

North Shore Water Utility Nelson Ltd. Monthly Report

To: Pouria Mojtahedi, Large Water Systems Environmental Health Officer, Interior Health Authority
From: Aqua Diversities Inc.
Date: February 15th, 2024
Re: Monthly Report for North Shore Water Utility - **January 2024**

This document includes the following items as part of the monthly report for the North Shore Water Utility Nelson Ltd. (NSWU):

- 1.0 Daily Water Consumption**
- 2.0 Microbiological Test Results**
- 3.0 Operator Log Sheets and Water Quality Events**
- 4.0 Major Operational Events**
- 5.0 Records of Customer Feedback and Response**

Submission of this report is to enhance communication with the local Environment Health Officer (EHO) and meet requirements for status compliance on the conditions summarized in the Operating Permit.

1.0 Daily Water Consumption

Total water consumption in January was 6,007 m³; average daily consumption was 193.7m³/day. The average flow was 8.07 m³/hr.

2.0 Microbiological Test Results

A sample from both ends of the distribution system is collected and submitted to an accredited laboratory for bimonthly microbiological testing.

All monthly testing results satisfy the Maximum Allowable Concentration (MAC) standard as set out by the Guidelines for Canadian Drinking Water Quality (GCDWQ).

See **Appendix A** for Laboratory Results

3.0 Operator Log Sheets and Water Quality Events

NSWU continues to be tested on an every-other-day schedule as specified by the EHO. The log sheets include comments on the source, treatment, and distribution system events. Log sheets also include information on the weather for the corresponding test date, which helps correlate weather events to turbidity levels.

Throughout the month of January, chlorine residuals were maintained above 0.5 mg/L across the distribution system.

See **Appendix B** for Operator Log Sheets.

4.0 Major Operational Events

On January 22nd both Issac and Sutherland reservoir intake was cleaned to help reduce turbidity.

On January 29th, a Water Quality Advisory was posted due to heavy rain causing the turbidity ≥ 1 NTU.

The IHA Health Officer was notified of this action. The NSWU website was updated, a text alert notification to subscribers was sent out and community signage was posted.

There were no other major events to report for the month of January.

Note that the pilot plant located in the Isaac Creek reservoir building continues to operate with the treated water going to waste (as per direction from EHE Marianne Crowe).

5.0 Records of Customer Feedback and Response

There were no customer inquiries in the month of January.

Report Reviewed by:



Nicole Ward, BSc.P.Ag. Project Manager

Appendix A

Laboratory Results

ANALYTICAL RESULTS

| | | | | | | |
|-------------------|------------|---------|--------|----|------------------------|---|
| Sample ID | Main Jet | | | | Sample # | 1 |
| Date/Time Sampled | 2024-01-16 | 9:00 AM | Matrix | TW | Temperature on Receipt | 2 |

Date/Time on Test 2024-01-16 5:15 PM

| <u>Analyses</u> | <u>Result</u> | <u>Units</u> | <u>RDL</u> |
|------------------|---------------|--------------|------------|
| Coliforms, Total | less than 1 | CFU/100mL | 1 |
| Verified E.coli | less than 1 | CFU/100mL | 1 |

| | | | | | | |
|-------------------|------------------|---------|--------|----|------------------------|---|
| Sample ID | 538 Johnstone Rd | | | | Sample # | 2 |
| Date/Time Sampled | 2024-01-16 | 9:00 AM | Matrix | TW | Temperature on Receipt | 2 |

Date/Time on Test 2024-01-16 5:15 PM

| <u>Analyses</u> | <u>Result</u> | <u>Units</u> | <u>RDL</u> |
|------------------|---------------|--------------|------------|
| Coliforms, Total | less than 1 | CFU/100mL | 1 |
| Verified E.coli | less than 1 | CFU/100mL | 1 |

