. Disinfection System in Use

2.1 Type of Disinfection System Used

The Grunthal Water Treatment Plant disinfects by adding 12% sodium hypochlorite solution to the water via a chlorinator pump.

2.2 Equipment Redundancy and Monitoring Requirements

As required by the *Drinking Water Safety Act*, the Grunthal Public Water System ensures continuous disinfection as maintained at the plant by keeping stock of all spare parts required for the chlorinator. In addition, a complete spare chlorinator is kept at the plant.

Disinfectant residuals are monitored daily at the water treatment plant and periodically in the distribution system and recorded on the appropriate monitoring forms. Monthly chlorination report forms are sent to the regional Drinking Water Officer at the end of each month.

2.3 Disinfectant Residual Overall Performance Results

For 2024, the Grunthal Public Water System was compliant in the audited time period. 100 % of the Free chlorine residual measurements taken at the Grunthal WTP passed and were above the limit of 0.50 mg/L

3. 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 groundwater supply source. Concentration values in excess constitute a health-related issue and require corrective actions. The 2023 results for the Grunthal Public Water System are summarized in the following table.

SOURCE	PARAMETER	STANDARD	FREQUENCY	TEST RESULTS
GROUND WATER	**TC & EC***	No TC of EC	Bi-Weekly	100%
	Disinfectant	WTP (>0.5 mg/l)	Daily	100%
		Distribution (0.1 mg/l)	Bi-Weekly	100%
	Lead	0.005 mg/l	As per instructions of the Drinking Water Officer	>0.050 µg/l Raw 0.070 µg/l Treated
	Arsenic	0.01 mg/l	One Raw and One Treated water sample once every three years	0.36 µg/l Raw 0.40 µg/l Treated
	Benzene	.005 mg/l		>.00050 mg/l Raw
	Fluoride	1.5 mg/l		.180mg/l Raw .169 mg/l Treated
	Nitrate	As Nitrate: 45 mg/l		>0.0010 mg/L
		As Nitrogen: 10 mg/l		.0839mg/l Raw .0.0956mg/L Treated
	Trichloroethylene	0.005 mg/l		<0.00050 mg/L
	Tetrachloroethylene	0.01 mg/l		≤0.00050 mg/L
	Uranium	0.02 mg/l		0.737 µg/L Raw 0.793 µg/L Treated
	Ethylbenzene	<0.00050 mg/l		<0.00050 mg/L
	Manganese	20 - 120 µg/L		44.8 µg/L
	Nitrite	1 mg/L		<0.0010 mg/L
	Toluene	0.06 mg/L		<0.00050 mg/L
	Total Xylenes	0.09 mg/L		<0.00050 mg/L

**Bacterial Testing: We test the raw water (untreated well water, the treated water leaving the treatment facility and the water in the distribution system within the Town of Grunthal, every two weeks (bi-weekly) for the presence of Total Coliform (TC) and E. Coli (EC) bacteria. If these bacteria are present in the water, it is an indication that disease-causing organisms mays also be present.*

4. **Water System Failures and Corrective Actions in 2024**

   No failure to report

5. **Additional Records Required**

   None

6. **Drinking Water Safety Order on your System and Actions Taken in Response**

   None

7. **Warnings Issues or Charges Laid on the System in Accordance with the Drinking Water Safety Act**

   None

8. **Major Expenses Incurred in 2024**

   Pump rebuild for $9,217.60

9. **Future System Expansion and/or Increased Population**
   In 2025, there is a new residential development constructed in the NW corner of the community. Approximately 35 new lots are being constructed.

10. **Appendix**
    a. Operators Certification
    b. Testing Summary
    c. Analyses
    d. Operating License for Public Water System
    e. Disinfection Reports
    f. Incident Advisory Notification Plan

Appendix A

Operators Certification

Water and Wastewater Facility Operators Certification Program

This is to certify

Barry A. Broesky

has qualified as a

Water Treatment	*Class II*
Water Distribution	*Class II*
Wastewater Treatment	*Class II*
Wastewater Collection	*Class II*

Operator

in accordance with the Water and Wastewater Facility Operators Regulation under *The Environment Act.*

Dated at Winnipeg, Manitoba **this** 7th **day of** April 2020.

Certificate No.: 2009-312
Expires: 2025 April 7
Operator ID: 00107

S. Kailen

Director
Manitoba Conservation and Climate

Manitoba

Water and Wastewater Facility Operators Certification Program

This is to certify

Robert J. Friesen

has qualified as a

Water Treatment	*Class II*
Water Distribution	*Class II*
Wastewater Treatment	*Class II*
Wastewater Collection	*Class II*

Operator

in accordance with the Water and Wastewater Facility Operators Regulation under *The Environment Act.*

Dated at Winnipeg, Manitoba **this** 9th **day of** December 2020.

Certificate No.: 2015-260
Expires: 2025 December 9
Operator ID: 02505

S. Kailleu

Director
Manitoba Conservation and Climate

Manitoba

Appendix B

Testing Summary

Grunthal ALS Bacteria results

	Batch			Sample			Field Tests			Microbiological Tests	
	Received Date	Site	Evaluation	Matrix	Sample Name	Sampling Date	Chlorine, free, field mg/L	Chlorine, total, field mg/L	Temperature, as received °C	Coliforms, Escherichia coli [E. coli] MPN/100mL	Coliforms, total MPN/100mL
WP2400716-001 (1)	10-01-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	09-01-2024			15.3	<1	<1
WP2400716-002 (1)	10-01-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	09-01-2024			15.3	<1	<1
WP2400716-003 (1)	10-01-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	09-01-2024	0.82	0.98	15.3	<1	<1
WP2401760-001 (1)	24-01-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	23-01-2024			13.1	<1	<1
WP2401760-002 (1)	24-01-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	23-01-2024			13.1	<1	<1
WP2401760-003 (1)	24-01-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd	23-01-2024	0.96	1.38	13.1	<1	<1
WP2402947-001 (1)	07-02-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	06-02-2024			12.7	<1	<1
WP2402947-002 (1)	07-02-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	06-02-2024			12.7	<1	<1
WP2402947-003 (1)	07-02-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ COTTONWOOD RD.	06-02-2024	0.74	0.81	12.7	<1	<1
WP2404116-001 (1)	21-02-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	20-02-2024			9.9	<1	<1
WP2404116-002 (1)	21-02-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	20-02-2024			9.9	<1	<1
WP2404116-003 (1)	21-02-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ COTTONWOOD RD	20-02-2024	0.82	1.04	9.9	<1	<1
WP2405409-001 (1)	06-03-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	05-03-2024			13.8	<1	<1
WP2405409-002 (1)	06-03-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	05-03-2024			13.8	<1	<1
WP2405409-003 (1)	06-03-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ COTTONWOOD RD	05-03-2024	0.68	0.86	13.8	<1	<1
WP2406581-001 (1)	20-03-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	19-03-2024			12.2	<1	<1
WP2406581-002 (1)	20-03-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	19-03-2024			12.2	<1	<1
WP2406581-003 (1)	20-03-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ MAIN ST	19-03-2024	3.11	4.2	12.2	<1	<1
WP2407620-001 (1)	03-04-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	02-04-2024			15.6	<1	<1
WP2407620-002 (1)	03-04-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	02-04-2024			15.6	<1	<1
WP2407620-003 (1)	03-04-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ COTTONWOOD DRIVE	02-04-2024	0.72	0.93	15.6	<1	<1
WP2408834-001 (1)	17-04-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	16-04-2024			14.8	<1	<1
WP2408834-002 (1)	17-04-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	16-04-2024			14.8	<1	<1
WP2408834-003 (1)	17-04-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ COTTONWOOD RD	16-04-2024	0.82	0.94	14.8	<1	<1
WP2410032-001 (1)	01-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	30-04-2024			16.4	<1	<1
WP2410032-002 (1)	01-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	30-04-2024			16.4	<1	<1
WP2410032-003 (1)	01-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ COTTONWOOD DR	30-04-2024	0.59	0.84	16.4	<1	<1
WP2411569-001 (1)	14-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @	13-05-2024	0.90	1.11	11.3	<1	<1
WP2411819-001 (1)	15-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	14-05-2024			17.6	<1	<1
WP2411819-002 (1)	15-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	14-05-2024			17.6	<1	<1
WP2411819-003 (1)	15-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Road	14-05-2024	0.69	0.88	17.6	<1	<1
WP2411820-001 (1)	15-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Hanover Ag Grounds	14-05-2024	0.80	1.12	17.6	<1	<1
WP2413606-001 (1)	29-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	28-05-2024			20.8	<1	<1
WP2413606-002 (1)	29-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	28-05-2024			20.8	<1	<1
WP2413606-003 (1)	29-05-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ COTTONWOOD RD	28-05-2024	0.48	0.65	20.8	<1	<1
WP2420086-001 (1)	20-08-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ RESERVOIR #1	20-08-2024			15.5	<1	<1

