Public Water System Annual Report 2021

Name: Town of Neepawa Water Treatment Plant
Name of Owner: Town of Neepawa

Manager of Operations: Denis Saquet, C.E.T.
Water & Wastewater Supervisor: Howard Buffi

Operators: Dustin Poncsak
Courtney Gilmore
Kevin Levandosky

1. **Introduction:**

Public water system, Town of Neepawa "Annual Report" summarizes the water utility's ability to produce safe potable water and comply with provincial regulations.

2. **Description of the Water System**

The Town of Neepawa water treatment facility provides potable drinking water to a population of 4609 residents and business units within the Town and approximately 400 more to the Municipality of North Cypress Langford and 550 in the Rural Municipality of Rosedale. The Town of Neepawa water treatment system fulfilled its obligation in 2020 in complying with Manitoba *Drinking Water Safety Act regulations.*

- ***Water Supply Source***

  The Town of Neepawa has now acquired three ground water sources; firstly the Oberon site is roughly 19 kilometers south of Neepawa and two at the Hummerston site roughly 24 kilometers south east of Neepawa. The raw water is pumped from either or all sites depending on demand.

- ***Water Treatment Process***

  Present water process system was upgraded in 2013, it can treat up to 75 liter/second and it consists of the following process stages.
  - We start by adding chlorine to pre-oxidize the iron + manganese + arsenic out of solution so they can be filtered out.
  - Filtering to remove iron, manganese and arsenic
  - Sodium bisulphite and anti-scalant are added to the water to remove the oxygenizing rate potential of the water and to help keep the water minerals from plugging or scaling the Reverse Osmosis (RO) membrane.
  - The water is then treated by the use of a Reverse Osmosis (RO) membrane unit
  - Reverse Osmosis (RO) water is blended with filtered water (Approx. 60 /40 blend)
  - Sodium Hydroxide, chlorine, clearhib 4 and Fluorosilicic Acid is added before entering the reservoir. The Sodium Hydroxide is added to balance the pH level of the water; chlorine to disinfect the water to make it safe; clearhib 4 is added to reduce corrosion of the Towns' infrastructure (water lines) and the Fluorosilicic Acid (fluoride) for dental protection.

- ***Storage Reservoir***

  The water treatment plant has two treated water storage reservoirs; one under the original 1962 plant, the second under the 1995 addition. The storage volumes of two reservoirs are 587 and 670 cubic meters for total volume of 1,257 cubic meters at the plant. In addition, the Town has a water tower with a storage volume of approximately 2,180 cubic meters. Thus, the total available storage is 3,457 cubic meters or 3,457,000 liters.

- ***Classification and Certification***
  Operator certification and facility classification falls under the Environment Act's Water and Wastewater Facility Operators Regulation.

  The Town of Neepawa water treatment plant is designated a Class 3 facility by the Province of Manitoba. Water treatment levels are required for operators of the plant. Levels are from 1 to 4 dependent on the size of the water system. Conditional certification means that the employee has passed the exam for that level, however has not completed enough CEU's (continuing education units) or work experience for complete certification.

  WT – Water Treatment WD – Water Distribution WWC – Wastewater Collection
  WWT – Waste Water Treatment

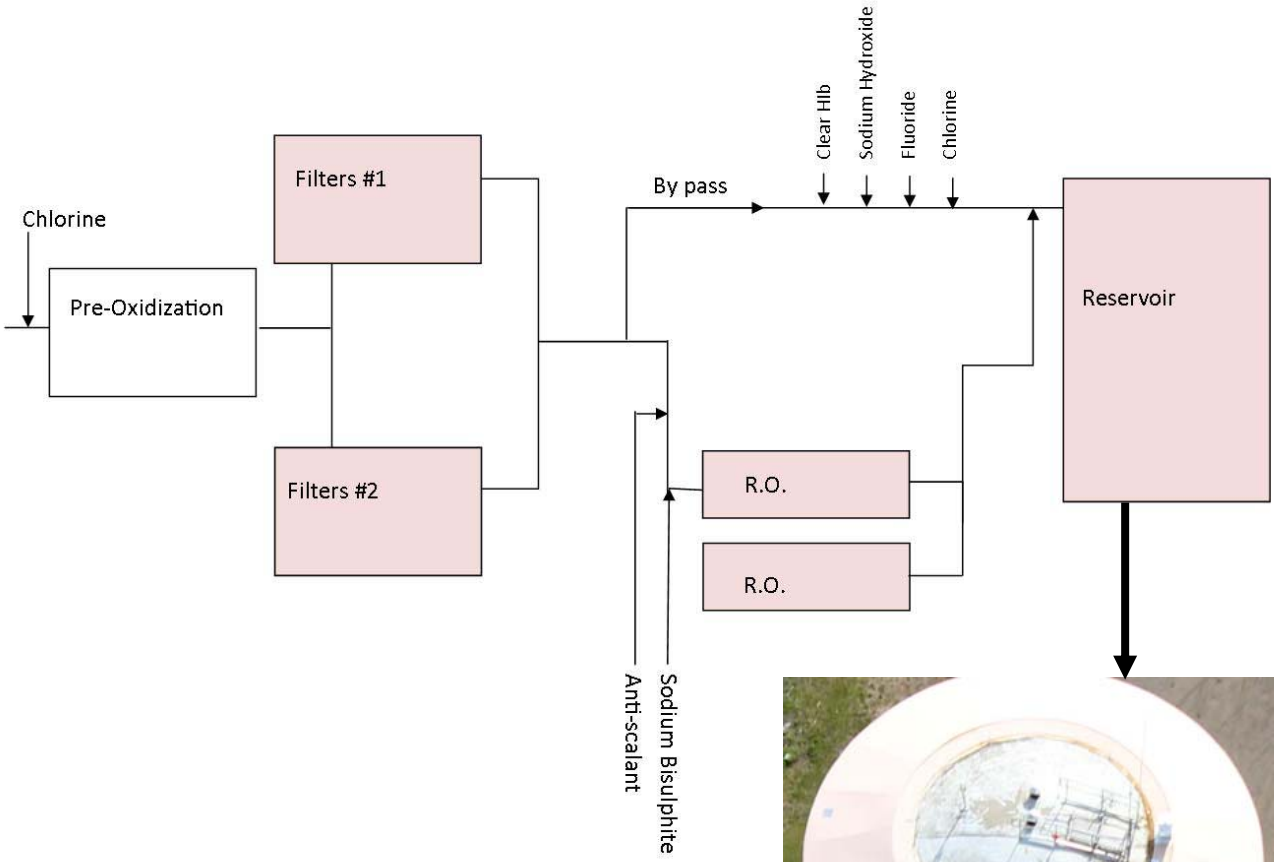
  Supervisor Certification Level is:

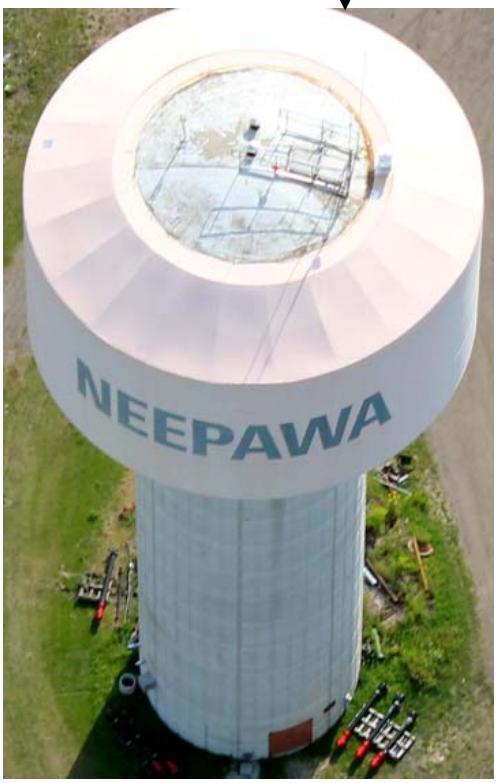
Howard Buffi:	Level 3 Certification (WT 3, WD 2, WWC 2 and WWT 1)

  The Operators Certification Levels are:

Courtney Gilmore	Level 3 (WT 3, WWT I, WWC 2, WD 2)
Dustin Poncsak	Level 2 (WT 2, WWT I, WWC 2, WD 2)
Kevin Levandosky	Level 1 (WD 1, WWC 1, WT 1)

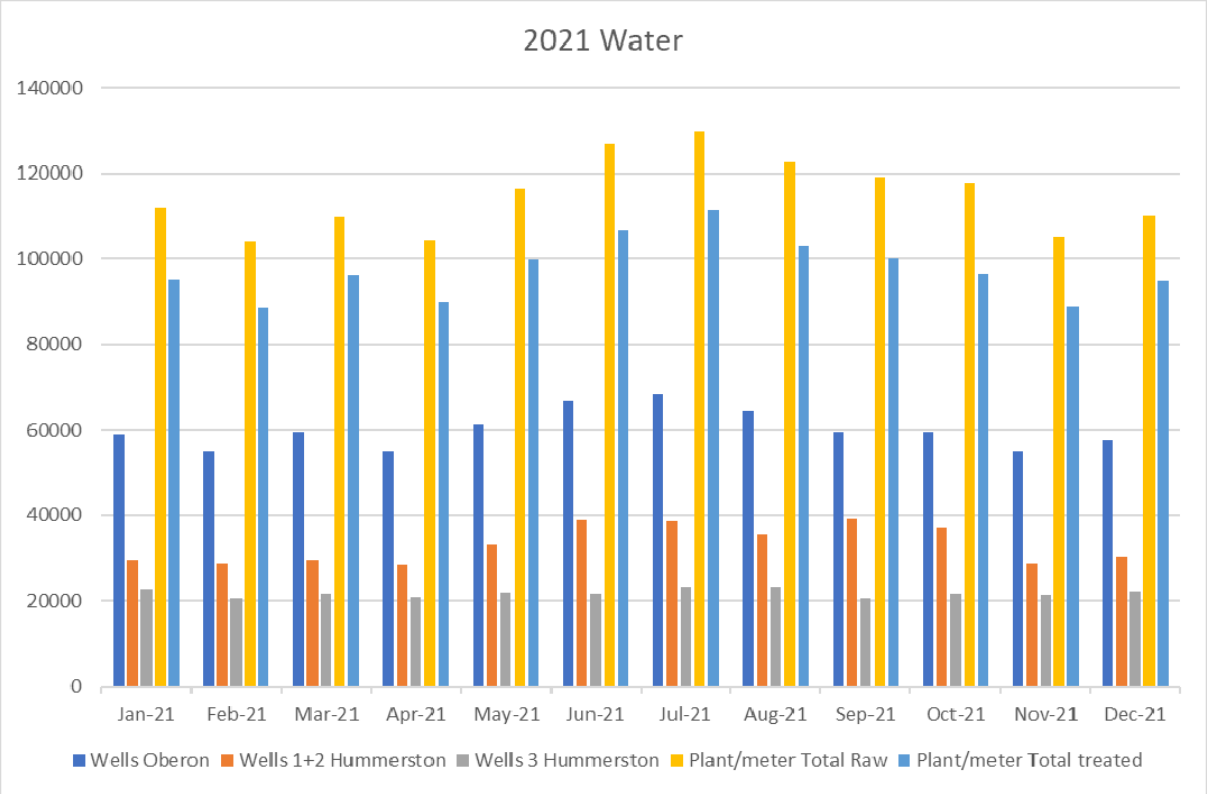
Following process flow diagram (PFD) describes the Neepawa water system.