Glossary of Terms

| | |
|-------------|--|
| Less than 1 | Less than the Reportable Detection Limit, except under circumstances where the detection limit is higher due to interferences, insufficient sample volume, or dilutions. |
| APHA | American Public Health Association |
| CFU/100mL | Colony Forming Units per 100 milliliters |
| Matrix | SW = Surface water, TW = Treated water, DW = Distribution water, UGW = Untreated Ground water, RW = Raw water |
| RDL | Reportable Detection Limit |

References

ANALYTICAL RESULTS

| | | | | | |
|-------------------|------------|---------------|--------------|------------------------|---|
| Sample ID | Main Jet | | | Sample # | 1 |
| Date/Time Sampled | 2024-01-30 | 12:15 PM | Matrix TW | Temperature on Receipt | 9 |
| Date/Time on Test | 2024-01-30 | 4:40 PM | | | |
| <u>Analyses</u> | | <u>Result</u> | <u>Units</u> | <u>RDL</u> | |
| Coliforms, Total | | less than 1 | CFU/100mL | 1 | |
| Verified E.coli | | less than 1 | CFU/100mL | 1 | |

| | | | | | |
|-------------------|------------------|---------------|--------------|------------------------|---|
| Sample ID | 538 Johnstone Rd | | | Sample # | 2 |
| Date/Time Sampled | 2024-01-30 | 12:00 PM | Matrix TW | Temperature on Receipt | 8 |
| Date/Time on Test | 2024-01-30 | 4:40 PM | | | |
| <u>Analyses</u> | | <u>Result</u> | <u>Units</u> | <u>RDL</u> | |
| Coliforms, Total | | less than 1 | CFU/100mL | 1 | |
| Verified E.coli | | less than 1 | CFU/100mL | 1 | |

Glossary of Terms

| | |
|-------------|--|
| Less than 1 | Less than the Reportable Detection Limit, except under circumstances where the detection limit is higher due to interferences, insufficient sample volume, or dilutions. |
| APHA | American Public Health Association |
| CFU/100mL | Colony Forming Units per 100 milliliters |
| Matrix | SW = Surface water, TW = Treated water, DW= Distribution water, UGW = Untreated Ground water, RW = Raw water |
| RDL | Reportable Detection Limit |

