

TO: CHAIR AND MEMBERS
ENVIRONMENT COMMITTEE

DATE: 2015 June 04

FROM: DIRECTOR ENGINEERING

FILE: 39500 12

SUBJECT: ANNUAL DRINKING WATER QUALITY MONITORING REPORT
(2014)

PURPOSE: To present the Committee and Council with the City's Annual Drinking Water Quality Monitoring Report for 2014.

RECOMMENDATION:

1. **THAT** the Committee recommend Council to:
 - a. Receive this report for information purposes, and
 - b. Forward a copy of this report to Dr. Lisa Mu, Medical Health Officer, Fraser Health Authority, Suite 400-Central City Tower, 13450 -102nd Avenue, Surrey, BC V3T 0H1.

REPORT

Enclosed (under separate cover) is the City's Annual Drinking Water Quality Monitoring Report for 2014. The report provides an overview of the regulatory context, outlines the drinking water quality program undertaken by staff in 2014 and includes associated sample results to provide the evidence of potability and compliance with the *B.C. Drinking Water Protection Regulations*.

In summary, in 2014 a total of 3,032 routine drinking water samples were obtained in Burnaby for bacteriological analysis. Of these, 1,624 samples were obtained by City staff from 63 dedicated sample locations selected throughout the City's waterworks system and 1,408 samples were collected by Metro Vancouver staff from 15 locations along its transmission mains located within the City boundary. The samples collected by City staff were submitted to the Metro Vancouver laboratory for analysis of Total Coliform, E. Coli (indicator of fecal contamination), Heterotrophic Plate Count (HPC - early indicator of bacterial re-growth in the water mains), and turbidity. Free chlorine residual and temperature were also measured in the field at the time of sampling. In addition, a limited number of sample locations were also used for monitoring disinfection by-products (trihalomethanes and haloacetic acid), pH, metals, and vinyl chloride.

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In reviewing the 2014 drinking water quality sample data, it was noted that the water quality continues to improve over previous years. The bacteriological water quality complied with the *B.C. Drinking Water Protection Regulation* with the exception of the following one event which was subsequently followed up on and brought into compliance with the regulations:

One drinking water sample obtained on August 12, 2014 from a sampling kiosk located at 8300 block Willard Street show the presence of an E. Coli bacteria. In response, staff immediately implemented pre-established protocols for an E. Coli Event. Fraser Health Authority (FHA) was notified regarding the sample result. The results of all the drinking water samples taken from the area were reviewed and noted to be in compliance. The watermains in the immediate area of 8300 block Willard Street were flushed and re-sampled. The supplement samples were found to be in compliance with the *BC Drinking water Protection Regulations*. Based on the follow-up procedures undertaken and the resultant water quality findings, FHA staff were satisfied with the actions taken and did not require any additional action.

With respect to Total Coliform, three (3) samples were found to contain Total Coliform but at no time did the percentage of samples tested positive for Total Coliform exceed the 10% stipulated in the *B.C. Drinking Water Protection Regulations* (see **Figure 7**). Furthermore, none of the three samples that tested positive for Total Coliforms was greater than 10. For the Committee and Council's information, any sample with greater than 1 Total Coliform would result in resampling. Any sample with greater than 10 Total Coliforms would result in a follow-up with FHA and immediate flushing of applicable water mains and re-sampling.

Free chlorine residuals at sampling stations have also improved over the past years. Sixty-one of the sixty-three sampling stations achieved the objective of 0.2 mg/L or above in 2014 on average. Sampling stations that experience temporary lower residual chlorine are largely due to low flow/use through the distribution system. The City maintains the residual chlorine levels in these areas by frequent flushing of the watermains to enhance flow.

Physical/chemical, pH and the disinfection by-product measured as Total Trihalomethanes, Bromochloromethanes and Haloacetic Acids were found to be below the *Federal Guidelines for Canadian Drinking Water Quality*.

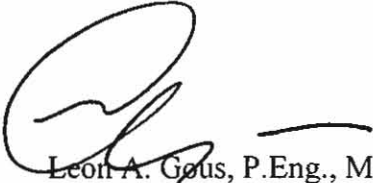
With respect to turbidity in drinking water, the majority of samples had turbidity of less than 1 NTU. For those samples where turbidity was greater than 1 NTU, these may be attributed to source water conditions or other transient activities such as water main flushing, water main breaks or firefighting which cause a change in the water pressure or flow in the system.

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Staff will be providing a notice in the local newspaper informing the public regarding the availability of this report. Limited copies of the City's Annual Drinking Water Quality Report (2014) will be available to the public at the Engineering Department. Alternately, the public can access an electronic copy of the report from the City's website.

This is provided for the Committee and Council's information.

A handwritten signature in black ink, appearing to read 'L. Gous', with a horizontal line extending to the right.

Leon A. Gous, P.Eng., MBA
Director Engineering

DD:ac

Attachment

Copied to: City Manager