- **Raw/Treated Water 2021**

2021	Wells	Wells 1+2	Wells 3	Plant/meter	
	Oberon	Hummerston	Hummerston	Total Raw	Total treated
Jan-21	58931	29683	22780	111978	95068
Feb-21	55098	28868	20559	104082	88544
Mar-21	59643	29486	21531	109948	96132
Apr-21	55054	28527	20847	104166	89981
May-21	61373	33297	21819	116488	99889
Jun-21	66595	38719	21574	126885	106568
Jul-21	68154	38554	23132	129848	111506
Aug-21	64212	35363	23128	122698	103095
Sep-21	59396	39156	20511	119108	100050
Oct-21	59500	36859	21510	117872	96472
Nov-21	55072	28826	21242	105137	88964
Dec-21	57743	30339	22147	110205	94808
Total	720771	397677	260780	1378415	1171077
Average	60064	33140	21732	114868	97590
Max	68154	39156	23132	129848	111506
Min.	55054	28527	20511	104082	88544



3. Water Quality Standards

The Province of Manitoba has adopted a number of water quality standards from the Health Canada *Guidelines for Canadian Drinking Water Quality*. The health-based parameters express the maximum acceptable concentrations for drinking water. Concentration values in excess of the guidelines constitute a health-related issue and require corrective actions. Public water systems are required to monitor chlorine levels and undertake regular bacterial testing. The 2020 results for the Town of Neepawa water treatment system are as follows:

ALS Certificate of Analysis – Raw & Treated Analytical Report

This report is required to be completed every three years. Neepawa's last report was published in 2020, however Neepawa remained complaint in 2021.


Certificate of Analysis

a. ***Bacteriological Monitoring & Reporting***

The Town of Neepawa is mandated by the Drinking Water Officer to conduct bacterial analysis on our water every two weeks.

The Town of Neepawa tests for Total Coliform (TC) and E.coli (EC) to ensure that there are no water borne bacteria to ensure the water is safe to drink. Chlorine is tested in treated water. (CL)

Total coliforms are a group of bacteria commonly found in the environment, for example in soil or vegetation, as well as the intestines of mammals, including humans. Total coliform bacteria are not likely to cause illness, but their presence indicates that your water supply may be vulnerable to contamination by more harmful microorganisms. Escherichia coli (E.coli) is the only member of the total coliform group of bacteria that is found only in the intestines of mammals, including humans. The presence of E.coli in water indicates recent fecal contamination and may indicate the possible presence of disease-causing pathogens, such as bacteria, viruses, and parasites. Although most strains of E.coli bacteria are harmless, certain strains, such as E.coli 0157:H7, may cause illness.

2021 Bacti testing report (attached at end – click here)

4. Water Analysis Report 2021

The Town submitted water samples from the **Neepawa PWS** for chemical analysis. This is considered to have fulfilled the general chemistry monitoring requirement of Operating License. Any problems are reported immediately to the Drinking Water Officer and a report is provided each month.

All parameters measured in the treated water met the applicable health-based maximum acceptable concentrations (MAC) and aesthetic objectives set by the *Guidelines for Canadian Drinking Water Quality* (GCDWQ).

In previous years, the Town had several water samples that were considered "late" due to shipping issues out of the Town's control. The water sample coolers are now being sent via Gardewine, as opposed to Canada Post, to ensure samples are received by ALS in a timely and reliable matter.

a. ***Water System Incidents and Corrective Actions***
No instances of non compliance were issued in 2021

b. ***Drinking Water Safety Orders, Warnings, and Charges***
None

c. ***Boil Water Orders and Actions Taken in Response:***
Multiple Boil Water Orders were issued for the Town of Neepawa Water System, in specific locations due to work on the distribution system.
In all instances notifications, as provided by the Drinking Water Officer were posted on each affected property and each property was once again notified when the order was lifted.

d. ***Disinfection System***
Chlorine monitoring, the standards of minimum 0.5 mg/L in the treated water and minimum 0.1 mg/L. The system met the required disinfection standards 100% of the time in 2021.

5. Major Expenses Incurred:

a. A new reservoir is being constructed near the water treatment plant. It will be operational in 2022. Costs in 2021 totaled just under $1,000,000 with the total cost anticipated to be over $3 million. This reservoir will provide an additional 2.0 million litres of storage and allow us to secure a potable water supply in case of Water Tower failure or upgrades.
b. Approximately 400 meters of various main renewals were completed by municipal staff.
c. Five private service renewals were completed.
d. Over $9000 was budgeted and invested into staff education and training.
e. The Town incurred freight charges of over $5000 to send water samples to ALS
f. Raw water distribution line from aquifer lines (approx. 20 km) is swabbed annually to improve raw water quality.
g. Due to the ongoing drought, the in-town hydrant flushing program and valve exercising program only occurred in the spring, as opposed to spring and fall. This takes approximately one week each time.
h. Fall/Winterizing Hydrant Inspection program – staff inspect all hydrants prior to freeze up.

6. **Seasonal Services**
   All of the Town of Neepawa seasonal services (campground, swimming pool, golf course, etc), according to Water Services Guidelines, were flushed and bacti tested in 2021 prior to consumer connection.

7. **Emergency Notifications:**
   The Town of Neepawa has been using the notification program All-Net Connect (residents can sign up for phone, email or text notifications) and Facebook, as well as our website. This will allow notifications to be sent out to the community as a whole (either via text, phone or email) or certain sections. In rare instances, paper notifications posted on doors are utilized as well.

8. **COVID-19 Response:**
   Town of Neepawa Water Treatment Plant Operators continue to follow a COVID protocol, in accordance with the Town of Neepawa Infection, Prevention & Control Policy – COVID (AD-095) – click here.
   Prior to attending a property whereby indoor entry is required, both staff and occupants are screened for illness. Complete PPE is worn (boot covers, disposable suit, mask, etc.) at all times when entering private property.

9. **Future Expansion and Upgrading Plans**
   a. **Water Tower Repair & Maintenance:** The water tower has a buildup of sediment and numerous rust spots requiring repair. The tower must be drained, which will also expose other issues requiring repairs. Rust spots will be sanded down and the entire interior of the tower epoxied. The exterior of the tower will be given a new paint job. This project will ensure the health and safety of those on the distribution system and proper maintenance of the facility. This project cannot be started until the new reservoir project has been completed.
      Anticipated start date: 2022 once the reservoir is operational.
   b. **Third Well Site Location for raw water sourcing:** The Town of Neepawa is requesting a third well site location, away from the other well site locations at Hummerston and Oberon. This well site would be used to ensure Neepawa is getting the water volumes that have been allotted, as well as alleviate the pressure from the other two well sites. New raw water lines would need to be extended from this site to the current water lines that lead to Neepawa Water Treatment Plant. This would be an upgrade and a renewal to the current raw water system.
      Anticipated start date: 2022 to 2024
   c. **Hylife Food Meter Pit:** Hylife Foods is Neepawa's largest employer and water user. Their private pipe network is continually expanding along with a continual increase in water consumption. Annual renovations have led to mutual agreement that a meter pit would be best for both parties. This pit will be located the perimeter of the property. Within this design, Neepawa has requested a rural distribution branch be added so that future expansions may be entertained.
      Anticipated start date: 2022 to 2024

Lab. Bac.T. Lab149

Date/2021	location	Free CL	Total CL	TC	EC	# of Tests
1/12/2021	Raw	0	0	0	0	
	Treated	0.71	0.80	0	0	
	Dist bayhill	0.60	0.64	0	0	1
1/26/2021	Raw	0	0	0	0	
	Treated	0.84	0.92	0	0	
	Dist Giant tiger	0.78	0.80	0	0	2
2/9/2021	Raw	0	0	0	0	
	Treated	0.77	0.89	0	0	
	Dist Subway	0.75	0.79	0	0	3
2/23/2021	Raw	0	0	0	0	
	Treated	0.79	0.87	0	0	
	Dist. Team electronics	0.70	0.77	0	0	4
3/9/2021	Raw	0	0	0	0	
	Treated	0.76	0.85	0	0	
	Dist. @ Bay Hill	0.56	0.61	0	0	5
3/23/2021	Raw	0	0	0	0	
	Treated	0.80	0.88	0	0	
	Dist. Breaker 16	0.78	0.86	0	0	6
4/6/2021	Raw	0	0	0	0	
	Treated	0.77	0.83	0	0	
	Dist. Bayhill	0.58	0.60	0	0	7
4/20/2021	Raw	0	0	0	0	
	Treated	0.77	0.86	0	0	
	Dist. Health unit	0.73	0.78	0	0	8
5/4/2021	Raw	0	0	0	0	
	Treated	0.74	0.91	0	0	
	Dist.Subway	0.75	0.81	0	0	9
5/18/2021	Raw	0	0	0	0	
	Treated	0.72	0.77	0	0	
	Dist. Giant tiger	0.72	0.78	0	0	10
6/1/2021	Raw	0	0	0	0	
	Treated	0.69	0.82	0	0	
	Dist. Munro's	0.56	0.61	0	0	11
6/15/2021	Raw	0	0	0	0	
	Treated	0.71	0.79	0	0	
	Dist. Bayhill	0.54	0.57	0	0	12
6/29/2021	Raw	0	0	0	0	
	Treated	0.71	0.79	0	0	
	Dist. Breaker 16	0.77	0.91	0	0	13
7/13/2021	Raw	0	0	0	0	
	Treated	0.75	0.89	0	0	
	Dist. Subway	0.77	0.81	0	0	14
7/27/2021	Raw	0	0	0	0	
	Treated	0.91	0.97	0	0	
	Dist. Health unit	0.70	0.73	0	0	15
8/10/2021	Raw	0	0	0	0	
	Treated	0.85	0.94	0	0	
	Dist. Bayhill	0.78	0.79	0	0	16
8/24/2021	Raw	0	0	0	0	
	Treated	0.75	0.88	0	0	
	Dist. Guinns	0.71	0.79	0	0	17
9/7/2021	Raw	0	0	0	0	
	Treated	0.88	0.98	0	0	
	Dist. Subway	0.79	0.88	0	0	18
9/21/2021	Raw	0	0	0	0	
	Treated	0.93	0.97	0	0	
	Dist. Bayhill	0.51	0.59	0	0	19
10/5/2021	Raw	0	0	0	0	
	Treated	0.61	0.71	0	0	
	Dist. Town office	0.57	0.63	0	0	20
10/19/2021	Raw	0	0	0	0	

