

# DEEP BAY IMPROVEMENT DISTRICT

## ANNUAL WATER SYSTEM REPORT 2010

## 1 Introduction

The following annual report describes the Deep Bay Improvement District (DBID) water system and summarizes the water quality and production data from January 1, 2010 - December 31, 2010. This report also includes a summary of: inquiries and complaints, completed and proposed maintenance activities, and the Emergency Response Plan.

The Deep Bay Improvement District operates under permit number 0330, issued by the Ministry of Health. This report is to be submitted to the Vancouver Island Health Authority (VIHA) by the Spring of 2011.

## 2 Deep Bay Improvement District

The Deep Bay Improvement District was incorporated in 1972 (originally as the Deep Bay Waterworks District). The water source comes from 7 groundwater wells. Water supply is stored in an above ground concrete reservoir and is not treated. The DBID supplies water to 595 metered services.

District contacts are:            Leslie Carter, Administrator            250-757-9312  
    Don Buchner, Operator                    250-951-8757

### 2.1 Groundwater Wells

Water supply for the DBID system is provided by seven wells that are located north and south of the Island Highway for a distance of 700 meters on either side of Gainsberg Road. Water from these wells is pumped directly into the distribution system.

#### DBID Well Data:

Well Name	Well Depth	Capacity	Treated/ Untreated	Year Drilled
#1	15.9 m (52 ft)	4.8 l/s (65 IGPM)	Untreated	1973
#2	11.6 m (38 ft)	3.0 l/s (40 IGPM)	Untreated	1973
#3	16.4 m (53.7 ft)	5.7 l/s (75 IGPM)	Untreated	1969
#4	19.3 m (63.5 ft)	5.3 l/s (70 IGPM)	Untreated	1977
#5	21.5 m (70.5 ft)	10.0 l/s (130 IGPM)	Untreated	1985
#6	23.2 m (76 ft)	9.0 l/s (120 IGPM)	Untreated	1990
#7	26.1 m (85.6 ft)	Not in production	Untreated	1996
#8	23 m (75.4 ft)	11.0 l/s (145 IGPM)	Untreated	1997

## 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. Two samples are taken, twice each month, and delivered to the Parksville Health Unit.

### Positive Results: none

Date	Total coliform	E. Coli	Reason	Corrective Action

### Adverse Results:

Date	Total coliform	E. Coli	Reason	Corrective Action
Sept 14/10	Est 370		Probable sampling error	None required(Further samples were tested prior to receiving initial sample test results)

Attached to this report are the full test results from our regular water sampling throughout 2010. These results can also be viewed at:

[http://www.healthspace.ca/Clients/VIHA/VIHA\\_Website.nsf/Water-Samples-Frameset?OpenPage](http://www.healthspace.ca/Clients/VIHA/VIHA_Website.nsf/Water-Samples-Frameset?OpenPage)

In 2010, DBID undertook additional sampling at our reservoir. 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.

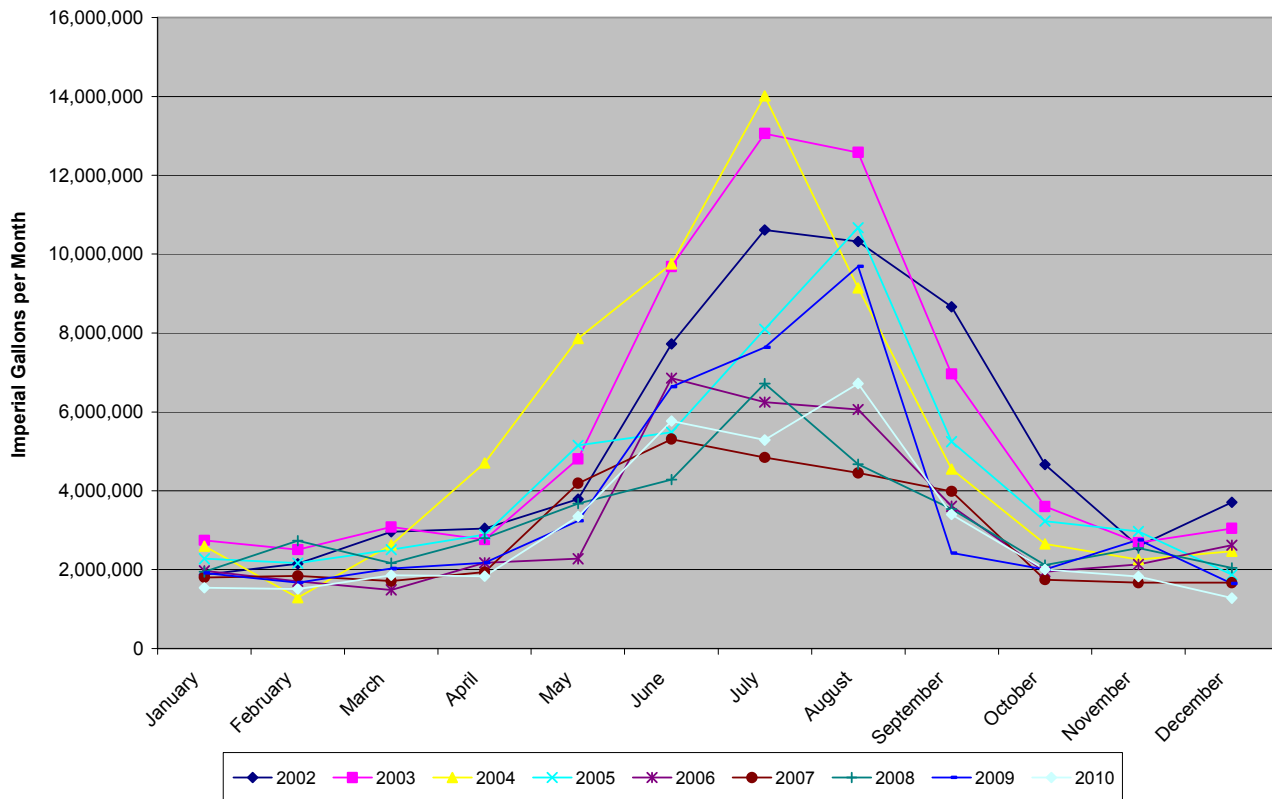
## 4 Water Quality Inquiries and Complaints

Over the course of the year, there were no inquiries or complaints regarding the water quality.