Grunthal Durican Bacteria results

	Batch			Sample			Field Tests		Microbiological Tests	
	Received Date	Site	Evaluation	Matrix	Sample Name	Sampling Date	Chlorine, free, field mg/L	Chlorine, total, field mg/L	Coliforms, Escherichia coli [E. coli] MPN/100mL	Coliforms, total MPN/100mL
D3884	12-06-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	11-06-2024			<1	<1
D3884	12-06-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	11-06-2024			<1	<1
D3884	12-06-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	11-06-2024	0.67	0.89	<1	<1
D4822	25-06-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	24-06-2024			<1	<1
D4822	25-06-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	24-06-2024			<1	<1
D4822	25-06-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	24-06-2024	0.66	0.91	<1	<1
D5728	10-07-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	09-07-2024			<1	<1
D5728	10-07-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	09-07-2024			<1	<1
D5728	10-07-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	09-07-2024	0.55	0.75	<1	<1
D6537	24-07-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	23-07-2024			<1	<1
D6537	24-07-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	23-07-2024			<1	<1
D6537	24-07-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	23-07-2024	0.57	0.80	<1	<1
D7392	07-08-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	06-08-2024			<1	<1
D7392	07-08-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	06-08-2024			<1	<1
D7392	07-08-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	06-08-2024	1.07	1.05	<1	<1
D8465	21-08-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	20-08-2024			<1	<1
D8465	21-08-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	20-08-2024			<1	<1
D8465	21-08-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	20-08-2024	0.67	0.94	<1	<1
D9339	04-09-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	03-09-2024			<1	<1
D9339	04-09-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	03-09-2024			<1	<1
D9339	04-09-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	03-09-2024	0.31	0.51	<1	<1
D10226	18-09-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	17-09-2024			<1	<1
D10226	18-09-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	17-09-2024			<1	<1
D10226	18-09-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	17-09-2024	1.64	1.92	<1	<1
D10988	02-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	01-10-2024			<1	<1
D10988	02-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	01-10-2024			<1	<1
D10988	02-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	01-10-2024	1.13	1.45	<1	<1
D11656	16-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	15-10-2024			<1	<1
D11656	16-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	15-10-2024			<1	<1
D11656	16-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	15-10-2024	0.66	0.91	<1	<1
D12331	30-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	29-10-2024			<1	<1
D12331	30-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	29-10-2024			<1	<1
D12331	30-10-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	29-10-2024	0.67	0.77	<1	<1
D13015	13-11-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	12-11-2024			<1	<1
D13015	13-11-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	12-11-2024			<1	<1
D13015	13-11-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	12-11-2024	0.75	0.85	<1	<1
D13746	27-11-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	26-11-2024			<1	<1
D13746	27-11-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	26-11-2024			<1	<1
D13746	27-11-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	26-11-2024	0.63	0.86	<1	<1
D14385	11-12-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	10-12-2024			<1	<1
D14385	11-12-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	10-12-2024			<1	<1
D14385	11-12-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	10-12-2024	0.67	1.08	<1	<1
D14898	23-12-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 1 - RAW	22-12-2024			<1	<1
D14898	23-12-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 2 - TREATED	22-12-2024			<1	<1
D14898	23-12-2024	86.00	Within Limit	Water/Drinking Water	GRUNTHAL 3 - DISTRIBUTION @ Cottonwood Rd.	22-12-2024	0.71	1.09	<1	<1