	Treated	0.71	0.81	0	0		
	Dist. Breaker 16	0.67	0.71	0	0	21	
11/2/2021	Raw	0	0	0	0		
	Treated	0.72	0.83	0	0		
	Dist. Giant tiger	0.64	0.70	0	0	22	
11/16/2021	Raw	0	0	0	0		
	Treated	0.72	0.83	0	0		
	Dist. Piston Ring	0.51	0.59	0	0	23	
11/30/2021	Raw	0	0	lab	lab		
	Treated	0.81	0.91	lab	lab	Lab fail	
	Dist.	0.74	0.79	lab	lab	24	
12/6/2021	Raw	0	0	0	0		
	Treated	0.83	0.93	0	0		
	Dist. Bayhill	0.53	0.59	0	0	25	
12/21/2021	Raw	0	0	0	0		
	Treated	0.75	0.87	0	0		
	Dist. Town office	0.67	0.72	0	0	26	
Seasonal and line flushing							
April/12/2021	Dist	new line					
April/14/2021	Raye Ave+ Clare Cresant	0.98	1.01	0	0		Shock/ new line test
April/20/2021	Raye Ave+ Clare Cresant	1.00	1.11	0	0		Shock/ new line test
April/20/2021	423 mountain	0.66	0.69	0	0		Boil water
April/22/2022	424 mountain	0.68	0.81	0	0		Boil water
May/11/21	Cemetery	0.73	0.81	0	0		Seasonal
May/11/21	Ball Diamonds	0.71	0.77	0	0		Seasonal
May/11/21	Campground	0.69	0.78	0	0		Seasonal
May/13/21	Cemetery	0.64	0.69	0	0		Seasonal
May/13/21	Ball Diamonds	0.69	0.73	0	0		Seasonal
May/13/21	Campground	0.64	0.71	0	0		Seasonal
June/1/2021	Camp south #3	0.67	0.76	0	0		Seasonal
june/8/2021	Howden Ave.	0.67	0.74	0	0		Line maintenance advisory
june/10/2021	Howden Ave.	0.76	0.82	0	0		Line maintenance advisory
June/15/2021	#2 west (Park) Seasonal	0.66	0.73	0	0		Seasonal
June/29/2021	# 7 North (Campground)	0.70	0.76	0	0		Seasonal
July/13/2021	#2 south campground	0.52	0.60	0	0		Seasonal
July/27/2021	Graveyard (seasonal)	0.67	0.72	0	0		Seasonal
Aug/10/2021	Park south #13	0.53	0.58	0	0		Seasonal
Aug/24/2021	Park West #2	0.61	0.68	0	0		Seasonal
Sept/7/2021	#10 north park	0.73	0.84	0	0		Seasonal
Sept/21/2021	Seasonal W2	0.77	0.85	0	0		Seasonal
Oct/5/2021	Davidson st	0.60	0.63	0	0		street renewal
Oct/7/2021	Davidson st	0.88	1.02	0	0		
Oct/19/2021	CO-OP Maintenance order	0.57	0.62	0	0		
Oct/20/2021	Yellowhead manor/M.O.	0.75	0.84	0	0		

Town of Neepawa - Water Plant
ATTN: HOWARD BUFFI
Neepawa - PWS
Box 339
Neepawa MB R0J 1H0

Date Received: 13-MAY-20
Report Date: 26-MAY-20 16:30 (MT)
Version: FINAL

Client Phone: 204-841-1350

Certificate of Analysis

Lab Work Order #: L2446708

Project P.O. #: NOT SUBMITTED
Job Reference: NEEPAWA - PWS 149.00
C of C Numbers:
Legal Site Desc: 16802

Hua Wo
Chemistry Laboratory Manager

Physical Tests (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID: L2446708-1 Sampled Date: 12-MAY-20 Sampled Time: - Sample ID: NEEPAWA 1 - RAW		ALS ID: L2446708-2 Sampled Date: 12-MAY-20 Sampled Time: - Sample ID: NEEPAWA 2 - TREATED	
Colour, True	CU	15	-	<5.0		<5.0	
Conductivity	umhos/cm	-	-	543		287	
Hardness (as CaCO3)	mg/L	-	-	305	HTC	137	HTC
Langelier Index (4 C)	No Unit	-	-	0.30		0.20	
Langelier Index (60 C)	No Unit	-	-	1.1		0.97	
pH	pH units	7.00-10.5	-	7.64		8.13	
Total Dissolved Solids	mg/L	500	-	318		173	
Transmittance, UV (254 nm)	%T/cm	-	-	93.8		97.7	
Turbidity	NTU	-	-	0.32		<0.10	

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)
#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Anions and Nutrients (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID: L2446708-1 Sampled Date: 12-MAY-20 Sampled Time: - Sample ID: NEEPAWA 1 - RAW	ALS ID: L2446708-2 Sampled Date: 12-MAY-20 Sampled Time: - Sample ID: NEEPAWA 2 - TREATED
Alkalinity, Total (as CaCO3)	mg/L	-	-	287	146
Ammonia, Total (as N)	mg/L	-	-	0.118	<0.010
Bicarbonate (HCO3)	mg/L	-	-	351	178
Bromide (Br)	mg/L	-	-	0.015	<0.010
Carbonate (CO3)	mg/L	-	-	<0.60	<0.60
Chloride (Cl)	mg/L	250	-	2.36	2.08
Fluoride (F)	mg/L	-	1.5	0.217	0.698
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34
Nitrate (as N)	mg/L	-	10	0.517	0.254
Nitrite (as N)	mg/L	-	1	<0.0010	<0.0010
Sulfate (SO4)	mg/L	500	-	18.4	9.10

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)
#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Organic / Inorganic Carbon (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID: L2446708-1 Sampled Date: 12-MAY-20 Sampled Time: - Sample ID: NEEPAWA 1 - RAW		ALS ID: L2446708-2 Sampled Date: 12-MAY-20 Sampled Time: - Sample ID: NEEPAWA 2 - TREATED	
Dissolved Organic Carbon	mg/L	-	-	1.58		1.12	RRV
Total Organic Carbon	mg/L	-	-	1.58		0.61	RRV

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)
#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.
Analytical result for this parameter exceeds Guide Limit listed on this report.
* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Total Metals (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	L2446708-1 12-MAY-20 - NEEPAWA 1 - RAW	L2446708-2 12-MAY-20 - NEEPAWA 2 - TREATED	L2446708-3 12-MAY-20 - NEEPAWA 3 - DISTRIBUTION
ALS ID				L2446708-1	L2446708-2	L2446708-3
Sampled Date				12-MAY-20	12-MAY-20	12-MAY-20
Sampled Time				-	-	-
Sample ID				NEEPAWA 1 - RAW	NEEPAWA 2 - TREATED	NEEPAWA 3 - DISTRIBUTION
Aluminum (Al)-Total	mg/L	0.1	-	<0.0030	<0.0030	0.0060
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00469	0.00141	0.00132
Barium (Ba)-Total	mg/L	-	2	0.303	0.129	0.131
Beryllium (Be)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	-	5	0.059	0.042	0.045
Cadmium (Cd)-Total	mg/L	-	0.005	<0.0000050	<0.0000050	<0.0000050
Calcium (Ca)-Total	mg/L	-	-	77.8	34.9	35.6
Cesium (Cs)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	mg/L	-	0.05	<0.00010	<0.00010	0.00010
Cobalt (Co)-Total	mg/L	-	-	0.00012	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	1	2	0.00078	0.0129	0.0840
Iron (Fe)-Total	mg/L	0.3	-	0.080	<0.010	<0.010
Lead (Pb)-Total	mg/L	-	0.005	0.000059	<0.000050	0.00371
Lithium (Li)-Total	mg/L	-	-	0.0228	0.0098	0.0107
Magnesium (Mg)-Total	mg/L	-	-	26.8	12.1	12.4
Manganese (Mn)-Total	mg/L	0.02	0.12	0.248	0.00018	0.00025
Molybdenum (Mo)-Total	mg/L	-	-	0.00305	0.00113	0.00119
Nickel (Ni)-Total	mg/L	-	-	0.00055	<0.00050	0.00915
Phosphorus (P)-Total	mg/L	-	-	<0.050	0.510	0.498
Potassium (K)-Total	mg/L	-	-	2.95	1.31	1.35
Rubidium (Rb)-Total	mg/L	-	-	0.00111	0.00055	0.00057
Selenium (Se)-Total	mg/L	-	0.05	0.000500	0.000172	0.000155
Silicon (Si)-Total	mg/L	-	-	13.4	5.30	5.47
Silver (Ag)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	7.40	19.0	18.5
Strontium (Sr)-Total	mg/L	-	7	0.282	0.118	0.120
Sulfur (S)-Total	mg/L	-	-			3.25
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)
#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.
Analytical result for this parameter exceeds Guide Limit listed on this report.
* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Total Metals (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	L2446708-1 12-MAY-20 - NEEPAWA 1 - RAW	L2446708-2 12-MAY-20 - NEEPAWA 2 - TREATED	L2446708-3 12-MAY-20 - NEEPAWA 3 - DISTRIBUTION
ALS ID				L2446708-1	L2446708-2	L2446708-3
Sampled Date				12-MAY-20	12-MAY-20	12-MAY-20
Sampled Time				-	-	-
Sample ID				NEEPAWA 1 - RAW	NEEPAWA 2 - TREATED	NEEPAWA 3 - DISTRIBUTION
Titanium (Ti)-Total	mg/L	-	-	<0.00030	<0.00030	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.00360	0.00148	0.00138
Vanadium (V)-Total	mg/L	-	-	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	5	-	0.0033	<0.0030	0.0408
Zirconium (Zr)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)
#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Volatile Organic Compounds (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	L2446708-1 12-MAY-20 - NEEPAWA 1 - RAW
ALS ID				L2446708-1
Sampled Date				12-MAY-20
Sampled Time				-
Sample ID				NEEPAWA 1 - RAW
Benzene	mg/L	-	0.005	<0.00050
1,1-dichloroethene	mg/L	-	0.014	<0.00050
Dichloromethane	mg/L	-	0.05	<0.0050
Ethylbenzene	mg/L	0.0016	0.14	<0.00050
MTBE	mg/L	0.015	-	<0.00050
Tetrachloroethene	mg/L	-	0.01	<0.00050
Toluene	mg/L	0.024	0.06	<0.00050
Trichloroethene	mg/L	-	0.005	<0.00050
o-Xylene	mg/L	-	-	<0.00050
M+P-Xylenes	mg/L	-	-	<0.00040
Xylenes (Total)	mg/L	0.02	0.09	<0.00064
Surrogate: 4-Bromofluorobenzene (SS)	%	-	-	104.1
Surrogate: 1,4-Difluorobenzene (SS)	%	-	-	107.8

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)
#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.
Analytical result for this parameter exceeds Guide Limit listed on this report.
* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Reference Information

Qualifiers for Individual Parameters Listed:

Qualifier	Description
RRV	Reported Result Verified By Repeat Analysis
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-CO3CO3-CALC-WP	Water	Alkalinity, Carbonate	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by carbonate is calculated and reported as mg CO3 2-/L.			
ALK-HCO3HCO3-CALC-WP	Water	Alkalinity, Bicarbonate	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by bicarbonate is calculated and reported as mg HCO3-/L			
ALK-OHOH-CALC-WP	Water	Alkalinity, Hydroxide	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by hydroxide is calculated and reported as mg OH-/L.			
ALK-TITR-WP	Water	Alkalinity, Total (as CaCO3)	APHA 2320B
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. Total alkalinity is determined by titration with a strong standard mineral acid to the successive HCO3- and H2CO3 endpoints indicated electrometrically.			
BR-L-IC-N-WP	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)-LR
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
C-DOC-HTC-WP	Water	Dissolved Organic Carbon by Combustion	APHA 5310 B-WP
Filtered (0.45 um) sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO2 which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer.			
C-TOC-HTC-WP	Water	Total Organic Carbon by Combustion	APHA 5310 B-WP
Sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO2 which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer.			
CL-L-IC-N-WP	Water	Chloride in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
COLOUR-TRUE-WP	Water	Colour, True	APHA 2120C
True Colour is measured spectrophotometrically by comparison to platinum-cobalt standards using the single wavelength method (450 - 465 nm) after filtration of sample through a 0.45 um filter. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment. Concurrent measurement of sample pH is recommended.			
EC-SCREEN-WP	Water	Conductivity Screen (Internal Use Only)	APHA 2510
Qualitative analysis of conductivity where required during preparation of other test eg. IC, TDS, TSS, etc			
EC-WP	Water	Conductivity	APHA 2510B
Conductivity of an aqueous solution refers to its ability to carry an electric current. Conductance of a solution is measured between two spatially fixed and chemically inert electrodes.			
ETL-LANGELIER-4-WP	Water	Langelier Index 4C	Calculated
ETL-LANGELIER-60-WP	Water	Langelier Index 60C	Calculated
F-IC-N-WP	Water	Fluoride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
HARDNESS-CALC-WP	Water	Hardness Calculated	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
IONBALANCE-CALC-WP	Water	Ion Balance Calculation	APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance (as % difference) cannot be calculated accurately for waters with very low electrical conductivity (EC), and is reported as "Low EC" where EC < 100 uS/cm (umhos/cm). Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-T-CCMS-WP	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020B (mod.)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-COL-WP	Water	Ammonia by colour	APHA 4500 NH3 F

Ammonia in water samples forms indophenol when reacted with hypochlorite and phenol. The intensity is amplified by the addition of sodium nitroprusside and measured colourmetrically.

NO2-L-IC-N-WP	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-WP	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

PH-WP	Water	pH	APHA 4500H

The pH of a sample is the determination of the activity of the hydrogen ions by potentiometric measurement using a standard hydrogen electrode and a reference electrode.

SO4-IC-N-WP	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-WP	Water	Total Dissolved Solids (TDS)	APHA 2540 SOLIDS C,E

A well-mixed sample is filtered through a glass fiber filter paper. The filtrate is then evaportaed to dryness in a pre-weighed vial and dried at 180 – 2C. The increase in vial weight represents the total dissolved solids.

TURBIDITY-WP	Water	Turbidity	APHA 2130B (modified)

Turbidity in aqueous matrices is determined by the nephelometric method.

UV-%TRANS-WP	Water	UV Transmittance (Calculated)	APHA 5910B

Test method is adapted from APHA Method 5910B. A sample is filtered through a 0.45 um polyethersulfone (PES) filter and its UV Absorbance is measured in a quartz cell at 254 nm. UV Transmittance is calculated from the UV Absorbance result and reported as UV Transmittance per cm. The analysis is carried out without pH adjustment.

VOC+F1-HSMS-WP	Water	VOC plus F1 by GCMS	EPA 8260C / EPA 5021A

In this method samples are analyzed using a headspace autosampler interfaced to a dual column gas chromatograph with MS and Flame Ionization detectors.

XYLENES-SUM-CALC-WP	Water	Sum of Xylene Isomer Concentrations	CALCULATED RESULT

Total xylenes represents the sum of o-xylene and m&p-xylene.

**ALS test methods may incorporate modifications from specified reference methods to improve performance.

Chain of Custody Numbers:

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

Reference Information

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guideline limits are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Quality Control Report

Workorder: L2446708 Report Date: 26-MAY-20

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0

Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-TITR-WP	**Water**							
Batch R5084181								
WG3323495-10 DUP		**L2446697-3**						
Alkalinity, Total (as CaCO3)		178	176		mg/L	1.2	20	13-MAY-20
WG3323495-9 LCS								
Alkalinity, Total (as CaCO3)			107.3		%		85-115	13-MAY-20
WG3323495-6 MB								
Alkalinity, Total (as CaCO3)			<1.0		mg/L		1	13-MAY-20
BR-L-IC-N-WP	**Water**							
Batch R5086601								
WG3322915-6 LCS								
Bromide (Br)			99.7		%		85-115	13-MAY-20
WG3322915-5 MB								
Bromide (Br)			<0.010		mg/L		0.01	13-MAY-20
C-DOC-HTC-WP	**Water**							
Batch R5092912								
WG3325942-3 DUP		**L2446116-6**						
Dissolved Organic Carbon		15.0	14.9		mg/L	0.7	20	19-MAY-20
WG3325942-2 LCS								
Dissolved Organic Carbon			92.3		%		80-120	19-MAY-20
WG3325942-1 MB								
Dissolved Organic Carbon			<0.50		mg/L		0.5	19-MAY-20
WG3325942-4 MS		**L2446116-6**						
Dissolved Organic Carbon			N/A	MS-B	%		-	19-MAY-20
Batch R5094350								
WG3326602-3 DUP		**L2447474-1**						
Dissolved Organic Carbon		12.1	12.2		mg/L	0.8	20	20-MAY-20
WG3326602-2 LCS								
Dissolved Organic Carbon			96.9		%		80-120	20-MAY-20
WG3326602-1 MB								
Dissolved Organic Carbon			<0.50		mg/L		0.5	20-MAY-20
WG3326602-4 MS		**L2447474-1**						
Dissolved Organic Carbon			N/A	MS-B	%		-	20-MAY-20
C-TOC-HTC-WP	**Water**							
Batch R5092910								
WG3325991-3 DUP		**L2446420-2**						
Total Organic Carbon		9.46	9.70		mg/L	2.5	20	19-MAY-20
WG3325991-2 LCS								
Total Organic Carbon			89.9		%		80-120	19-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-TOC-HTC-WP	**Water**							
Batch R5092910								
WG3325991-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	19-MAY-20
WG3325991-4 MS		**L2446420-3**						
Total Organic Carbon			91.5		%		70-130	19-MAY-20
Batch R5094353								
WG3326611-3 DUP		**L2446708-2**						
Total Organic Carbon		0.61	0.53		mg/L	14	20	20-MAY-20
WG3326611-2 LCS								
Total Organic Carbon			96.9		%		80-120	20-MAY-20
WG3326611-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	20-MAY-20
WG3326611-4 MS		**L2446708-2**						
Total Organic Carbon			96.9		%		70-130	20-MAY-20
CL-L-IC-N-WP	**Water**							
Batch R5086601								
WG3322915-7 DUP		**L2446697-5**						
Chloride (Cl)		32.7	32.6		mg/L	0.2	20	13-MAY-20
WG3322915-6 LCS								
Chloride (Cl)			101.6		%		90-110	13-MAY-20
WG3322915-5 MB								
Chloride (Cl)			<0.10		mg/L		0.1	13-MAY-20
WG3322915-8 MS		**L2446697-5**						
Chloride (Cl)			107.1		%		75-125	13-MAY-20
COLOUR-TRUE-WP	**Water**							
Batch R5091283								
WG3325231-3 DUP		**L2446708-2**						
Colour, True		<5.0	6.3	RPD-NA	CU	N/A	20	15-MAY-20
WG3325231-2 LCS								
Colour, True			98.4		%		85-115	15-MAY-20
WG3325231-1 MB								
Colour, True			<5.0		CU		5	15-MAY-20
EC-WP	**Water**							
Batch R5084181								
WG3323495-10 DUP		**L2446697-3**						
Conductivity		476	477		umhos/cm	0.2	10	13-MAY-20
WG3323495-8 LCS								
Conductivity			98.9		%		90-110	13-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-WP	**Water**							
Batch R5084181								
WG3323495-6 MB								
Conductivity			<1.0		umhos/cm		1	13-MAY-20
F-IC-N-WP	**Water**							
Batch R5086601								
WG3322915-6 LCS								
Fluoride (F)			105.5		%		90-110	13-MAY-20
WG3322915-5 MB								
Fluoride (F)			<0.020		mg/L		0.02	13-MAY-20
MET-T-CCMS-WP	**Water**							
Batch R5094087								
WG3323499-4 DUP		**WG3323499-3**						
Aluminum (Al)-Total		0.0849	0.0840		mg/L	1.0	20	20-MAY-20
Antimony (Sb)-Total		0.00061	0.00058		mg/L	3.6	20	20-MAY-20
Arsenic (As)-Total		0.00247	0.00247		mg/L	0.1	20	20-MAY-20
Barium (Ba)-Total		0.0188	0.0187		mg/L	0.9	20	20-MAY-20
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	20-MAY-20
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	20-MAY-20
Boron (B)-Total		0.035	0.034		mg/L	1.8	20	20-MAY-20
Cadmium (Cd)-Total		0.0655	0.0646		mg/L	1.3	20	20-MAY-20
Calcium (Ca)-Total		344	345		mg/L	0.4	20	20-MAY-20
Cesium (Cs)-Total		0.000013	0.000011		mg/L	16	20	20-MAY-20
Chromium (Cr)-Total		0.00019	0.00016		mg/L	15	20	20-MAY-20
Cobalt (Co)-Total		0.358	0.355		mg/L	1.1	20	20-MAY-20
Copper (Cu)-Total		15.1	15.2		mg/L	0.6	20	20-MAY-20
Iron (Fe)-Total		2.21	2.17		mg/L	1.8	20	20-MAY-20
Lead (Pb)-Total		0.000438	0.000398		mg/L	9.6	20	20-MAY-20
Lithium (Li)-Total		0.0164	0.0159		mg/L	3.3	20	20-MAY-20
Magnesium (Mg)-Total		60.2	59.0		mg/L	2.0	20	20-MAY-20
Manganese (Mn)-Total		6.24	6.10		mg/L	2.4	20	20-MAY-20
Molybdenum (Mo)-Total		0.00741	0.00725		mg/L	2.2	20	20-MAY-20
Nickel (Ni)-Total		0.858	0.841		mg/L	2.0	20	20-MAY-20
Potassium (K)-Total		17.4	17.6		mg/L	1.4	20	20-MAY-20
Phosphorus (P)-Total		0.056	0.058		mg/L	3.5	20	20-MAY-20
Rubidium (Rb)-Total		0.00889	0.00878		mg/L	1.3	20	20-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R5094087								
WG3323499-4 DUP		**WG3323499-3**						
Selenium (Se)-Total		0.00316	0.00300		mg/L	5.0	20	20-MAY-20
Silicon (Si)-Total		8.22	7.97		mg/L	3.1	20	20-MAY-20
Silver (Ag)-Total		0.000019	0.000017		mg/L	15	20	20-MAY-20
Sodium (Na)-Total		44.9	44.3		mg/L	1.4	20	20-MAY-20
Strontium (Sr)-Total		0.935	0.929		mg/L	0.6	20	20-MAY-20
Sulfur (S)-Total		377	368		mg/L	2.4	20	20-MAY-20
Tellurium (Te)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	20-MAY-20
Thallium (Tl)-Total		0.000115	0.000097		mg/L	17	20	20-MAY-20
Thorium (Th)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	20-MAY-20
Tin (Sn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	20-MAY-20
Titanium (Ti)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	20-MAY-20
Tungsten (W)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	20-MAY-20
Uranium (U)-Total		0.000150	0.000140		mg/L	6.5	20	20-MAY-20
Vanadium (V)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	20-MAY-20
Zinc (Zn)-Total		14.8	14.7		mg/L	1.0	20	20-MAY-20
Zirconium (Zr)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	20-MAY-20
WG3323499-2 LCS								
Aluminum (Al)-Total			105.0		%		80-120	20-MAY-20
Antimony (Sb)-Total			107.4		%		80-120	20-MAY-20
Arsenic (As)-Total			104.1		%		80-120	20-MAY-20
Barium (Ba)-Total			113.3		%		80-120	20-MAY-20
Beryllium (Be)-Total			98.2		%		80-120	20-MAY-20
Bismuth (Bi)-Total			96.6		%		80-120	20-MAY-20
Boron (B)-Total			112.2		%		80-120	20-MAY-20
Cadmium (Cd)-Total			100.7		%		80-120	20-MAY-20
Calcium (Ca)-Total			102.3		%		80-120	20-MAY-20
Cesium (Cs)-Total			102.0		%		80-120	20-MAY-20
Chromium (Cr)-Total			118.2		%		80-120	20-MAY-20
Cobalt (Co)-Total			113.2		%		80-120	20-MAY-20
Copper (Cu)-Total			108.6		%		80-120	20-MAY-20
Iron (Fe)-Total			102.3		%		80-120	20-MAY-20
Lead (Pb)-Total			97.5		%		80-120	20-MAY-20
Lithium (Li)-Total			94.9		%		80-120	20-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R5094087								
WG3323499-2 LCS								
Magnesium (Mg)-Total			119.5		%		80-120	20-MAY-20
Manganese (Mn)-Total			103.8		%		80-120	20-MAY-20
Molybdenum (Mo)-Total			110.2		%		80-120	20-MAY-20
Nickel (Ni)-Total			113.0		%		80-120	20-MAY-20
Potassium (K)-Total			103.8		%		80-120	20-MAY-20
Phosphorus (P)-Total			107.7		%		80-120	20-MAY-20
Rubidium (Rb)-Total			103.2		%		80-120	20-MAY-20
Selenium (Se)-Total			103.3		%		80-120	20-MAY-20
Silicon (Si)-Total			95.8		%		80-120	20-MAY-20
Silver (Ag)-Total			98.2		%		80-120	20-MAY-20
Sodium (Na)-Total			107.5		%		80-120	20-MAY-20
Strontium (Sr)-Total			107.0		%		80-120	20-MAY-20
Sulfur (S)-Total			102.8		%		80-120	20-MAY-20
Tellurium (Te)-Total			97.5		%		80-120	20-MAY-20
Thallium (Tl)-Total			97.4		%		80-120	20-MAY-20
Thorium (Th)-Total			102.0		%		80-120	20-MAY-20
Tin (Sn)-Total			107.4		%		80-120	20-MAY-20
Titanium (Ti)-Total			103.7		%		80-120	20-MAY-20
Tungsten (W)-Total			106.8		%		80-120	20-MAY-20
Uranium (U)-Total			101.2		%		80-120	20-MAY-20
Vanadium (V)-Total			117.3		%		80-120	20-MAY-20
Zinc (Zn)-Total			98.3		%		80-120	20-MAY-20
Zirconium (Zr)-Total			103.8		%		80-120	20-MAY-20
WG3323499-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	20-MAY-20
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Arsenic (As)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Barium (Ba)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	20-MAY-20
Boron (B)-Total			<0.010		mg/L		0.01	20-MAY-20
Cadmium (Cd)-Total			<0.000005(		mg/L		0.000005	20-MAY-20
Calcium (Ca)-Total			<0.050		mg/L		0.05	20-MAY-20
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	20-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R5094087								
WG3323499-1 MB								
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Copper (Cu)-Total			<0.00050		mg/L		0.0005	20-MAY-20
Iron (Fe)-Total			<0.010		mg/L		0.01	20-MAY-20
Lead (Pb)-Total			<0.000050		mg/L		0.00005	20-MAY-20
Lithium (Li)-Total			<0.0010		mg/L		0.001	20-MAY-20
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	20-MAY-20
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	20-MAY-20
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	20-MAY-20
Potassium (K)-Total			<0.050		mg/L		0.05	20-MAY-20
Phosphorus (P)-Total			<0.030		mg/L		0.03	20-MAY-20
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	20-MAY-20
Selenium (Se)-Total			<0.000050		mg/L		0.00005	20-MAY-20
Silicon (Si)-Total			<0.10		mg/L		0.1	20-MAY-20
Silver (Ag)-Total			<0.000010		mg/L		0.00001	20-MAY-20
Sodium (Na)-Total			<0.050		mg/L		0.05	20-MAY-20
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	20-MAY-20
Sulfur (S)-Total			<0.50		mg/L		0.5	20-MAY-20
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	20-MAY-20
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	20-MAY-20
Thorium (Th)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Tin (Sn)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	20-MAY-20
Tungsten (W)-Total			<0.00010		mg/L		0.0001	20-MAY-20
Uranium (U)-Total			<0.000010		mg/L		0.00001	20-MAY-20
Vanadium (V)-Total			<0.00050		mg/L		0.0005	20-MAY-20
Zinc (Zn)-Total			<0.0030		mg/L		0.003	20-MAY-20
Zirconium (Zr)-Total			<0.00020		mg/L		0.0002	20-MAY-20
Batch R5095756								
WG3327466-4 DUP		**WG3327466-3**						
Aluminum (Al)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	22-MAY-20
Antimony (Sb)-Total		0.0101	0.0101		mg/L	0.5	20	22-MAY-20
Arsenic (As)-Total		0.0371	0.0370		mg/L			22-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R5095756								
WG3327466-4 DUP		**WG3327466-3**						
Arsenic (As)-Total		0.0371	0.0370		mg/L	0.3	20	22-MAY-20
Barium (Ba)-Total		0.0483	0.0480		mg/L	0.7	20	22-MAY-20
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	22-MAY-20
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	22-MAY-20
Boron (B)-Total		0.050	0.049		mg/L	0.5	20	22-MAY-20
Cadmium (Cd)-Total		<0.0000050	<0.000005(	RPD-NA	mg/L	N/A	20	22-MAY-20
Calcium (Ca)-Total		107	106		mg/L	0.7	20	22-MAY-20
Cesium (Cs)-Total		0.000325	0.000322		mg/L	0.9	20	22-MAY-20
Chromium (Cr)-Total		0.00058	0.00057		mg/L	0.9	20	22-MAY-20
Cobalt (Co)-Total		0.00154	0.00153		mg/L	0.8	20	22-MAY-20
Copper (Cu)-Total		0.00458	0.00460		mg/L	0.4	20	22-MAY-20
Iron (Fe)-Total		0.983	0.977		mg/L	0.6	20	22-MAY-20
Lead (Pb)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	22-MAY-20
Lithium (Li)-Total		0.0306	0.0303		mg/L	1.1	20	22-MAY-20
Magnesium (Mg)-Total		44.2	44.8		mg/L	1.2	20	22-MAY-20
Manganese (Mn)-Total		0.276	0.277		mg/L	0.4	20	22-MAY-20
Molybdenum (Mo)-Total		0.00173	0.00173		mg/L	0.0	20	22-MAY-20
Nickel (Ni)-Total		0.0296	0.0295		mg/L	0.3	20	22-MAY-20
Potassium (K)-Total		10.8	11.1		mg/L	2.6	20	22-MAY-20
Phosphorus (P)-Total		<0.030	<0.030	RPD-NA	mg/L	N/A	20	22-MAY-20
Rubidium (Rb)-Total		0.0111	0.0110		mg/L	1.6	20	22-MAY-20
Selenium (Se)-Total		0.000064	0.000069		mg/L	8.2	20	22-MAY-20
Silicon (Si)-Total		2.12	2.12		mg/L	0.2	20	22-MAY-20
Silver (Ag)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	22-MAY-20
Sodium (Na)-Total		90.9	92.2		mg/L	1.5	20	22-MAY-20
Strontium (Sr)-Total		1.36	1.35		mg/L	1.3	20	22-MAY-20
Tellurium (Te)-Total		0.00024	<0.00020	RPD-NA	mg/L	N/A	20	22-MAY-20
Thallium (Tl)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	22-MAY-20
Thorium (Th)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	22-MAY-20
Tin (Sn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	22-MAY-20
Titanium (Ti)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	22-MAY-20
Tungsten (W)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	22-MAY-20
Uranium (U)-Total		0.000148	0.000156		mg/L			22-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R5095756								
WG3327466-4 DUP		**WG3327466-3**						
Uranium (U)-Total		0.000148	0.000156		mg/L	5.1	20	22-MAY-20
Vanadium (V)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	22-MAY-20
Zinc (Zn)-Total		0.0032	0.0033		mg/L	3.8	20	22-MAY-20
Zirconium (Zr)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	22-MAY-20
WG3327466-2 LCS								
Aluminum (Al)-Total			102.8		%		80-120	22-MAY-20
Antimony (Sb)-Total			110.7		%		80-120	22-MAY-20
Arsenic (As)-Total			104.2		%		80-120	22-MAY-20
Barium (Ba)-Total			104.6		%		80-120	22-MAY-20
Beryllium (Be)-Total			108.6		%		80-120	22-MAY-20
Bismuth (Bi)-Total			105.3		%		80-120	22-MAY-20
Boron (B)-Total			104.0		%		80-120	22-MAY-20
Cadmium (Cd)-Total			104.9		%		80-120	22-MAY-20
Calcium (Ca)-Total			104.2		%		80-120	22-MAY-20
Cesium (Cs)-Total			108.6		%		80-120	22-MAY-20
Chromium (Cr)-Total			103.1		%		80-120	22-MAY-20
Cobalt (Co)-Total			102.1		%		80-120	22-MAY-20
Copper (Cu)-Total			105.4		%		80-120	22-MAY-20
Iron (Fe)-Total			98.7		%		80-120	22-MAY-20
Lead (Pb)-Total			103.9		%		80-120	22-MAY-20
Lithium (Li)-Total			106.1		%		80-120	22-MAY-20
Magnesium (Mg)-Total			115.2		%		80-120	22-MAY-20
Manganese (Mn)-Total			103.1		%		80-120	22-MAY-20
Molybdenum (Mo)-Total			107.9		%		80-120	22-MAY-20
Nickel (Ni)-Total			101.0		%		80-120	22-MAY-20
Potassium (K)-Total			102.8		%		80-120	22-MAY-20
Phosphorus (P)-Total			106.3		%		80-120	22-MAY-20
Rubidium (Rb)-Total			104.5		%		80-120	22-MAY-20
Selenium (Se)-Total			102.6		%		80-120	22-MAY-20
Silicon (Si)-Total			107.0		%		80-120	22-MAY-20
Silver (Ag)-Total			105.5		%		80-120	22-MAY-20
Sodium (Na)-Total			105.3		%		80-120	22-MAY-20
Strontium (Sr)-Total			109.8		%		80-120	22-MAY-20
Tellurium (Te)-Total			106.3				80-120	

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R5095756								
WG3327466-2 LCS								
Tellurium (Te)-Total			106.3		%		80-120	22-MAY-20
Thallium (Tl)-Total			103.3		%		80-120	22-MAY-20
Thorium (Th)-Total			103.8		%		80-120	22-MAY-20
Tin (Sn)-Total			103.1		%		80-120	22-MAY-20
Titanium (Ti)-Total			101.6		%		80-120	22-MAY-20
Tungsten (W)-Total			104.9		%		80-120	22-MAY-20
Uranium (U)-Total			107.4		%		80-120	22-MAY-20
Vanadium (V)-Total			103.7		%		80-120	22-MAY-20
Zinc (Zn)-Total			100.6		%		80-120	22-MAY-20
Zirconium (Zr)-Total			103.5		%		80-120	22-MAY-20
WG3327466-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	22-MAY-20
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Arsenic (As)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Barium (Ba)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	22-MAY-20
Boron (B)-Total			<0.010		mg/L		0.01	22-MAY-20
Cadmium (Cd)-Total			<0.000005C		mg/L		0.000005	22-MAY-20
Calcium (Ca)-Total			<0.050		mg/L		0.05	22-MAY-20
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	22-MAY-20
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Copper (Cu)-Total			<0.00050		mg/L		0.0005	22-MAY-20
Iron (Fe)-Total			<0.010		mg/L		0.01	22-MAY-20
Lead (Pb)-Total			<0.000050		mg/L		0.00005	22-MAY-20
Lithium (Li)-Total			<0.0010		mg/L		0.001	22-MAY-20
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	22-MAY-20
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	22-MAY-20
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	22-MAY-20
Potassium (K)-Total			<0.050		mg/L		0.05	22-MAY-20
Phosphorus (P)-Total			<0.030		mg/L		0.03	22-MAY-20
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	22-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R5095756								
WG3327466-1 MB								
Selenium (Se)-Total			<0.000050		mg/L		0.00005	22-MAY-20
Silicon (Si)-Total			<0.10		mg/L		0.1	22-MAY-20
Silver (Ag)-Total			<0.000010		mg/L		0.00001	22-MAY-20
Sodium (Na)-Total			<0.050		mg/L		0.05	22-MAY-20
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	22-MAY-20
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	22-MAY-20
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	22-MAY-20
Thorium (Th)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Tin (Sn)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	22-MAY-20
Tungsten (W)-Total			<0.00010		mg/L		0.0001	22-MAY-20
Uranium (U)-Total			<0.000010		mg/L		0.00001	22-MAY-20
Vanadium (V)-Total			<0.00050		mg/L		0.0005	22-MAY-20
Zinc (Zn)-Total			<0.0030		mg/L		0.003	22-MAY-20
Zirconium (Zr)-Total			<0.00020		mg/L		0.0002	22-MAY-20
WG3327466-5 MS		**WG3327466-3**						
Aluminum (Al)-Total			104.0		%		70-130	22-MAY-20
Antimony (Sb)-Total			105.7		%		70-130	22-MAY-20
Arsenic (As)-Total			N/A	MS-B	%		-	22-MAY-20
Barium (Ba)-Total			N/A	MS-B	%		-	22-MAY-20
Beryllium (Be)-Total			106.1		%		70-130	22-MAY-20
Bismuth (Bi)-Total			103.7		%		70-130	22-MAY-20
Boron (B)-Total			113.5		%		70-130	22-MAY-20
Cadmium (Cd)-Total			104.9		%		70-130	22-MAY-20
Calcium (Ca)-Total			N/A	MS-B	%		-	22-MAY-20
Cesium (Cs)-Total			109.9		%		70-130	22-MAY-20
Chromium (Cr)-Total			104.9		%		70-130	22-MAY-20
Cobalt (Co)-Total			101.7		%		70-130	22-MAY-20
Copper (Cu)-Total			102.7		%		70-130	22-MAY-20
Iron (Fe)-Total			100.1		%		70-130	22-MAY-20
Lead (Pb)-Total			101.9		%		70-130	22-MAY-20
Lithium (Li)-Total			105.7		%		70-130	22-MAY-20
Magnesium (Mg)-Total			N/A	MS-B	%		-	22-MAY-20
Manganese (Mn)-Total			N/A	MS-B	%		-	22-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	**Water**							
Batch R5095756								
WG3327466-5 MS		**WG3327466-3**						
Molybdenum (Mo)-Total			109.8		%		70-130	22-MAY-20
Nickel (Ni)-Total			96.6		%		70-130	22-MAY-20
Potassium (K)-Total			N/A	MS-B	%		-	22-MAY-20
Phosphorus (P)-Total			108.7		%		70-130	22-MAY-20
Rubidium (Rb)-Total			103.9		%		70-130	22-MAY-20
Selenium (Se)-Total			108.0		%		70-130	22-MAY-20
Silicon (Si)-Total			107.7		%		70-130	22-MAY-20
Silver (Ag)-Total			103.4		%		70-130	22-MAY-20
Sodium (Na)-Total			N/A	MS-B	%		-	22-MAY-20
Strontium (Sr)-Total			N/A	MS-B	%		-	22-MAY-20
Tellurium (Te)-Total			104.5		%		70-130	22-MAY-20
Thallium (Tl)-Total			102.4		%		70-130	22-MAY-20
Thorium (Th)-Total			111.3		%		70-130	22-MAY-20
Tin (Sn)-Total			106.0		%		70-130	22-MAY-20
Titanium (Ti)-Total			105.3		%		70-130	22-MAY-20
Tungsten (W)-Total			107.7		%		70-130	22-MAY-20
Uranium (U)-Total			112.2		%		70-130	22-MAY-20
Vanadium (V)-Total			107.1		%		70-130	22-MAY-20
Zinc (Zn)-Total			98.4		%		70-130	22-MAY-20
Zirconium (Zr)-Total			108.2		%		70-130	22-MAY-20
NH3-COL-WP	**Water**							
Batch R5098827								
WG3329409-3 DUP		**L2447483-3**						
Ammonia, Total (as N)		0.148	0.138		mg/L	7.0	20	26-MAY-20
WG3329409-2 LCS								
Ammonia, Total (as N)			92.6		%		85-115	26-MAY-20
WG3329409-1 MB								
Ammonia, Total (as N)			<0.010		mg/L		0.01	26-MAY-20
WG3329409-4 MS		**L2447483-3**						
Ammonia, Total (as N)			77.0		%		75-125	26-MAY-20
NO2-L-IC-N-WP	**Water**							
Batch R5086601								
WG3322915-6 LCS								
Nitrite (as N)			98.3		%		90-110	13-MAY-20
WG3322915-5 MB								