References

Appendix B

Operator Log Sheet

| Date | Time | Meter reading from HMI | CL2 Pump Setting | CL2 pump duration | CL2 pump frequency | Raw Water Turbidity (Res.) | CL2 Residual (Res.) | CL2 Residual (Dist.) | CL2 Residual (Dist.) | Comments | Weather | Sampled By |
|---|----------|------------------------|------------------|-------------------|--------------------|----------------------------|---------------------|----------------------|----------------------|--|----------------------------------|------------|
| YY/MM/DD | 24:00:00 | Isaac | Isaac Cr. (1-10) | | | Isaac Cr. NTU | Isaac Cr. mg/L | mg/L | mg/L | Microbiological Sample Taken/Filter Change/Etc. | Precip./Temp. | |
| 1/1/2024 | | | | | | | | | | | | |
| 1/2/2024 | 13:00 | | | | | | | 0.67 | 0.71 | | 2 deg, overcast | JW |
| 1/3/2024 | 14:15 | | | | | 0.45 | 0.81 | 0.59 | 0.73 | | 3 Deg, overcast | JW |
| 1/4/2024 | | | | | | | | | | | | |
| 1/5/2024 | | | | | | | | | | | | |
| 1/6/2024 | | | | | | | 0.66 | | | | | FD |
| 1/7/2024 | | | | | | | | | | | | |
| 1/8/2024 | | | | | | | | | | | | |
| 1/9/2024 | 10:00 | 12700.00 | 40.00 | 3.00 | 4.00 | 0.52 | 0.57 | 0.81 | 0.78 | | 15cm new snow -1 | JW |
| 1/10/2024 | | | | | | | | | | | | |
| 1/11/2024 | 8:00 | 13276.00 | 40.00 | 3.00 | 4.00 | 0.49 | 0.75 | 0.67 | 0.72 | | -5 | FD |
| 1/12/2024 | | | | | | | | | | | | |
| 1/13/2024 | | | | | | | | | | | | |
| 1/14/2024 | | | | | | | | | | | | |
| 1/15/2024 | | | | | | | | | | | | |
| 1/16/2024 | 11:00 | 14140 | 40 | 3 | 4 | 0.4 | 0.71 | 0.67 | 0.83 | Micro Bac samples taken | -10 partly sunny | JW |
| 1/17/2024 | | | | | | | | | | | | |
| 1/18/2024 | | | | | | | | | | | | |
| 1/19/2024 | 12:30 | 14774 | 40 | 3 | 4 | 0.36 | 0.8 | 0.63 | 0.76 | | -7 blowing snow, snowing heavily | |
| 1/20/2024 | | | | | | | | | | | | |
| 1/21/2024 | | | | | | | | | | | | |
| 1/22/2024 | | | | | | | | | | cleaned issac intake and put back online | rain 1C | CB/JW |
| 1/23/2024 | 9:15 | 15561 | 40 | 3 | 4 | 0.48 | 0.74 | 1.36 | 0.9 | | 4C Overcast | JW |
| 1/24/2024 | | | | | | | | | | | | |
| 1/25/2024 | 11:40 | | 40 | | | 0.3 | 0.76 | 0.9 | 0.6 | | | CB |
| 1/26/2024 | | | | | | | | | | | | |
| 1/27/2024 | 8:00 | - | 40 | 4 | 5 | 0.32 | 0.87 | - | - | | | FD |
| 1/28/2024 | | | | | | | | | | | | |
| 1/29/2024 | | | | | | | | | | | | |
| 1/30/2024 | 10:30 | 16963 | 40 | 4 | 5 | 1.67 | 0.28 | 0.58 | 0.81 | Topped up chlorine with 1 jug, installed new lock on intake door. Took Samples | BC Overcast/Fog | JW |
| 1/31/2024 | | | | | | | | | | | | |
| Reading of flow meter for Sunny Side trailer court. (to be recorded once a month) | | | | | | | 945723 gallons | | | | | |

Appendix C

Field Memos

FIELD WORK MEMO

DATE: Jan 22 2024 TIME: 2.5hrs each VEHICLE: PERSONAL COMPANY DISTANCE: 1km
PROJECT: NSWU TYPE OF WORKS: Cleaning

WORKS REQUESTED: Isaac Intake cleaning

FIELD TECH: CB JW SITE REP: YES / NO

MATERIALS: IN STOCK PURCHASED RECEIPTS: YES / NO
Shovel , hip waders , squeggee , gate keys

DESCRIPTION OF WORKS COMPLETED: PICTURES: YES / NO

Cleaned Sutherland reservoir intake to reduce turbidity loading when reservoir is turned on this spring

WORKS COMPLETED: YES / NO

ANTICIPATED RETURN DATE:

FUTURE WORKS:

Shock and chlorinate reservoir before putting online this spring

MATERIALS REQUIRED: DO PARTS NEED TO BE ORDERED? YES / NO

ADDITIONAL NOTES/SKETCHES:

FIELD WORK MEMO

DATE: Jan 22 2024 TIME: 2.5hrs each VEHICLE: PERSONAL COMPANY DISTANCE: 1km
 PROJECT: NSWU TYPE OF WORKS: Clearing
 WORKS REQUESTED: Isaac Intake cleaning

FIELD TECH: CB JW SITE REP: YES NO
 MATERIALS: IN STOCK PURCHASED RECEIPTS: YES NO
 Shovel , hip waders , squeegee , gate keys

DESCRIPTION OF WORKS COMPLETED: PICTURES: YES NO
 Cleaned Issac reservoir intake and flushed before refilling reservoir

WORKS COMPLETED: YES NO

ANTICIPATED RETURN DATE:

FUTURE WORKS:
 Clean sutherland reservoir this week

MATERIALS REQUIRED: DO PARTS NEED TO BE ORDERED? YES NO

ADDITIONAL NOTES/SKETCHES: