



The Municipality of the Village of Lions Bay

DRINKING WATER QUALITY

ANNUAL REPORT

2006

Appendix A

Water Quality Sampling



LIST OF SAMPLING SITE LOCATIONS

Location	Source	Tests	Frequency
PRV-3	Harvey Creek	CL2 Residual and Turbidity	Daily Monday-Friday
400,000 Gal Harvey Tank	Harvey Creek	CL2 Residual and Turbidity	Daily Monday-Friday
General Store/Cafe	Harvey Creek	CL2 Residual and Turbidity	Daily Monday-Friday
Kelvin Grove	Harvey Creek	CL2 Residual and Turbidity	Daily Monday-Friday
PRV-5	Magnesia Creek	CL2 Residual and Turbidity	Daily Monday-Friday
100,000 Gal Magnesia Tank	Magnesia Creek	CL2 Residual and Turbidity	Daily Monday-Friday
Brunswick Beach	Magnesia Creek	CL2 Residual and Turbidity	Daily Monday-Friday
Harvey Intake	Harvey Creek	Raw Water Turbidity	Daily Monday-Friday
Magnesia Intake	Magnesia Creek	Raw Water Turbidity	Daily Monday-Friday
PRV-3	Harvey Creek	Total/Fecal Coliform, E Coli	Every Monday
400,000 Gal Harvey Tank	Harvey Creek	Total/Fecal Coliform, E Coli	Every Monday
General Store/Cafe	Harvey Creek	Total/Fecal Coliform, E Coli	Every Monday
Kelvin Grove	Harvey Creek	Total/Fecal Coliform, E Coli	Every Monday
PRV-5	Magnesia Creek	Total/Fecal Coliform, E Coli	Every Monday
100,000 Gal Magnesia Tank	Magnesia Creek	Total/Fecal Coliform, E Coli	Every Monday
Brunswick Beach	Magnesia Creek	Total/Fecal Coliform, E Coli	Every Monday
Harvey Intake	Harvey Creek	Total/Fecal Coliform, E Coli	Every Monday
Magnesia Intake	Magnesia Creek	Total/Fecal Coliform, E Coli	Every Monday
PRV-3	At Tap	Metals, THM's, Organics	Four Times a Year
400,000 Gal Harvey Tank	At Tap	Metals, THM's, Organics	Four Times a Year
General Store/Cafe	At Tap	Metals, THM's, Organics	Four Times a Year
Kelvin Grove	At Tap	Metals, THM's, Organics	Four Times a Year
Kiddley Winks Preschool	At Tap	Metals, THM's, Organics	Four Times a Year
Community Centre	At Tap	Metals, THM's, Organics	Four Times a Year
PRV-5	At Tap	Metals, THM's, Organics	Four Times a Year
100,000 Gal Magnesia Tank	At Tap	Metals, THM's, Organics	Four Times a Year
Brunswick Beach	At Tap	Metals, THM's, Organics	Four Times a Year
Elementary School	At Tap	Metals, THM's, Organics	Four Times a Year
Harvey Intake	Harvey Creek	Metals, THM's, Organics	Four Times a Year
Magnesia Intake	Magnesia Creek	Metals, THM's, Organics	Four Times a Year

Bacteria

Sample collection for monitoring bacteria levels (Total Coliforms, Fecal Coliforms, and E. Coli) in the Lions Bay Water Distribution System is performed every Monday at nine sites. Samples are delivered to the Vancouver Coastal Health Authority for analysis and reporting. The sampling locations are listed above and include source, mid, and end systems sites.



In addition, random samples may be taken from areas where water quality complaints have originated or where waterworks construction or maintenance activities are underway.

Bacteriological standards in water distribution systems should meet the requirements of the B.C. Safe Drinking Water Regulations, which stipulates the following criteria for sample test results:

- ❖ Fecal Coliform: 0 fecal coliform / 100ml
- ❖ Total Coliform: 10 or less total coliform / 100 ml
- ❖ Total Coliform: 90% or more of the samples for a given month must have 0 total coliform / 100 ml.

Physical Parameters

Treated Water in the Distribution System is tested for Turbidity daily from Monday to Friday, at seven sites. Raw Water is tested for Turbidity at both intakes daily from Monday to Friday. Taste, Odour, and Turbidity are monitored on a complaint basis.

The Canadian Drinking Water Guidelines (and the US Environmental Protection Agency) state that the turbidity of an unfiltered raw water supply should generally be around 1 NTU, and should not exceed 5 NTU.

Chemical Parameters

- ❖ Free Chlorine Residual: Measured at all sampling sites when bacteriological samples are collected
- ❖ Haloacetic Acids (HAA's): HAA's are disinfection by-products. HAA's are not regulated in Canada but a maximum contaminant level of 60 ppb (based on a running annual average calculated with quarterly results for different locations within the system) has recently been adopted in the USA
- ❖ Trihalomethanes (THM's): THM's are disinfection by-products sampled with HAA's. The Guidelines for Canadian Drinking Water Quality (GCDWQ) list an interim maximum acceptable concentration for THM's at 100 ppb (based on a running annual average calculated with quarterly results for different locations within the system)
- ❖ pH: Measured on samples collected for HAA's / THM's testing. The GCDWQ recommend an aesthetic objective for pH ranging between 6.5 and 8.5
- ❖ Metals: During 2001, the regional Medical Health Officers developed a strategy for sampling metals at the tap. The new requirement is to sample 10% of the sampling metals "at the tap" in a quarterly basis for lead, copper and zinc, with sample locations consisting of a mixture of private homes and public buildings, including schools.