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-L-IC-N-WP	**Water**							
Batch R5086601								
WG3322915-5 MB								
Nitrite (as N)			<0.0010		mg/L		0.001	13-MAY-20
NO3-L-IC-N-WP	**Water**							
Batch R5086601								
WG3322915-6 LCS								
Nitrate (as N)			101.0		%		90-110	13-MAY-20
WG3322915-5 MB								
Nitrate (as N)			<0.0050		mg/L		0.005	13-MAY-20
PH-WP	**Water**							
Batch R5084181								
WG3323495-10 DUP		**L2446697-3**						
pH		7.59	7.59	J	pH units	0.00	0.2	13-MAY-20
WG3323495-7 LCS								
pH			7.36		pH units		7.3-7.5	13-MAY-20
SO4-IC-N-WP	**Water**							
Batch R5086601								
WG3322915-7 DUP		**L2446697-5**						
Sulfate (SO4)		73.9	73.9		mg/L	0.1	20	13-MAY-20
WG3322915-6 LCS								
Sulfate (SO4)			102.2		%		90-110	13-MAY-20
WG3322915-5 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	13-MAY-20
WG3322915-8 MS		**L2446697-5**						
Sulfate (SO4)			102.8		%		75-125	13-MAY-20
TDS-WP	**Water**							
Batch R5094716								
WG3323329-3 DUP		**L2446113-1**						
Total Dissolved Solids		784	784		mg/L	0.1	20	14-MAY-20
WG3323329-2 LCS								
Total Dissolved Solids			98.1		%		85-115	14-MAY-20
WG3323329-1 MB								
Total Dissolved Solids			<4.0		mg/L		4	14-MAY-20
Batch R5095054								
WG3324067-3 DUP		**L2447698-1**						
Total Dissolved Solids		769	765		mg/L	0.5	20	15-MAY-20
WG3324067-2 LCS								

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TDS-WP	**Water**							
Batch R5095054								
WG3324067-2 LCS								
Total Dissolved Solids			97.8		%		85-115	15-MAY-20
WG3324067-1 MB								
Total Dissolved Solids			<4.0		mg/L		4	15-MAY-20
TURBIDITY-WP	**Water**							
Batch R5090859								
WG3322662-3 DUP		**L2446420-1**						
Turbidity		65.0	64.3		NTU	1.1	15	14-MAY-20
WG3322662-2 LCS								
Turbidity			103.0		%		85-115	14-MAY-20
WG3322662-1 MB								
Turbidity			<0.10		NTU		0.1	14-MAY-20
UV-%TRANS-WP	**Water**							
Batch R5082527								
WG3322808-3 DUP		**L2445678-1**						
Transmittance, UV (254 nm)		84.3	83.4		%T/cm	1.2	20	13-MAY-20
WG3322808-4 IRM		**BLANK**						
Transmittance, UV (254 nm)			100.0		%		99.5-100.5	13-MAY-20
WG3322808-2 LCS								
Transmittance, UV (254 nm)			96.2		%		85-115	13-MAY-20
VOC+F1-HSMS-WP	**Water**							
Batch R5092903								
WG3323412-5 LCS								
Benzene			94.9		%		70-130	14-MAY-20
1,1-dichloroethene			107.3		%		70-130	14-MAY-20
Dichloromethane			100.7		%		70-130	14-MAY-20
Ethylbenzene			93.8		%		70-130	14-MAY-20
MTBE			107.7		%		70-130	14-MAY-20
Tetrachloroethene			106.7		%		70-130	14-MAY-20
Toluene			91.0		%		70-130	14-MAY-20
Trichloroethene			114.2		%		70-130	14-MAY-20
M+P-Xylenes			96.0		%		70-130	14-MAY-20
o-Xylene			91.4		%		70-130	14-MAY-20
WG3323412-4 MB								
Benzene			<0.00050		mg/L		0.0005	14-MAY-20
1,1-dichloroethene			<0.00050		mg/L		0.0005	14-MAY-20

Quality Control Report

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC+F1-HSMS-WP	**Water**							
Batch R5092903								
WG3323412-4 MB								
Dichloromethane			<0.0050		mg/L		0.005	14-MAY-20
Ethylbenzene			<0.00050		mg/L		0.0005	14-MAY-20
MTBE			<0.00050		mg/L		0.0005	14-MAY-20
Tetrachloroethene			<0.00050		mg/L		0.0005	14-MAY-20
Toluene			<0.00050		mg/L		0.0005	14-MAY-20
Trichloroethene			<0.00050		mg/L		0.0005	14-MAY-20
M+P-Xylenes			<0.00040		mg/L		0.0004	14-MAY-20
o-Xylene			<0.00050		mg/L		0.0005	14-MAY-20
Surrogate: 4-Bromofluorobenzene (SS)			105.6		%		70-130	14-MAY-20
Surrogate: 1,4-Difluorobenzene (SS)			109.1		%		70-130	14-MAY-20

Quality Control Report

Workorder: L2446708 Report Date: 26-MAY-20

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L2446708 Report Date: 26-MAY-20

Client: Town of Neepawa - Water Plant
Neepawa - PWS Box 339
Neepawa MB R0J 1H0
Contact: HOWARD BUFFI

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH							
	1	12-MAY-20	13-MAY-20 12:00	0.25	24	hours	EHTR-FM
	2	12-MAY-20	13-MAY-20 12:00	0.25	24	hours	EHTR-FM

Legend & Qualifier Definitions:

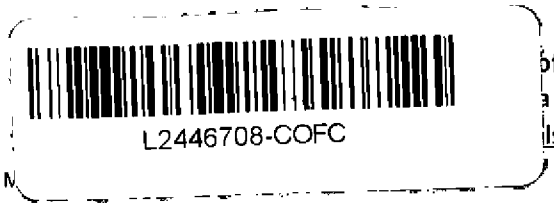
EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2446708 were received on 13-MAY-20 10:10.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Conservation and Climate
Office of Drinking Water
1007 Century Street, Winnipeg, M
Canada R3H 0W4

of Custody / Analytical Request Form
a Toll Free: 1 800 668 9878
alsglobal.com

ALS Environmental
1329 Niakwa Rd E, Unit 12, Winnipeg, MB R2J 3T4
(204) 255-9720 or 1-800-607-7555

Additional Copy of Report sent to:
Office of Drinking Water
1007 Century St., Winnipeg, MB R3H 0W4
Phone: 204-945-5776
Joern.Muenster@gov.mb.ca

☑ Regular Service ☐ Other
Other Service Types
ALS Contact: Craig Riddell

Client / Project Information:		Account: W10477
Operation Name:		Agency Code: 382
Operation Code:		Report Type: ODW - UTIL
Operation ID:		Project: DWQ-A
Sampled by:		

Sample Number	Station Number	Sample Identification	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Sample Date	Sample Time	Sample Matrix	Sample Type	MB-CH-PWS-V2013	MB-MET-T-CCMS	MB-VOC-PWS-V2013	Number of Containers
2005DW5005	MB05LLD101	Neepawa Regional 1 - Raw combined wells			2020-05-12		6	1	X		X	7
2005DW5006	MB05LLD102	Neepawa Regional 2 - Treated			2020-05-12		10	1	X			4
2005DW5013	MB05LLD103	Neepawa Regional 3 - Distribution			2020-05-12		9	1		X		1

Special Instructions / Hazardous Details

Sample Matrix: 6-Raw Water, 9-Distributed Water, 10-Treated Water, 11-Drinking Water Undisinfected
Sample Type: 1-Grab Sample, 33-Resample, 3-Duplicate Sample, 22-Field Blank

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the adjacent worksheet.

Relinquished By:		Date & Time	May 12/	Validated By (lab use only):	Date & Time:
				Sample Condition (lab use only)	
Received By:		Date & Time	MAY 13 2020 1010	Temperature 9.1	Samples Received in Good Condition? Y / N

Infection Prevention & Control Policy

Section	Date Passed	Resolution #	Reviewed	Date Repealed	Resolution #
Administration – Human Resources	May 11, 2020	Admin Policy			

POLICY

The Town of Neepawa is committed to the health, safety and wellness of its employees, elected officials, residents and all members of the public. The Town recognizes the importance of establishing an overall Infection Prevention and Control Policy to help reduce the spread of communicable diseases and viruses, including COVID-19.

As outbreaks continue to evolve, this information is subject to change and will be communicated to employees as soon as reasonably practical.

PURPOSE

To reduce the spread of communicable diseases and viruses in the workplace, including COVID-19, and minimize the impacts while safeguarding our employees.

APPLICATION & ACCOUNTABILITY

This policy applies to all Employees of the Town of Neepawa, including Full-time, Seasonal, Part-time, Temporary, Casual or Contract workers.

1.0 DEFINITIONS

Chief Administrative Officer – means the Chief Administrative Officer of the Town of Neepawa.

Health Authority – means provincial and federal agencies responsible for health and care of individuals such as Manitoba Health, Seniors and Active Living, Prairie Mountain Health Authority, Public Health Agency of Canada, World Health Organization.

Human Resources – means the personnel assigned to administer the human resources and/or payroll functions for the Town of Neepawa.

Manager – means an individual responsible for Employees within their department or division.

Pandemic – means prevalent over a whole country or the world. The word alone does not imply any particular severity, it simply speaks to the geographical vastness (i.e. global spread infecting a large number of people).

Self-Isolation – means staying at home and separating yourself from other people with the purpose of preventing the spread of the virus. This means not attending all activities/gatherings outside of the home, including work, school, university, college, health care and long-term care facilities, faith-based facilities (i.e. churches, mosques, etc.) retail stores, malls, restaurants or any place where members of the public may congregate.

Social Distancing – means measures taken to reduce pandemic exposure as guided by Public Health.

Supervisor – an employee accountable for a particular department or area, including managers and others in supervisory positions directly responsible for the performance of employees.

Town – means the Town of Neepawa

Workplace – means any Town buildings and/or facilities where Employees regularly report to work.

2.0 ROLES AND RESPONSIBILITIES

2.1 **Employees** are responsible for:

a) Reviewing the Town of Neepawa Pandemic Response Plan, if applicable, and ensuring any applicable sections are understood.

b) Reporting fit for work and remaining fit for work at all times throughout the workday or shift.

c) Informing their supervisor immediately if they are ill, or have been exposed to infected family members or others, and shall seek medical attention as necessary and appropriate.

d) Practicing good hygiene, providing significant protection from viral respiratory illnesses, such as COVID19.
   a. Wash hand regularly with soap and warm water for at least 15 seconds;
   b. Make sure to dry hands thoroughly;
   c. Use an alcohol-based hand cleanser if your hands are not visibly dirty.
   d. It is especially important to clean your hands:
      i. After coughing or sneezing;
      ii. When caring for a sick person;
      iii. Before, during and after you prepare food;
      iv. Before eating;
      v. After toilet use;
      vi. When hands are visibly dirty.
   e. Cover your mouth and nose with a tissue when coughing or sneezing, or cough or sneeze into your sleeve.
   f. Throw used tissues in the garbage and immediately wash your hands or use an alcohol-based hand cleanser.

e) Practice social distancing measures to reduce your risk of infection:
   a. Minimize prolonged (more than 10 minutes), close (less than two meters/six feet) contact between your co-workers or members of the public;
   b. Where possible, meet with colleagues online or via telephone instead of in person;
   c. Avoid greetings that involve touching, such as handshakes;
   d. Avoid travel, crowded places and events, especially if you are at higher risk (e.g. seniors and those with underlying medical conditions);
   e. Disinfect frequently used surfaces in your workplace, including all machinery, tools, trucks, vehicles, mowers, trimmers, side by sides, etc.

f. Follow public health advice related to self-monitoring and self-isolation if you have been exposed to COVID-19 through travel or contact with someone infected with COVID-19.

2.2 **Management** is responsible for:

a) Informing staff of the policy; applying same in a consistent manner and providing support for interpretation and application of this policy;

b) Requiring ill employees to remain at home and away from the workplace.

c) Where feasible and practical:
   a. Maintain teleworking arrangements, flexible hours, stagger start times;
   b. Consider keeping regular work groups together to minimize the number of workplace contacts;
   c. Provide goods by delivery or pick-up, by telephone or other remote means;
   d. Assign employees at increased risk of serious illness (weakened immune system, living with a chronic disease, etc) to job tasks that lowers their risk of exposure;
   e. Review sick-leave policies and requirements for medical (sick) notes to encourage employees to stay home when ill.
   f. Ensure emergency contact information is current for all employees;
   g. Encourage employees to take measures to support their mental health and well-being by providing employees with information about available resources.

3.0 COMMUNICATING WITH EMPLOYEES AND CUSTOMERS

3.1 All employees and customers are encouraged to use the screening information in the provincial self-screening tool before leaving their home to attend work.

3.2 Post guidance on entrance requirements, including screening information, to all facilities for all employees or customers:
   a) Do not allow customers who are exhibiting symptoms of COVID-19 to enter the premises and are to be instructed to contact Health Links – Info Santé (204-788-8200 or 1-888-315-9257).
   b) In situations where appointments are required, customers should also be screened by telephone before an appointment is booked, and again upon arrival.

3.3 Emphasize that employees must stay home if they are experiencing symptoms of COVID-19 (ex. cough, fever, runny nose, sore throat, breathing difficulties).

3.4 Encourage employees and customers to remain current with information related to COVID-19 by regularly accessing Manitoba.ca/COVID19.

3.5 Reassure employees and customers that public health officials will conduct a public health investigation in the event an employee or resident/customer is confirmed to have COVID-19 while at working during the time they were infectious. If any additional measures need to be taken at the workplace, public health officials will notify the workplace directly and provide advice.
   a) Do not make determinations of risk for COVID-19 based on race or country of origin and be sure to maintain confidentiality if an employee is confirmed to have COVID-19.

3.6 Notify employees of the steps being taken to prevent the risk of transmission of infection, the importance of their roles in these measures, and post this information in areas where employees and customers can refer to them.

4.0 PHYSICAL (SOCIAL) DISTANCING

4.1 Provide employees and customers with information about physical (social) distancing.

a) Post external signs indicating COVID-19 physical distancing protocols, along with floor markings, where service is provided or lines form
b) Maintain a single point of entry and ensure entry into the facility or place of business, including lines, are regulated to prevent congestion.
c) Implement waiting room management strategies, including waiting in a car (where applicable), to ensure people maintain a two metre distance.
d) Actively discourage the congregation of people and limit the areas where people gather or frequent. In situations where people congregate, ensure no more than 10 people gather in a common area, and that they maintain a two metre distance.
e) Monitor occupancy levels to allow employees and customers to maintain a physical distance of at least two metres, except for brief exchanges.
f) Increase spatial separation and distance between workstations and shared spaces.
g) Encourage cashless or no-contact payment to the greatest extent possible.
h) Close public-use items, such as water fountains, onsite snack bars, coffee bars and other confectionery style counters.
i) Where feasible and practical, consider using outdoor spaces. When indoors, ensure ventilation systems are working properly, and open windows as weather permits.
j) Install plexiglas or other form of physical enclosures or barriers to separate employees and patrons, particularly in instances where a two metre distance cannot be consistently maintained.

If a two-metre distance cannot be reliably maintained between individuals in the workplace:

- Minimize these interactions to be as brief as possible
- Use barriers, where possible.
- Increase ventilation, where possible.
- Increase environmental cleaning and hand hygiene.
- Consider cohorting workers into smaller work groups.
- Consider using medical or non-medical masks (e.g., homemade cloth masks) during those interactions, depending on the setting.
    - Workers with direct public access can use medical masks if available. If medical masks are not available, non-medical masks can be used.
    - Where there is no direct public access, the above measures should be utilized to reduce risk and the number of workers they are exposed to. Non-medical masks can be used by the worker.

5.0 HYGIENE FOR EMPLOYEES AND CUSTOMERS

5.1 Good hygiene will provide significant protection from COVID-19. Workplaces should ensure alcohol-based hand sanitizer is available at entrances and exits for employees and customer use. Information should be posted in multiple locations, reminding employees and customers to:

a) Wash their hands often with soap and warm water for at least 15 seconds, or use an alcohol-based hand cleanser. People should clean their hands when they enter and exit the building, before and after they eat, and after using the washroom. Employees should be encouraged to take frequent breaks to clean their hands.
b) Cover their mouth and nose with a tissue when coughing or sneezing, or cough or sneeze into their sleeve. Ensure boxes of tissues and plastic-lined garbage bins are available for use by employees and customers, and include signage instructing people to clean their hands.
c) Avoid touching their eyes, nose or mouth.
d) Avoid sharing personal items (such as cups/dishes/cutlery and cigarettes), office equipment or supplies, including electronic devices (such as phones, tablets and laptops).

6.0 CLEANING GUIDANCE

6.1 Routine Precautions

a) Ensure there is a routine regime in place for overall sanitation of the workplace, including frequently cleaning and sanitizing washrooms.
b) Ensure there is a routine regime in place for overall sanitation of all Town-owned vehicles, equipment, machinery and tools.
c) Discard equipment, instruments and/or materials that cannot be disinfected between customers and sanitize shared surfaces, tools and equipment before/after use as well as in between users.
d) Remove any unnecessary high-touch surfaces or items (magazines, newspapers, toys) that cannot be easily cleaned from common areas (such as break rooms and waiting areas)
e) Regularly clean workstations and objects with disinfectants that are touched frequently, such as doorknobs, handles, elevator buttons and railings. This includes regularly disinfecting electronic devices (such as phones, tablets, laptops and payment devices) with an alcohol (70 per cent) wipe. Businesses are encouraged to increase the frequency of cleaning workstations and worksites to at least two times per day.
f) Provide cleaning supplies for employees to clean and disinfect their workspaces.
g) Limit the number of incoming deliveries to those that are deemed essential. Consider leaving deliveries (packages, boxes and envelopes) unopened for a few days, and be sure to remind employees and volunteers not to touch their face and to clean their hands after handling and/or unwrapping deliveries.

7.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

7.1 Personal protective equipment (PPE) should be used on the advice of an organization's occupational health and safety officer/designate and is based on a risk assessment that considers both the risk associated with a specific task/activity as well as the characteristics of the source of the infection (e.g. a sick person or a contaminated environment). Most businesses will not require PPE.

a) PPE must be used in combination with physical distancing, hand hygiene and other control measures.

b) If PPE is required, employees will be supplied the PPE as well as given the occupational health and safety guidelines for its use.
c) PPE must be maintained and in good condition at all times to perform the functions it was designed for.
d) Employees must be properly trained in putting it on, taking it off, care, disposal and storage, as well as cleaning of PPE.
e) Employees should be aware that risk may increase if not using consistent and appropriate techniques.
f) PPE guidance for the health sector is available at: https://sharedhealthmb.ca/covid19/providers/ppe-resources/, and may provide further guidance for applicable workplace settings.
g) Wearing a non-medical mask has not been proven to protect the person wearing it. However, the use of a non-medical mask can reduce the chance that others are coming into contact with respiratory droplets by covering your mouth and nose to prevent respiratory droplets from spreading to others or landing on surfaces.
h) Gloves are not routinely recommended. They are required when employees will be in direct contact with an ill person, or a contaminated object or environment. When gloves are used, they must be properly disposed of following their use, and the wearer should immediately wash their hands after removing them.
i) Some service providers may choose to wear protective gloves when providing service, particularly when close touch or contact is involved.
j) Eye protection/face shields are to be used when required for the work.

8.0 ENFORCEMENT

8.1 Public health and state of emergency orders for businesses are enforced by public health inspectors, occupational health and safety officers and by-law officers. Police, as well as provincial and First Nations peace officers, will enforce orders related to public gatherings.
a) Penalties for violations for individuals or corporations under the legislation range from fines of up to $50,000 or $500,000 and/or six months or up to a year imprisonment. Tickets can also be issued for violations under any of the orders in the amount of $486 for individuals and $2,542 for corporations.
b) Officials will continue with the system of escalating enforcement, including education, warnings and tickets.

9.0 RESOURCES

9.1 Signs should be posted in multiple locations, providing employees, volunteers and patrons with information on proper hand hygiene, cough etiquette, screening and social distancing.

Several printable resources including posters and factsheets, are available online at: manitoba.ca/covid19/resources/index & sharedhealthmb.ca/covid19/providers/posters