

DEEP BAY IMPROVEMENT DISTRICT

ANNUAL WATER SYSTEM REPORT 2011

2.2 Reservoirs

Water storage for the DBID system is provided by an above ground concrete reservoir located on the hillside south of the Island Highway. This structure was built in 1975 and provides 545 cubic meters (120,000 Imperial Gallons) of storage. This reservoir is divided in half by a vertical wall and both sides can operate independently.

2.3 Distribution System

The DBID water distribution system serves an area of approximately 5 square kilometers. The system has been constructed over a period of more than 40 years. The original lines were built before the District was established in 1972. Approximately 80% of the system was constructed using Asbestos Cement (AC) pipe and the remainder is Polyvinyl Chloride (PVC) pipe. The system has 57 fire hydrants.

3 Water Sampling and Testing Program

Water sampling and testing is carried out semi-monthly in the distribution system.

There are 4 sample sites, as identified by VIHA. Each site is sampled on a monthly basis and samples are delivered to the Parksville Health Unit where they are sent on for testing.

Positive Results:

Date	Total coliform	E. Coli	Reason	Corrective Action
July 18/11	1		Possible lab/sample error	None (further samples had already been taken by the time test results had been received)

Adverse Results: none

Date	Total coliform	E. Coli	Reason	Corrective Action

Attached to this report are the full test results from our regular water sampling throughout 2011. These results can also be viewed at:

http://www.healthspace.ca/Clients/VIHA/VIHA_Website.nsf/Water-Samples-Frameset?OpenPage

In 2011, DBID undertook additional sampling from 6 of our wells. These samples were taken to North Island Labs for testing. All results are within the chemical parameters listed in *The Guidelines for Canadian Drinking Water Quality*. The test results from these additional samples are available for viewing at the DBID office and are on the website at www.dbid.ca under "Water Quality Reports".

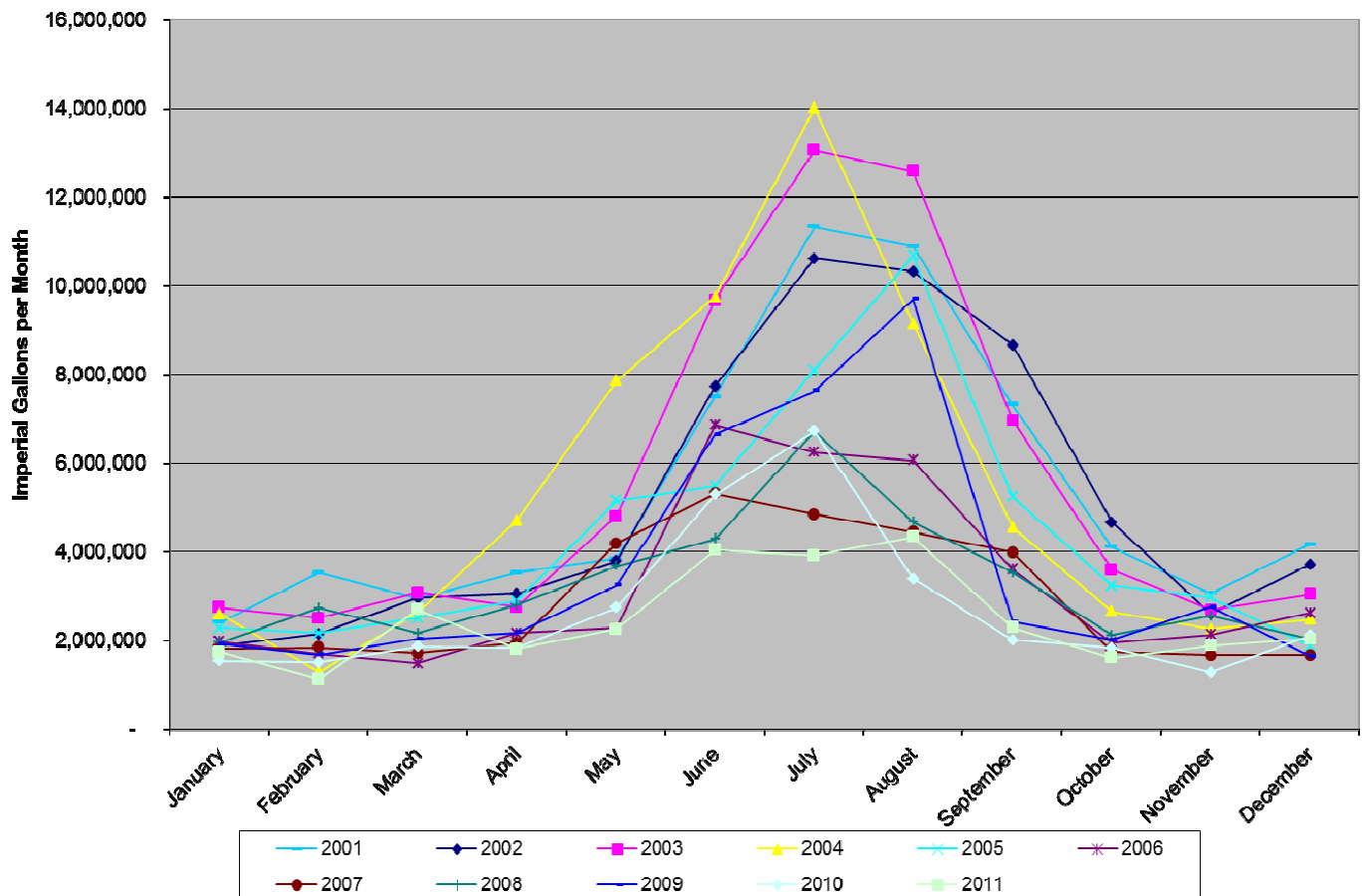
4 Water Quality Inquiries and Complaints