Appendix C

Analyses

	WP2320502-001 (1)	WP2320502-002 (1)	WP2320502-003 (1)	WP2320502-004 (1)
Sample				
Sample Type Name	Water/Water	Water/Water	Water/Water	Water/Water
Name	GRUNTHAL 1 - RAW WELL 1	GRUNTHAL 1 - RAW WELL 2 - BACKUP	GRUNTHAL 2 - TREATED	GRUNTHAL 3 - DISTRIBUTION MID-POINT 5-30 BIRCH STREET
Sampling Date	22-08-2023	22-08-2023	22-08-2023	22-08-2023
ALS ID	WP2320502-001	WP2320502-002	WP2320502-003	WP2320502-004
Anions and Nutrients				
Ammonia, total (as N) mg/L	0.667	0.304	0.025	
Bromide mg/L	<0.050	0.120	<0.050	
Chloride mg/L	19.9	42.1	27.2	
Fluoride mg/L	0.180	0.094	0.169	
Nitrate (as N) mg/L	0.0839	<0.0050	0.0956	
Nitrite (as N) mg/L	<0.0010	<0.0010	<0.0010	
Sulfate (as SO4) mg/L	45.3	35.3	45.3	
Ion Balance				
Anion sum meq/L	8.79	8.08	8.98	
Cation sum (total) meq/L	9.16	8.31	9.32	
Ion balance (APHA) %	2.06	1.40	1.86	
Ion balance (cations/anions) %	104	103	104	
Organic / Inorganic Carbon				
Carbon, dissolved organic [DOC] mg/L	2.92	1.84	3.09	
Carbon, total organic [TOC] mg/L	2.52	2.00	2.43	
Physical Tests				
Absorbance, UV (@ 254nm) AU/cm	0.0460	0.0280	0.0380	
Alkalinity, bicarbonate (as CaCO3) mg/L	364	308	363	
Alkalinity, carbonate (as CaCO3) mg/L	<1.0	<1.0	<1.0	
Alkalinity, hydroxide (as CaCO3) mg/L	<1.0	<1.0	<1.0	
Alkalinity, total (as CaCO3) mg/L	364	308	363	
Colour, true CU	<5.0	<5.0	<5.0	
Conductivity µS/cm	770	728	788	
Hardness (as CaCO3), from total Ca/Mg mg/L	400	382	398	
Langelier index (@ 4°C) -	0.731	0.643	0.800	
Langelier index (@ 60°C) -	1.49	1.40	1.56	
pH pH units	7.91	7.92	7.99	
pH, saturation (@ 4°C) pH units	7.18	7.28	7.19	
pH, saturation (@ 60°C) pH units	6.42	6.52	6.43	
Solids, total dissolved [TDS] mg/L	457	446	472	
Transmittance, UV (@ 254nm) % T/cm	89.9	93.8	91.6	
Turbidity NTU	3.36	17.6	1.48	
Total Metals				
Aluminum, total µg/L	<3.0	<3.0	<3.0	<3.0
Antimony, total µg/L	<0.10	<0.10	<0.10	<0.10
Arsenic, total µg/L	0.36	0.22	0.40	0.37
Barium, total µg/L	382	229	376	363
Beryllium, total µg/L	<0.020	<0.020	<0.020	<0.020
Bismuth, total µg/L	<0.050	<0.050	<0.050	<0.050
Boron, total µg/L	78	36	82	83
Cadmium, total µg/L	<0.0050	<0.0050	<0.0050	<0.0050
Calcium, total µg/L	93600	87700	92300	91500
Cesium, total µg/L	<0.010	<0.010	<0.010	<0.010
Chromium, total µg/L	<0.50	<0.50	<0.50	<0.50
Cobalt, total µg/L	0.22	<0.10	0.21	0.16
Copper, total µg/L	<0.50	0.84	4.24	6.48
Iron, total µg/L	495	1480	370	223
Lead, total µg/L	<0.050	<0.050	0.070	0.124
Lithium, total µg/L	17.8	11.7	17.2	17.6
Magnesium, total µg/L	40500	39600	40600	39900
Manganese, total µg/L	67.8	83.3	44.8	35.9
Molybdenum, total µg/L	0.742	0.879	0.739	0.750
Nickel, total µg/L	<0.50	<0.50	<0.50	<0.50
Phosphorus, total µg/L	66	71	693	629
Potassium, total µg/L	4380	3020	4250	4190
Rubidium, total µg/L	2.07	1.56	2.02	1.88
Selenium, total µg/L	0.129	0.134	0.118	0.108
Silicon, total µg/L	9730	10300	9520	9360
Silver, total µg/L	<0.010	<0.010	<0.010	<0.010
Sodium, total µg/L	22500	12000	28700	28100
Strontium, total µg/L	571	269	554	556
Sulfur, total µg/L	16800	12500	16500	16700
Tellurium, total µg/L	<0.20	0.35	<0.20	<0.20
Thallium, total µg/L	<0.010	<0.010	<0.010	<0.010
Thorium, total µg/L	<0.10	<0.10	<0.10	<0.10
Tin, total µg/L	<0.10	<0.10	<0.10	<0.10
Titanium, total µg/L	<0.30	<0.30	<0.30	<0.30
Tungsten, total µg/L	<0.10	<0.10	<0.10	<0.10
Uranium, total µg/L	0.737	0.023	0.793	0.765
Vanadium, total µg/L	<0.50	<0.50	<0.50	<0.50
Zinc, total µg/L	<3.0	<3.0	<3.0	4.0
Zirconium, total µg/L	<0.20	<0.20	<0.20	<0.20
Volatile Organic Compounds				
Benzene mg/L	<0.00050	<0.00050		
Bromodichloromethane mg/L	<0.00050	<0.00050		
Bromoform mg/L	<0.00050	<0.00050		
BTEX, total mg/L	<0.0010	<0.0010		
Chloroform mg/L	<0.00050	<0.00050		
Dibromochloromethane mg/L	<0.00050	<0.00050		
Dichloromethane mg/L	<0.0010	<0.0010		
Ethylbenzene mg/L	<0.00050	<0.00050		
Methyl-tert-butyl ether (MTBE) mg/L	<0.00050	<0.00050		
Tetrachloroethylene mg/L	<0.00050	<0.00050		
Toluene mg/L	<0.00050	<0.00050		

Trichloroethane, 1,1,1- mg/L	<0.00050	<0.00050		
Trichloroethane, 1,1,2- mg/L	<0.00050	<0.00050		
Trichloroethylene mg/L	<0.00050	<0.00050		
Xylene, m+p- mg/L	<0.00040	<0.00040		
Xylene, o- mg/L	<0.00030	<0.00030		
Xylenes, total mg/L	<0.00050	<0.00050		
Volatile Organic Compounds Surrogates				
Bromofluorobenzene, 4- µg/L	8.8	9.1		
Difluorobenzene, 1,4- µg/L	10.2	10.4		

Appendix D

Operating License for Public Water System

Manitoba
Environment and Climate
Office of Drinking Water
Box 19 – 14 Fultz Boulevard, Winnipeg, Manitoba R3Y 0L6

OPERATING LICENCE FOR A PUBLIC WATER SYSTEM

LICENCE NUMBER: PWS-09-325-03

THE DRINKING WATER SAFETY ACT CHAPTER D101, C.C.S.M.

WATER SYSTEM CODE: **86.00**

OPERATION ID: **6700**

EFFECTIVE DATE: **JUNE 1, 2023**

EXPIRY DATE: **MAY 31, 2028**

IN ACCORDANCE WITH THE DRINKING WATER SAFETY ACT, THIS OPERATING LICENCE IS ISSUED PURSUANT TO SUBSECTION 8(1) TO:

RURAL MUNICIPALITY OF HANOVER: "THE LICENSEE"

FOR THE OPERATION OF THE **GRUNTHAL PUBLIC WATER SYSTEM**, WHICH INCLUDES SECURE WELLS, TREATMENT FACILITIES, WATER STORAGE RESERVOIRS, AND DISTRIBUTION LINES, SUBJECT TO THE ATTACHED TERMS AND CONDITIONS.

THIS LICENCE DOES NOT AFFECT THE LICENSEE'S OBLIGATIONS WITH RESPECT TO COMPLIANCE WITH ALL APPLICABLE MUNICIPAL, PROVINCIAL, AND FEDERAL LEGISLATION. THIS LICENCE SUPERSEDES ALL PREVIOUS LICENCES FOR THIS PUBLIC WATER SYSTEM.

Digitally signed by Sacha Janzen
Date: 2023.09.19 09:43:59 -05'00'

DATE: September 19, 2023

Sacha Janzen
A/Director, Office of Drinking Water

TERMS AND CONDITIONS

1. GENERAL

1.1. The Licensee shall operate the public water system in accordance with all applicable requirements of The Drinking Water Safety Act and its regulations, and the requirements of this licence. In the event that specific terms and conditions of this licence imposed under the authority of subsection 8(3) of the Act exceed the general requirements of the Act and regulations, the specific requirements of this licence shall apply.

1.2. The Licensee shall obtain approval from the Office of Drinking Water prior to making any significant alterations to the water source, the water treatment process, the water storage facilities, or the water distribution system.

1.3. This licence may be amended by the director where, in the opinion of the director, an amendment is necessary and the amendment will not negatively impact the safety of water obtained from the water system, or effective environmental management.

1.4. The Licensee may request an amendment to this licence by submitting an amendment application to the Office of Drinking Water.

1.5. This licence may be suspended or cancelled by the director for any of the reasons identified in Section 11 of Manitoba Regulation 40/2007, Drinking Water Safety Regulation or due to a failure to comply with any term or condition of this licence.

1.6. The Licensee shall provide written notice to the Office of Drinking Water of any change in ownership of the water system within seven days of the transfer of ownership.

1.7. The Licensee shall provide written notice to the Office of Drinking Water of any changes in the operational status of the water system, such as a permanent cessation of service, or changing the length of service from year-round to seasonal or the opposite.

1.8. The director of the Office of Drinking Water, medical officer of health or drinking water officer may enter any water system facility as necessary to carry out the provisions of The Drinking Water Safety Act and its regulations.

1.9. The Licensee shall post a copy of the first page of this licence at the water treatment facility.

1.10. The Licensee shall keep a copy of this licence in its entirety at a location established by the drinking water officer and ensure all operators are familiar with its terms and conditions.

1.11. The Licensee shall apply for renewal of this licence at least 60 days prior to its expiry.

2. OPERATION - GENERAL

2.1. The Licensee shall operate all water system facilities, control systems, equipment, any reservoirs/cisterns and/or distribution lines as efficiently as possible, inspect them on a regular basis, maintain them in good working order, and ensure that the water system is protected from the risks associated with contamination.

2.2. The Licensee shall ensure that all chemicals and components that may come into contact with potable water are certified safe for potable water use through AWWA Standards, ANSI/NSF Standard 60 or 61, Health Canada, or other standards acceptable to the director.

2.3. No alternate water source shall be brought into service without the consent of the drinking water officer and the maintenance of adequate cross connection control between the alternate source and the primary source.

2.4. The Licensee shall follow the requirements as specified in *Operational Guideline ODW-OG-02 Seasonal Water Systems Start-up Shut-down Procedures* for any portion(s) of the distribution system that operate on a seasonal basis.

2.5. The Licensee shall have re-assessments of the water system infrastructure and water supply sources completed by a qualified person, who is not an employee of the water system, in accordance with assessment checklist GW by March 1, 2025, and every five years thereafter. The Licensee may instead have the assessment completed by a qualified professional engineer, who is not an employee of the water system, in accordance with terms of reference for engineering assessments.

2.6. The Licensee shall, upon request from the Office of Drinking Water, submit or re-submit a compliance plan, in a form satisfactory to the director, to address any non-compliance issues identified at the time.

3. OPERATION – EMERGENCIES

3.1. The Licensee shall ensure that disinfection is undertaken following construction, repair or maintenance activities on the water system, in accordance with applicable AWWA standards, or Manitoba Water Services Board specifications, or any other standards approved by the director. A copy of all associated test results must be kept available for review by the Office of Drinking Water for a minimum of 24 months.

3.2. The Licensee shall ensure that all equipment used for disinfection is maintained in effective working order and keep available for immediate use all spare parts and chemical supplies as may be necessary to ensure continuous disinfection, including a spare disinfection unit, if necessary.

3.3. The Licensee shall 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 but not limited to treatment upsets or bypass conditions, contamination of the source water or treated water, a disinfection system failure, or a distribution system failure.

3.4. If a medical officer of health, the director of the Office of Drinking Water, or a drinking water officer issues a water advisory on the water system, the Licensee shall provide notice of the advisory to all water users in accordance with the advisory notification plan or by a method acceptable to the issuer.

4. WATER QUALITY/TREATMENT STANDARDS

4.1. The Licensee shall operate the water system in a manner that achieves the water quality/treatment standards specified in Table 1, as determined through the monitoring requirements specified in Table 2:

Table 1: Water Quality/Treatment Standards

Parameter	Quality Standard
Total coliform	Less than one total coliform bacteria detectable per 100 mL in all treated and distributed water
E. coli	Less than one *E. coli* bacteria detectable per 100 mL in all treated and distributed water
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 20 minutes A free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system
Arsenic	Less than or equal to 0.01 mg/L
Benzene	Less than or equal to 0.005 mg/L
Ethylbenzene	Less than or equal to 0.14 mg/L
Fluoride	Less than or equal to 1.5 mg/L
Lead	Less than or equal to 0.005 mg/L based on a sample(s) collected at a cold water tap or other appropriate location where water may be used for drinking or food preparation
Manganese	Less than or equal to 0.12 mg/L
Nitrate	Less than or equal to 45 mg/L measured as nitrate (10 mg/L measured as nitrogen)
Nitrite	Less than or equal to 3 mg/L measured as nitrite (1 mg/L measured as nitrogen)
Trichloroethylene	Less than or equal to 0.005 mg/L
Tetrachloroethylene	Less than or equal to 0.01 mg/L
Toluene	Less than or equal to 0.06 mg/L
Total Xylenes	Less than or equal to 0.09 mg/L
Uranium	Less than or equal to 0.02 mg/L

4.2. If a bacteriological standard is not met, the Licensee shall immediately undertake the applicable corrective actions as listed in "Schedule A" of Manitoba Regulation 41/2007, Drinking Water Quality Standards Regulation.

4.3. If a microbial, chemical, radiological, or physical standard is not met, the Licensee shall immediately undertake the applicable corrective actions specified in "Schedule C" of Manitoba Regulation 41/2007, the Drinking Water Quality Standards Regulation.

4.4. The Licensee shall maintain in effective working order chlorination and treated water storage equipment and controls designed to achieve a minimum of 20 minutes of chlorine contact time prior to water entering the distribution system.

5. WATER QUALITY MONITORING

5.1. The Licensee shall ensure monitoring is completed as set out in Table 2.

Table 2: Monitoring Schedule

Parameter	Monitoring Requirement
Bacteriological (total coliform and *E. coli*)	Biweekly sampling program with each set of samples consisting of one raw, one treated, and a minimum of one distribution sample Consecutive sample sets to be separated by at least 12 days
Free Chlorine (treated water)	One sample per day of water entering the distribution system following at least 20 minutes of contact time
Free Chlorine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling
Total Chlorine (treated water)	One sample per day of water entering the distribution system following at least 20 minutes of contact time
Total Chlorine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling
General Chemistry (parameter list provided by Office of Drinking Water)	One raw and one treated water sample once every three years
Total Metals (distribution system)	One sample taken at the same time(s) as general chemistry sampling at a mid-point in the distribution system
Lead	As per the instructions of the drinking water officer
Manganese	Monitoring included in the general chemistry and total metals analysis
Other Parameters	As per the instructions of the drinking water officer

5.2. The Licensee shall ensure that an accredited laboratory, as specified in section 35 of Manitoba Regulation 40/2007 the Drinking Water Safety Regulation, undertake the following analysis required in Table 2:

a) bacteriological (total coliform and *E. coli*)
b) general chemistry
c) manganese
d) total metals
e) any other parameter required by the drinking water officer

and that all samples are collected, handled, and submitted in a manner that is satisfactory to the accredited laboratory.

5.3. The Licensee shall ensure that parameters listed in Table 2 but not specified in clause 5.2 are measured utilizing certified water quality monitoring equipment and methods approved by the latest edition of *Standard Methods for the Examination of Water and Wastewater* published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation.

5.4. The Licensee shall ensure that raw water samples are taken on an alternating basis in instances where more than one water supply source is used.

5.5. The Licensee shall ensure that all water quality monitoring equipment is properly maintained and calibrated by a qualified person according to manufacturer recommendations and that records are maintained to that effect.

5.6. The Licensee shall ensure that sampling within the distribution system takes place at varied locations acceptable to the drinking water officer.

6. RECORD-KEEPING AND REPORTING

6.1. The Licensee shall maintain in a secure location all construction drawings for the life of the water system components.

6.2. The Licensee shall retain in chronological order for a minimum of 24 months all information specified in subsection 34(2) of Manitoba Regulation 40/2007, Drinking Water Safety Regulation.

6.3. The Licensee shall ensure the information identified in clause 6.2 is available for inspection by any member of the public during normal business hours at the office of the water supplier or at a location convenient to the users of the system.

6.4. The Licensee shall record disinfectant residual measurements on the monthly disinfection report or other forms satisfactory to the director.

6.5. The Licensee shall keep one copy of all monthly report forms required in this licence, and forward the original copy to the drinking water officer within seven days after the end of each calendar month.

6.6. The Licensee shall record all distribution system measurements specified in *Table 2: Monitoring Schedule* on the chain of custody form (laboratory submission form) which accompanies the bacteriological sample bottles to the laboratory.

6.7. The Licensee shall ensure that water metering devices at the water treatment plant or storage reservoir are maintained in good working order and that flow meter readings are recorded on a daily basis and such records are made available for inspection by a drinking water officer.

6.8. The Licensee shall submit an annual report to the director by March 31st of each year on the operation of the water system in the immediately preceding calendar year. The report shall include the information as set out in subsection 32(2) of Manitoba Regulation 40/2007, Drinking Water Safety Regulation.

6.9. The Licensee shall inform the public, in a form satisfactory to the director, when an annual report has been prepared and identify how a free copy can be obtained.

6.10. The Licensee shall make a copy of each annual report available to the public at no charge on an internet website within two weeks of the issuance of the report, unless otherwise approved by the director. The annual report shall remain available to the public for at least one year.

6.11. The Licensee shall maintain and submit an advisory notification plan to the drinking water officer by May 1st of each year. The plan must include a detailed description of communication tools and methods to be used to notify the public of a drinking water emergency, considering key contacts, fan-outs, critical customers, susceptible or difficult-to-reach sub-groups, and template notices where applicable.

Appendix E

Disinfection Reports

Monthly Chlorination Report

Water System Name: GRUNTHAL Water System Code: 86.0

Month: JANUARY Year: 2024 Type of Measurement Device: ELECTRONIC

Operator-in-charge (Print): BARRY BRADSLEY Other Operators (Print): ROB FRIESEN

STEPH DOVAL

Daily Consumption Units: m^3

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	9:00	B.B.	0.87	1.27	854
2	7:45	B.B.	0.85	1.22	850
3	7:45	B.B.	0.73	1.09	925
4	8:00	B.B.	0.88	1.30	963
5	8:00	B.B.	0.78	1.15	905
6	8:00	B.B.	0.75	1.14	891
7	10:30	B.B.	0.83	1.19	995
8	8:00	R.F.	0.87	1.15	828
9	7:00	R.F.	0.89	1.28	912
10	8:00	R.F.	1.08	1.46	944
11	8:30	R.F.	0.92	1.28	915
12	8:30	R.F.	0.87	1.19	949
13	8:30	R.F.	0.81	1.13	896
14	1:00	R.F.	0.821	1.38	1075
15	9:00	R.F.	0.94	1.04	793
16	8:30	R.F.	1.00	1.36	890

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	6:00	R.F.	0.82	1.17	816
18	7:00	R.F.	0.91	1.27	960
19	7:00	R.F.	0.96	1.34	926
20	8:15	B.B.	1.05	1.41	952
21	10:30	B.B.	1.29	1.57	1047
22	7:30	B.B.	1.08	1.53	815
23	8:00	B.B.	0.66	1.01	970
24	7:30	R.F.	0.91	1.28	909
25	8:00	R.F.	1.17	1.62	1007
26	8:00	R.F.	1.36	1.47	957
27	9:30	R.F.	0.95	1.35	1067
28	9:45	R.F.	1.19	1.64	1031
29	8:00	B.B.	1.10	1.49	911
30	8:00	B.B.	0.91	1.37	991
31	7:45	B.B.	1.06	1.41	980
				Total Monthly Consumption	28,914

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
9	9:00	R.F.	Cottonwood Rd.	0.82	0.98
23	9:15	B.B.	Cottonwood Rd.	0.96	1.38

Submitted by (Print): BARRY BRADSLEY Signature:

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Manitoba

Monthly Chlorination Report

Water System Name: GRUNTHAL **Water System Code:** 86.0

Month: FEBRUARY **Year:** 2024 **Type of Measurement Device:** ELECTRONIC

Operator-in-charge (Print): BARRY BROESKY **Other Operators (Print):** ROB FRIESEN

Daily Consumption Units: m^3 STEPH DUVAL

Flow Meter for Daily Consumption: (circle choice) Raw Treated No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	7:45	B.B.	1.11	1.45	1016
2	8:30	B.B.	0.90	1.28	1044
3	8:00	B.B.	0.80	1.17	956
4	9:30	B.B.	0.85	1.23	1090
5	7:00	R.F.	0.63	0.86	917
6	7:30	R.F.	0.69	0.88	1040
7	8:30	R.F.	0.51	0.65	1096
8	7:30	R.F.	0.63	0.74	1006
9	7:30	R.F.	0.81	0.90	1063
10	9:30	R.F.	1.02	1.35	1138
11	6:30	R.F.	0.53	0.65	886
12	8:00	B.B.	0.64	0.94	1077
13	8:00	B.B.	0.52	0.95	818
14	8:00	B.B.	0.70	1.05	795
15	8:00	B.B.	0.74	1.12	793
16	8:30	B.B.	0.75	1.13	825

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	8:00	B.B.	0.76	1.12	764
18	9:45	B.B.	0.76	1.13	880
19	7:30	B.B.	0.76	1.15	895
20	7:30	R.F.	0.84	1.20	841
21	7:30	R.F.	0.67	0.81	815
22	8:00	R.F.	0.92	1.09	821
23	8:00	R.F.	0.81	1.11	800
24	9:00	R.F.	0.78	0.98	875
25	6:30	R.F.	0.81	1.13	729
26	8:00	S.D.	0.66	1.05	866
27	8:15	S.D.	~~0.74~~	1.03	826
28	8:15	S.D.	0.61	1.07	812
29	8:00	B.B.	0.71	1.10	~~814~~
30					
31					
				Total Monthly Consumption	25,262

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
06	9:30	R.F.	Cottonwood Rd.	0.74	0.81
20	9:30	R.F.	Cottonwood Rd.	0.82	1.04

Submitted by (Print): BARRY BROESKY **Signature:**

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Manitoba

Monthly Chlorination Report

Water System Name: GRONTHAL **Water System Code:** 86.0

Month: MARCH **Year:** 2024 **Type of Measurement Device:** ELECTRONIC

Operator-in-charge (Print): BARRY BROESKY **Other Operators (Print):** ROB FRIESEN, LEITH DOYLE

Daily Consumption Units: m^3

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	8:00	B.B.	0.80	1.12	831
2	8:00	B.B.	0.72	1.10	782
3	10:00	B.B.	0.76	1.14	864
4	8:00	R.F.	0.83	1.16	715
5	7:30	R.F.	0.76	1.08	813
6	7:30	R.F.	0.57	0.92	797
7	7:30	R.F.	0.71	1.11	794
8	7:30	R.F.	0.81	1.29	795
9	9:15	R.F.	1.01	1.30	869
10	12:00	R.F.	1.01	1.21	847
11	8:15	B.B.	0.87	1.29	672
12	7:45	B.B.	0.81	1.25	787
13	7:45	B.B.	0.94	1.21	821
14	8:00	B.B.	0.85	1.24	814
15	8:00	B.B.	0.87	1.26	828
16	8:00	B.B.	0.87	1.24	805

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	10:00	B.B.	0.90	1.30	915
18	7:30	R.F.	0.95	1.31	730
19	7:30	R.F.	0.93	1.27	820
20	8:00	R.F.	0.86	1.11	855
21	8:00	R.F.	0.92	1.12	820
22	8:00	R.F.	0.98	1.30	824
23	9:30	R.F.	0.94	1.23	859
24	12:15	R.F.	0.96	1.26	908
25	9:00	R.F.	0.98	1.19	688
26	9:00	R.F.	1.11	1.41	849
27	6:00	R.F.	1.37	1.78	731
28	8:30	R.F.	1.42	1.72	841
29	6:30	R.F.	1.20	1.56	672
30	7:00	B.B.	1.03	1.40	723
31	9:30	B.B.	0.93	1.33	858
				Total Monthly Consumption	24957