## 5 Groundwater Production and Consumption

The following graph is the monthly water delivery figures from our wells over the past 9 years. 2010 was average in comparison to the years since the installation of meters (2006).

Deep Bay Improvement District  
 Water Delivery History 2001-2010 to date (Service Metered as of 2006)



The table below shows the percentage of users who met specified consumptions figures for 2010. For example: in the 1st quarter, January - March 2010, 77% of users consumed between 1 - 50 cubic meters:

Cubic Meters	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Overall
	2010	2010	2010	2010	
0	8%	3%	3%	8%	5%
1 - 50	77%	58%	34%	77%	62%
51 - 75	10%	19%	19%	10%	15%
76 - 100	2%	8%	10%	2%	6%
Over 100	3%	12%	34%	3%	13%
<b>Average Consumption</b>	34.63 m3	56.18 m3	98.04 m3	35.66 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. Water mains are flushed at dead ends during periods of low demand. Fire hydrants are serviced annually.

## 7 Water System Projects

### 7.1 2010 Completed Studies & Projects

- Drained, cleaned and inspected one reservoir cell, no repairs required (cost \$1890)
- Quote for flow meter from McElhanney Consulting (\$440)

### 7.2 2011 Proposed Projects & Upgrades

- Drain, clean, inspect and repair second reservoir cell
- Longview/Shoreline main replacement
- Replacement of reservoir probes

## 8 Emergency Response Plan

The Emergency Response Plan (ERP) was reviewed and updated in 2010. The DBID Emergency Response Plan includes:

- Emergency Phone Contact Lists (Personnel, Government Agencies, Contractors/Repair Services, Technical Resources, Parts Supply, Bulk Water Suppliers, Media Contact Numbers)
- Emergency Procedures for: 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, & Fire.
- Maps of System & Electrical Schematics

## 9 Closing

An annual report for the year 2011 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2012.

Residents are notified by the quarterly Pipeline Newsletter that this report is available by June 1st of each year. Annual reports are available from the DBID office and on our website at [www.dbid.ca](http://www.dbid.ca) under "Technical Reports & Operational Documents". Copies will be mailed upon request. There is no charge for a copy of this report



Water Sample Range Report for DEEP BAY IMPROVEMENT DISTRICT  
**Water Sample Range Report**  
Vancouver Island Health Authority  
Central Island

**Facility Name:** DEEP BAY IMPROVEMENT DISTRICT  
**Facility Type:** DWT  
**Date Range:** Jan 1 2010 to Dec 31 2010  
**Date Created:** Feb 02 2011

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>				
	12/01/2010	L1	L1	
	10/02/2010	L1	L1	
	10/03/2010	L1	L1	
	07/04/2010	L1	L1	
	05/05/2010	L1	L1	
	31/05/2010	L1	L1	
	06/07/2010	L1	L1	
	16/08/2010	T		
	14/09/2010	L1	L1	
	20/10/2010	L1	L1	
	15/11/2010	<u>L1</u>	<u>L1</u>	
	<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Deep Bay Drive,</u>				
<u>Deep Bay BC, Deep</u>				
<u>Bay Drive, Deep</u>				
<u>Bay, Dist. site,</u>				
<u>Monthly</u>				
	26/01/2010	L1	L1	
	24/02/2010	L1	L1	
	23/03/2010	L1	L1	
	21/04/2010	L1	L1	
	18/05/2010	L1	L1	
	16/06/2010	L1	L1	
	27/07/2010	L1	L1	
	31/08/2010	L1	L1	
	04/10/2010	L1	L1	
	07/12/2010	<u>L1</u>	<u>L1</u>	
	<b>Total Positive:</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Deep Bay WWD,</u>				
<u>Deep Bay BC, 4647</u>				
<u>Thompson Clarke</u>				
<u>Drive, East, Deep</u>				

Monthly

12/01/2010	L1	L1
10/02/2010	L1	L1
10/03/2010	L1	L1
07/04/2010	L1	L1
05/05/2010	L1	L1
31/05/2010	L1	L1
06/07/2010	L1	L1
16/08/2010	T	
14/09/2010	EST 730	L1
04/10/2010	L1	L1
20/10/2010	L1	L1
15/11/2010	L1	L1
01/12/2010	L1	L1
<b>Total Positive:</b>	<b>1</b>	<b>0</b>

0

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

26/01/2010	L1	L1
24/02/2010	L1	L1
23/03/2010	L1	L1
21/04/2010	L1	L1
18/05/2010	L1	L1
16/06/2010	L1	L1
27/07/2010	L1	L1
31/08/2010	L1	L1
04/10/2010	L1	L1
01/12/2010	L1	L1
07/12/2010	L1	L1
<b>Total Positive:</b>	<b>0</b>	<b>0</b>

0

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

Result Values:

E - estimated

L - less than

G - greater than

Samples that contain total coliform:	1	2.22% 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:	0/2	
Total number of samples:	45	

**Comments:**

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Environmental Health Officer  
Feb 2 2011

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