Over the course of the year, there was one inquiry regarding the ph and alkalinity levels. The DBID operator tested samples throughout the system and confirmed that the levels were normal.

5 Groundwater Production and Consumption

The following graph shows the monthly water delivery figures from our wells over the past 9 years. 2011 was on the low side of average in comparison to the years since the installation of meters (2006). This can be attributed to both the wetter and cooler than average weather in 2011 and the continuing efforts of many DBID rate payers to use our water wisely. There was a small spike in the March 2011 consumption due to filling and flushing of the reservoir during repairs.

**Deep Bay Improvement District
 Water Delivery History 2001-2011 (Service Metered as of 2006)**



The table below shows the **percentage of users who met specified consumption figures** for 2011. For example: in the 1st quarter, January - March 2011, 68% of users consumed between 1 - 40 cubic meters.

Cubic Meters	Jan - Mar 2011	Apr - Jun 2011	Jul - Sep 2011	Oct - Dec 2011	2011 Overall
0	9%	4%	3%	8%	6%
1 - 40	68%	48%	34%	71%	55%
41 - 75	18%	31%	28%	18%	24%
76 - 100	2%	8%	11%	1%	6%
Over 100	2%	10%	25%	3%	10%
Average Consumption	30.44 m3	49.90 m3	81.77 m3	31.76 m3	

6 Maintenance Program

Production wells and the reservoir are inspected on a weekly basis to reduce or eliminate the risk of contamination and system failure. All meters have dual check valves that are tested annually to prevent backflow into the system. Isolation valves are exercised bi-annually. Air valves are inspected annually. Flushing program includes: flushing dead ends regularly, particularly during periods of low demand. Fire hydrants are serviced annually.

7 Water System Projects

7.1 2011 Completed Studies & Projects

- Drained, cleaned, inspected and repaired inside of second reservoir cell (first reservoir cell work was completed in 2010).
- Longview/Shoreline main replacement (610 m. of 4" AC pipe replaced with 8" PVC)
 - 2011 cost \$275,786.53
 - Total project cost \$291,001.53
- Replaced reservoir probes

7.2 2012 Proposed Projects & Upgrades

- Repairs to exterior of reservoir, estimated cost \$8000

8 Emergency Response Plan

The Emergency Response Plan (ERP) was reviewed and updated in 2011. The DBID ERP includes:

- Emergency Phone Contact Lists
 - Personnel,
 - Government Agencies,
 - Contractors/Repair Services,
 - Technical Resources,
 - Parts Supply,
 - Bulk Water Suppliers, and
 - Media Contacts.
- Emergency Procedures
 - Unsafe Water Guidelines (Contamination of Well Space/s),
 - Loss of Source, Water Shortage, Broken Water Main, Pump Failure, Power Failures,
 - Flooding, Backflow or Back Siphonage,
 - Earthquake, and
 - Fire.
- Maps of System & Electrical Schematics

9 Closing

An annual report for the year 2012 will be prepared and submitted to the Vancouver Island Health Authority in the spring of 2013.

Residents are notified by direct mail out in the Pipeline Newsletter that this report is available each year. Annual reports are available from the DBID office and on the website at www.dbid.ca under "Water Quality Reports". Copies will be mailed upon request. There is no charge for a copy of this report

Water Sample Range Report

Vancouver Island Health Authority
Central Island

Facility Name: DEEP BAY IMPROVEMENT DISTRICT
 Facility Type: DWT
 Date Range: Jan 1 2011 to Dec 31 2011
 Date Created: Jan 13 2012

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
<u>SAMPLE STATION.</u>				
<u>4503 Maple Guard</u>				
<u>Drv., Deep Bay BC,</u>				
<u>4503 Maple Guard</u>				
<u>Drive, Deep Bay,</u>				
<u>Dist. site, Monthly</u>				
	26-Jan-2011	L1	L1	
	06-Apr-2011	L1	L1	
	31-May-2011	L1	L1	
	14-Jun-2011	L1	L1	
	18-Jul-2011	1	L1	
	30-Aug-2011	L1	L1	
	21-Sep-2011	L1	L1	
	07-Nov-2011	T		
	13-Dec-2011	<u>L1</u>	<u>L1</u>	
	Total Positive:	1	0	0
<u>Deep Bay Drive,</u>				
<u>Deep Bay BC, Deep</u>				
<u>Bay Drive, Deep</u>				
<u>Bay, Dist. site,</u>				
<u>Monthly</u>				
	10-Jan-2011	L1	L1	
	02-Feb-2011	L1	L1	
	14-Mar-2011	L1	L1	
	02-May-2011	L1	L1	
	04-Jul-2011	L1	L1	
	09-Aug-2011	L1	L1	
	14-Sep-2011	L1	L1	
	18-Oct-2011	L1	L1	
	14-Nov-2011	L1	L1	
	13-Dec-2011	<u>L1</u>	<u>L1</u>	
	Total Positive:	0	0	0
<u>Deep Bay WWD,</u>				
<u>Deep Bay BC, 4647</u>				
<u>Thompson Clarke</u>				
<u>Drive, East, Deep</u>				
<u>Bay, Dist. site,</u>				
<u>Monthly</u>				
	26-Jan-2011	L1	L1	
	06-Apr-2011	L1	L1	
	31-May-2011	L1	L1	
	14-Jun-2011	L1	L1	
	18-Jul-2011	L1	L1	
	30-Aug-2011	L1	L1	

Water Sample Range Report

Vancouver Island Health Authority

Central Island

Facility Name: DEEP BAY IMPROVEMENT DISTRICT
Facility Type: DWT
Date Range: Jan 1 2011 to Dec 31 2011
Date Created: Jan 13 2012

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
<u>SAMPLE STATION,</u>				
<u>4503 Maple Guard</u>				
<u>Drv., Deep Bay BC,</u>				
<u>4503 Maple Guard</u>				
<u>Drive, Deep Bay,</u>				
<u>Dist. site, Monthly</u>				
	26-Jan-2011	L1	L1	
	06-Apr-2011	L1	L1	
	31-May-2011	L1	L1	
	14-Jun-2011	L1	L1	
	18-Jul-2011	1	L1	
	30-Aug-2011	L1	L1	
	21-Sep-2011	L1	L1	
	07-Nov-2011	T		
	13-Dec-2011	<u>L1</u>	<u>L1</u>	
	Total Positive:	1	0	0
<u>Deep Bay Drive,</u>				
<u>Deep Bay BC, Deep</u>				
<u>Bay Drive, Deep</u>				
<u>Bay, Dist. site,</u>				
<u>Monthly</u>				
	10-Jan-2011	L1	L1	
	02-Feb-2011	L1	L1	
	14-Mar-2011	L1	L1	
	02-May-2011	L1	L1	
	04-Jul-2011	L1	L1	
	09-Aug-2011	L1	L1	
	14-Sep-2011	L1	L1	
	18-Oct-2011	L1	L1	
	14-Nov-2011	L1	L1	
	13-Dec-2011	<u>L1</u>	<u>L1</u>	
	Total Positive:	0	0	0
<u>Deep Bay WWD,</u>				
<u>Deep Bay BC, 4647</u>				
<u>Thompson Clarke</u>				
<u>Drive, East, Deep</u>				
<u>Bay, Dist. site,</u>				
<u>Monthly</u>				
	26-Jan-2011	L1	L1	
	06-Apr-2011	L1	L1	
	31-May-2011	L1	L1	
	14-Jun-2011	L1	L1	
	18-Jul-2011	L1	L1	
	30-Aug-2011	L1	L1	

21-Sep-2011	L1	L1	
07-Nov-2011	T		
13-Dec-2011	<u>L1</u>	<u>L1</u>	
Total Positive:	0	0	0

Deep Bay Fire Hall,
Deep Bay BC, Deep
Bay Fire Hall, Deep
Bay, Dist. site,
Monthly

10-Jan-2011	L1	L1	
02-Feb-2011	L1	L1	
14-Mar-2011	L1	L1	
02-May-2011	L1	L1	
04-Jul-2011	L1	L1	
09-Aug-2011	L1	L1	
14-Sep-2011	L1	L1	
18-Oct-2011	L1	L1	
14-Nov-2011	L1	L1	
13-Dec-2011	<u>L1</u>	<u>L1</u>	
Total Positive:	0	0	0

Island Highway &
Gainsburg,
AUDIT-Deep Bay
Water Works, Dist.
site, Annually

23-Aug-2011	<u>L1</u>	<u>L1</u>	
Total Positive:	0	0	0

Result Values: E - estimated L - less than G - greater than

Interpreting Sample Reports

In Viha, the results of drinking water sampling are reported using the following coding system:

- L1 Less than 1 (no detectable bacteria) - Meaning: No bacteria present
- OG Overgrown - Meaning: Too many background bacteria to give an accurate count
- EST Estimated Count
- and
- A Sample not tested; Too long in transit
- C Sample leaked/broken in transit
- D Sample not tested; No collection date given
- T Sample submitted unsatisfactory. Exceed 30 hours holding time, please resample.
- NS No sample received with requisition

Samples that contain total coliform:	1	2.56% of total
Samples that contain e. coli:	0	0.00% of total
Samples that contain fecal coliform:	0	0.00% of total
Number of positive samples in last 30 days:	0/4	
Total number of samples:	39	

Comments:

Environmental Health Officer

Apr 3 2012

FOR FURTHER INFORMATION PLEASE CALL: Preston, Terry (250) 947-8222 Parksville

Operator

Deep Bay Improvement District
5031 Mountainview Road
Bowser, BC
V0R 1G0

(250) 757-9312