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
5	9:30	R.F.	Cottonwood Rd.	0.68	0.86
19	11:00	B.B.	Cottonwood Rd.	0.74	1.12

Submitted by (Print): BARRY BROESKY **Signature:**

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Manitoba

Monthly Chlorination Report

Water System Name: Grunthal Water System Code: 86.0

Month: April Year: 2024 Type of Measurement Device: Electronic

Operator-in-charge (Print): Rob Fresin Other Operators (Print): Barry Brodsky

Daily Consumption Units: m^3 Steph Duval

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	7:00	R.F.	1.02	1.32	636
2	7:00	R.F.	0.93	1.01	783
3	7:30	R.F.	0.79	0.95	752
4	7:30	R.F.	0.95	1.21	748
5	7:30	R.F.	0.96	1.09	793
6	9:30	R.F.	0.94	1.30	836
7	12:00	R.F.	0.89	1.25	843
8	8:00	B.B.	0.92	1.28	627
9	8:00	B.B.	0.88	1.33	797
10	8:00	B.B.	0.90	1.31	811
11	7:45	B.B.	0.91	1.30	744
12	8:30	B.B.	0.94	1.29	805
13	7:15	B.B.	0.77	1.19	712
14	11:30	B.B.	0.80	1.21	959
15	7:30	R.F.	0.73	1.04	631
16	8:30	R.F.	0.82	1.09	796

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	7:30	R.F.	0.83	1.04	769
18	7:00	R.F.	0.70	0.88	784
19	8:00	R.F.	0.64	0.71	818
20	10:00	R.F.	0.94	1.23	855
21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 869
22	[illegible]	B.B.	0.76	[illegible]	613 [illegible]
23	7:30	B.B.	0.70	0.96	705
24	7:30	B.B.	0.71	1.07	707
25	8:00	B.B.	0.72	1.03	720
26	8:45	B.B.	0.71	1.01	722
27	7:00	B.B.	0.68	0.96	658
28	11:30	B.B.	0.67	0.79	842
29	8:30	R.F.	0.72	1.12	618
30	7:30	R.F.	0.75	1.09	692
31					
				Total Monthly Consumption	22645

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
2	9:45	R.F.	Cotton Wood Drive	0.72	0.93
16	9:45	R.F.	Cottonwood Drive	0.82	0.94
30	9:30	R.F.	Cottonwood Drive	0.59	0.81

Submitted by (Print): Rob Fresin Signature: [signature]

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Manitoba

Monthly Chlorination Report

Water System Name: Grunthal **Water System Code:** 86.0

Month: May **Year:** 2024 **Type of Measurement Device:** Electronic

Operator-in-charge (Print): Rob Friesen **Other Operators (Print):** Barry Broesky, Colleen McNat

Daily Consumption Units: m^3

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	7:30	R.F.	0.70	0.92	729
2	7:15	R.F.	0.82	1.06	687
3	7:00	R.F.	0.69	0.74	703
4	7:00	R.F.	0.98	1.18	822
5	12:00	R.F.	1.35	1.58	824
6	8:00	B.B.	1.35	1.79	562
7	7:45	B.B.	1.10	1.53	716
8	8:45	B.B.	0.99	1.38	754
9	7:45	B.B.	1.02	1.24	700
10	8:00	B.B.	0.71	1.01	751
11	6:30	B.B.	0.66	0.78	681
12	10:30	B.B.	0.71	1.04	925
13	7:15	R.F.	0.60	0.80	649
14	6:45	R.F.	0.94	1.21	777
15	8:30	R.F.	0.84	1.04	811
16	8:00	R.F.	0.81	1.05	894

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	7:00	R.F.	0.81	0.90	912
18	9:30	R.F.	0.80	0.97	788
19	12:00	R.F.	0.87	1.14	803
20	10:00	R.F.	0.91	1.05	592
21	8:00	B.B.	0.78	1.09	714
22	8:15	B.B.	0.81	1.13	754
23	8:00	B.B.	0.77	1.16	743
24	8:15	B.B.	0.82	1.21	777
25	7:00	B.B.	0.81	1.12	691
26	8:30	B.B.	0.75	1.13	761
27	7:30	R.F.	0.65	0.88	717
28	7:00	R.F.	0.70	0.86	720
29	7:30	R.F.	0.76	0.95	786
30	7:30	R.F.	0.66	0.74	744
31	7:30	R.F.	0.79	1.02	822
				Total Monthly Consumption	23,309

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
14	10:30	R.F.	Cottonwood Rd.	0.64	0.88
28	9:	CM	Cottonwood Rd.	0.48	0.65

Submitted by (Print): Rob Friesen **Signature:**

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Manitoba

Monthly Chlorination Report

Water System Name: Grunthal Water System Code: 86.0

Month: June Year: 2024 Type of Measurement Device: Electronic

Operator-in-charge (Print): Rob Friesen Other Operators (Print): Barry Braesky, Steph Duval

Daily Consumption Units: m^3

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	10:00	R.F.	0.79	1.08	747
2	12:00	R.F.	0.83	1.10	835
3	8:30	B.B.	0.82	1.15	596
4	7:00	B.B.	0.71	1.08	725
5	8:15	B.B.	0.79	1.13	787
6	7:00	B.B.	0.73	1.11	739
7	6:45	B.B.	0.72	1.11	768
8	7:30	B.B.	0.74	1.13	785
9	11:00	B.B.	0.72	1.12	864
10	8:00	R.F.	0.76	1.03	637
11	7:30	R.F.	0.70	0.92	743
12	7:15	R.F.	0.88	1.08	715
13	7:00	R.F.	0.92	1.15	606
14	7:30	R.F.	0.92	1.38	667
15	9:30	R.F.	0.91	1.24	742
16	12:30	R.F.	0.89	1.04	741

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	8:00	B.B.	0.75	1.08	504
18	8:00	B.B.	0.70	1.07	680
19	8:30	B.B.	0.71	1.09	640
20	8:00	B.B.	0.73	0.94	716
21	8:00	B.B.	0.70	1.03	808
22	7:45	B.B.	0.77	1.04	618
23	8:00	B.B.	0.76	1.10	597
24	8:30	R.F.	0.84	1.12	609
25	8:30	R.F.	0.71	0.93	634
26	6:00	R.F.	0.78	1.04	419
27	8:00	R.F.	0.72	1.00	509
28	8:00	R.F.	0.74	1.08	465
29	7:30	R.F.	0.72	0.99	444
30	12:00	R.F.	0.75	1.00	545
31					
				Total Monthly Consumption	19,883

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
11	9:20	R.F.	Colleverd Drive	0.67	0.89
26	10:30	R.F.	Collingwood Drive	0.66	0.91

Submitted by (Print): Rob Friesen Signature:

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Manitoba

Monthly Chlorination Report

Water System Name: GRUNTHAL Water System Code: 86.0

Month: JULY Year: 2024 Type of Measurement Device: ELECTRONIC

Operator-in-charge (Print): BARRY BROESKY Other Operators (Print): ROB FRIESEN

Daily Consumption Units: m^3 STEPH DUVAL

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	9:30	R.F.	0.73	0.91	359
2	7:30	R.F.	0.76	1.42	447
3	6:00	R.F.	0.69	0.92	452
4	8:00	R.F.	0.68	1.04	518
5	9:30	R.F.	0.65	0.90	521
6	8:15	B.B.	0.64	0.91	454
7	10:30	B.B.	0.58	0.89	538
8	7:00	R.F.	0.69	0.93	395
9	7:30	R.F.	0.74	1.05	555
10	7:30	R.F.	0.82	1.04	560
11	7:30	R.F.	0.74	1.01	561
12	9:00	R.F.	0.75	1.03	674
13	7:30	R.F.	0.74	1.00	519
14	12:00	R.F.	0.76	0.99	650
15	8:15	B.B.	0.70	1.01	418
16	8:00	B.B.	0.68	1.03	516

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	7:45	B.B.	0.69	1.02	485
18	8:00	B.B.	0.71	1.05	700
19	8:00	B.B.	0.67	0.98	636
20	7:30	B.B.	0.69	1.03	487
21	7:30	B.B.	0.63	0.98	457
22	7:00	R.F.	0.72	1.35	463
23	7:00	R.F.	0.65	0.92	457
24	7:30	R.F.	0.68	0.98	502
25	7:00	R.F.	0.71	1.06	530
26	8:45	B.B.	0.75	1.04	601
27	10:15	R.F.	0.69	1.07	578
28	11:30	R.F.	0.74	1.09	572
29	6:15	B.B.	0.79	1.14	437
30	7:45	B.B.	0.75	1.09	698
31	8:45	B.B.	0.81	1.19	711
				Total Monthly Consumption	16,451

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
9	10:00	R.F.	Catherwood Drive	0.55	0.75
23	10:00	R.F.	Catherwood Drive	0.57	0.80

Submitted by (Print): BARRY BROESKY Signature:

* PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
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Monthly Chlorination Report

Water System Name: GRUNTHAL Water System Code: 86.0

Month: AUGUST Year: 2024 Type of Measurement Device: ELECTRONIC

Operator-in-charge (Print): BARRY BROESKY Other Operators (Print): ROB FRIESEN

Daily Consumption Units: m^3 KEITH DUVAL

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	7:00	B.B.	0.78	1.17	575
2	9:45	B.B.	0.83	1.22	751
3	6:00	B.B.	1.29	1.61	548
4	9:15	B.B.	1.34	1.69	661
5	8:00	B.B.	1.24	1.58	466
6	7:00	R.F.	1.14	1.74	605
7	8:00	R.F.	1.57	2.02	581
8	7:30	R.F.	1.25	1.72	592
9	7:30	R.F.	1.04	1.43	524
10	7:30	R.F.	0.52	0.60	561
11	12:00	R.F.	1.10	1.50	705
12	8:30	B.B.	0.60	0.95	513
13	8:15	B.B.	0.59	0.93	758
14	7:45	B.B.	1.27	1.58	750
15	7:45	B.B.	0.92	1.21	614
16	8:30	B.B.	0.88	1.16	586

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	7:30	B.B.	0.71	1.04	501
18	10:00	B.B.	0.60	0.96	560
19	7:00	R.F.	0.74	1.18	451
20	7:00	R.F.	1.22	1.80	597
21	7:00	R.F.	1.03	1.27	578
22	7:15	R.F.	0.94	1.25	618
23	7:00	R.F.	0.77	1.04	555
24	10:15	R.F.	0.68	0.88	718
25	8:30	R.F.	0.62	0.85	533
26	8:30	B.B.	0.71	0.91	584
27	8:15	B.B.	0.77	1.07	614
28	8:15	CM	0.72	1.25	580
29	8:15	CM	0.85	~~1.55~~ 1.25	629
30	7:45	CM	0.71	0.95	558
31	6:45	B.B.	0.80	1.20	589
				Total Monthly Consumption	18,457

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
6	10:00	R.F.	COTTONWOOD RD.	1.07	1.45
20	11:30	R.F.	COTTONWOOD RD.	0.67	0.94

Submitted by (Print): BARRY BROESKY Signature: [signature]

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PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Manitoba

Monthly Chlorination Report

Water System Name: GRUNTHAL **Water System Code:** 86.0

Month: SEPTEMBER **Year:** 2024 **Type of Measurement Device:** ELECTRONIC

Operator-in-charge (Print): BARRY BROESKY **Other Operators (Print):** ROB FRIESEN, COLLEEN MOWAT

Daily Consumption Units: m^3

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	10:00	B.B.	0.71	1.04	683
2	7:30	B.B.	0.54	0.91	508
3	7:30	R.F.	0.58	0.98	719
4	7:00	R.F.	0.85	1.25	669
5	7:30	R.F.	0.90	1.28	755
6	7:15	R.F.	0.96	1.24	575
7	10:30	R.F.	0.90	1.29	660
8	11:30	R.F.	0.83	1.07	595
9	8:00	CM	0.65	1.04	494
10	7:45	B.B.	0.74	1.04	646
11	8:00	B.B.	0.78	1.09	661
12	7:15	CM	0.76	1.02	578
13	7:15	CM	0.89	1.00	611
14	7:30	B.B.	0.77	1.00	500
15	10:15	B.B.	0.70	1.05	582
16	7:15	CM	average	average	467

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	7:00	R.F.	1.68	1.85	503
18	7:15	CM	1.59	1.79	482
19	7:30	CM	.94	1.11	637
20	7:15	R.F.	1.00	1.34	746
21	10:00	R.F.	0.92	1.08	606
22	12:45	R.F.	0.86	1.10	579
23	10:00	B.B.	0.55	0.78	470
24	8:30	B.B.	0.53	0.84	502
25	7:30	CM	0.60	0.91	470
26	7:30	CM	0.59	0.86	508
27	7:15	CM	0.[illegible]	0.79	561
28	8:15	B.B.	0.67	0.93	508
29	9:00	B.B.	0.71	1.06	505
30	7:00	B.B.	0.77	1.12	397
31					
				Total Monthly Consumption	17,165

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
03	11:10	R.F.	COMMUNITY RD.	[illegible]	[illegible]
17	10:30	R.F.	COMMUNITY RD.	1.64	1.92

Submitted by (Print): BARRY BROESKY **Signature:**

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Manitoba

Monthly Chlorination Report

Water System Name: Grunthal **Water System Code:** 86.0

Month: October **Year:** 2024 **Type of Measurement Device:** Electronic

Operator-in-charge (Print): Rob Friesen **Other Operators (Print):** Barry Bicesky, Colleen Mowatt

Daily Consumption Units: m^3

Flow Meter for Daily Consumption: (circle choice) Raw Treated No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	7:30	CM	0.79	1.11	531
2	7:30	CM	0.80	1.11	499
3	7:30	CM	0.86	1.15	493
4	7:00	R.F.	0.87	1.24	489
5	7:30	R.F.	0.88	1.21	503
6	12:30	R.F.	0.91	1.14	612
7	7:30	CM	0.86	1.02	361
8	7:30	CM	0.93	1.15	526
9	7:30	CM	0.84	1.21	482
10	7:00	CM	0.93	1.19	467
11	7:15	CM	0.88	1.08	450
12	7:30	B.B.	0.79	1.12	425
13	10:00	B.B.	0.77	1.11	454
14	6:00	B.B.	0.74	1.09	305
15	8:00	R.F.	0.82	1.04	476
16	8:00	R.F.	0.80	1.13	429

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	8:00	R.F.	0.78	1.07	627
18	7:00	R.F.	0.77	1.07	555
19	9:00	R.F.	0.86	0.96	463
20	10:00	R.F.	0.73	0.90	410
21	8:30	B.B.	0.79	1.07	368
22	7:30	CM	0.79	1.07	411
23	7:00	CM	0.82	1.06	546
24	7:15	CM	0.81	1.09	448
25	7:15	CM	0.71	0.98	415
26	7:30	B.B.	0.82	1.07	391
27	10:00	B.B.	0.72	0.99	458
28	7:15	CM	0.77	1.13	341
29	7:15	CM	0.84	1.04	~~461~~ 461
30	7:00	CM	0.76	1.07	~~453~~ 453
31	7:15	CM	0.75	1.12	420
				Total Monthly Consumption	14261

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
Oct 1st	8:30	CM	Cottonwood	1.13	1.45
15	10:15	R.F.	Cottonwood Rd.	0.66	0.91
29	9:45	RF	Cottonwood Rd.	0.67	0.77

Submitted by (Print): Rob Friesen **Signature:**

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Chlorination Report

Water System Name: GRUNTHAL Water System Code: 86.0

Month: November Year: 2024 Type of Measurement Device: ELECTRONIC

Operator-in-charge (Print): BARRY BROESKY Other Operators (Print): ROB FRIESEN

Daily Consumption Units: m^3 COLLEEN MOWAT

Flow Meter for Daily Consumption: (circle choice) Raw (Treated) No Metering

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
1	7:15	CM	0.75	0.98	406
2	9:30	R.F.	0.74	1.02	429
3	12:30	R.F.	0.78	1.06	495
4	7:15	CM	0.72	0.98	297
5	7:30	CM	0.83	1.03	418
6	7:30	CM	0.73	0.93	423
7	7:15	CM	0.83	1.02	405
8	7:30	CM	0.84	0.98	420
9	7:00	B.B.	0.78	0.96	383
10	10:30	B.B	0.69	0.90	509
11	8:45	B.B	0.67	0.91	331
12	7:15	CM	0.83	1.15	405
13	7:30	CM	1.13	1.49	486
14	7:15	CM	1.34	1.68	424
15	7:15	CM	1.44	1.78	419
16	9:30	R.F.	1.30	1.59	454

Date	Time	Initials	Residuals (mg/L)		Daily Consumption
			Free	Total	
17	6:30	R.F.	1.09	1.31	338
18	7:30	CM	0.84	1.20	412
19	7:15	CM	0.94	1.20	419
20	7:15	CM	1.07	1.34	411
21	7:30	CM	1.01	1.34	412
22	7:30	CM	0.74	1.23	444
23	7:00	B.B.	0.75	1.19	409
24	10:00	B.B.	0.63	0.98	477
25	6:00	B.B	0.69	0.97	328
26	7:00	R.F.	0.82	1.11	449
27	7:30	CM	0.89	1.12	457
28	7:15	CM	0.91	1.01	487
29	7:30	CM	0.72	1.19	454
30	9:30	R.F.	0.89	1.05	495
31					
				Total Monthly Consumption	12,575

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L)	
				Free	Total
Nov 12	8:00	CM	Cottonwood	0.75	0.85
26	9:00	RF	Cottonwood Drive	0.65	0.86

Submitted by (Print): BARRY BROESKY Signature:

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Chlorination Report

Water System Name: GRUNTHAL **Water System Code:** 86.0

Month: DECEMBER **Year:** 2024 **Type of Measurement Device:** ELECTRONIC

Operator-in-charge (Print): BARRY BRECKILY **Other Operators (Print):** ROS FRIESEN

Daily Consumption Units: m³ LEON DUECK

Flow Meter for Daily Consumption: (circle choice) Raw (Treated — circled) No Metering

Date	Time	Initials	Residuals (mg/L) Free	Residuals (mg/L) Total	Daily Consumption
1	12:30	R.F.	0.92	1.25	518
2	8:30	B.B.	0.83	1.21	348
3	8:30	B.B.	0.80	1.16	436
4	8:30	B.B	0.81	1.16	449
5	8:00	B.B	0.84	1.22	414
6	8:00	R.F	0.78	1.26	421
7	6:30	B.B	0.97	1.35	370
8	10:00	B.B.	0.85	1.22	477
9	8:30	R.F.	0.95	1.26	368
10	7:00	R.F.	0.79	0.97	407
11	7:00	R.F	0.79	1.12	412
12	7:00	R.F	0.93	1.20	421
13	7:00	R.F	0.98	1.24	485
14	7:00	R.F.	0.97	1.28	509
15	7:30	R.F.	0.87	1.12	395
16	7:30	B.B.	0.86	1.07	434

Date	Time	Initials	Residuals (mg/L) Free	Residuals (mg/L) Total	Daily Consumption
17	8:00	B.B	0.98	1.26	431
18	7:00	B.B	0.89	1.28	460
19	7:30	B.B	0.85	1.24	454
20	7:00	B.B	0.71	1.17	455
21	7:00	B.B	0.91	1.19	432
22	7:30	B.B.	0.81	1.18	489
23	5:45	B.B	0.78	1.15	392
24	8:00	B.B.	0.80	1.15	503
25	6:15	B.B	0.80	1.16	431
26	8:15	B.B.	0.79	1.14	426
27	8:45	B.B.	0.79	1.14	438
28	10:15	R.F.	0.82	1.06	453
29	12:00	R.F.	0.85	1.17	425
30	9:30	R.F.	0.78	1.03	347
31	9:30	R.F	0.90	1.16	450
				Total Monthly Consumption	13395

Residuals at Distribution Sample Locations

Date	Time	Initials	Location	Residuals (mg/L) Free	Residuals (mg/L) Total
10	11:45	B.B	COTTONWOOD RD.	0.67	1.08
22	15:45	B.B.	COTTONWOOD RD.	0.71	1.09

Submitted by (Print): BARRY BRECKILY **Signature:**

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Appendix F

Incident Advisory Notification Plan

Grunthal Advisory Notification Plan

March 31, 2025

The Grunthal Water system has one water treatment plant which provides water for the town of Grunthal MB.

If there is a water quality issue with the system, please contact our Water and Wastewater Treatment Operator Barry Broesky at 204-371-0484, or Rob Friesen at 204-371-8236. Our Engineering and Utilities Manager Rob Driedger can also be contacted at 204-346-7121, along with the provincial Drinking Water Officer (DWO) Sarah Belisle, at 204-371-5065 or 204-346-6346. A voice conversation must be had with a Drinking Water Officer. If those numbers do not work call the emergency line, at 1-855-944-4888. Using the attached Emergency action chart the DWO, Operators and Manager will determine the appropriate actions to take to rectify the situation.

Customers in the affected area(s) will be notified by the municipalities Facebook page and website, as well as the electronic community billboards. Critical customers will be notified by phone and paper notice, and in isolated incidents localized canvassing may also be carried out.

Hanover MUNICIPALITY

Incident

Operators
204-371-8236
204-371-0484
204-392-8285

Engineering and Utilities Manager
204-346-7121

CAO
204-346-7122

Drinking Water officer
204-408-8807
204-346-6346
1-855-944-4888

Medical Officer of Health (MOH) if necessary

Media Release

(If necessary)

Public Health Inspector (PHI) if necessary

- Analyze incident
- Relate to Municipal ERP
- Decide on actions

Boil Water Advisory Issued

Execute actions and emergency repairs

YES

NO

Provide alternate water source (if necessary)

Make system operational

If necessary, notify customers via:

- Municipal Website
- Phone calls (critical customers)
- Canvasing (isolated incidents)
- Municipal social media pages

Evaluate with DWO,MOH as required

1.Start system 2. Lessons Learned

3.Staff Training 4. Modify ERP